

November 8, 2024

Ms. Charly Fritz  
Division Director, Municipal Waste Permits  
Texas Commission on Environmental Quality  
12100 Park 35 Circle  
MC-126  
Austin, Texas 78753

Subject:       Municipal Solid Waste (MSW) – Nueces County  
                  City of Corpus Christi  
                  J.C. Elliott Transfer Station  
                  Type V Permit Application

Dear Ms. Fritz:

On behalf of the City of Corpus Christi (the City), SCS Engineers respectfully submits the enclosed original and three copies of the Type V MSW permit application for the proposed J.C. Elliott Transfer Station to be located in Nueces County, Texas. This permit application has been prepared by SCS Engineers under the direct supervision of the City.

The City is committed to providing environmentally safe municipal solid waste processing services to Nueces County residents and businesses as well as the surrounding communities.

We thank you in advance for your consideration of this application and look forward to working with your staff on this project. Should you or your staff have any questions, please do not hesitate to contact Chad at (281) 293-8494.

Sincerely,



Chad Ellinger, P.E.  
Project Director  
**SCS ENGINEERS**



Jeffrey K. Reed, P.E.  
Vice President  
**SCS ENGINEERS**

CC:     Mr. David Lehfeldt – City of Corpus Christi  
          Mr. Philip Aldridge – City of Corpus Christi



# Texas Commission on Environmental Quality

## Waste Permits Division Correspondence

### Cover Sheet

Date: 12/30/2024

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

**Table 2 - Industrial & Hazardous Waste Correspondence**

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





Texas Commission on Environmental Quality

## Public Involvement Plan Form for Permit and Registration Applications

The Public Involvement Plan is intended to provide applicants and the agency with information about how public outreach will be accomplished for certain types of applications in certain geographical areas of the state. It is intended to apply to new activities; major changes at existing plants, facilities, and processes; and to activities which are likely to have significant interest from the public. This preliminary screening is designed to identify applications that will benefit from an initial assessment of the need for enhanced public outreach.

All applicable sections of this form should be completed and submitted with the permit or registration application. For instructions on how to complete this form, see TCEQ-20960-inst.

### Section 1. Preliminary Screening

- ☒ New Permit or Registration Application  
☐ New Activity - modification, registration, amendment, facility, etc. (see instructions)

**If neither of the above boxes are checked, completion of the form is not required and does not need to be submitted.**

### Section 2. Secondary Screening

- ☒ Requires public notice,  
☐ Considered to have significant public interest, and  
☐ Located within any of the following geographical locations:

- Austin
- Dallas
- Fort Worth
- Houston
- San Antonio
- West Texas
- Texas Panhandle
- Along the Texas/Mexico Border
- Other geographical locations should be decided on a case-by-case basis

**If all the above boxes are not checked, a Public Involvement Plan is not necessary.  
Stop after Section 2 and submit the form.**

- ☒ Public Involvement Plan not applicable to this application. Provide **brief** explanation.

The project is not located in one of the cities listed above.

### Section 3. Application Information

#### Type of Application (check all that apply):

Air ☐ Initial ☐ Federal ☐ Amendment ☐ Standard Permit ☐ Title V

Waste ☐ Municipal Solid Waste ☐ Industrial and Hazardous Waste ☐ Scrap Tire  
☐ Radioactive Material Licensing ☐ Underground Injection Control

#### Water Quality

- ☐ Texas Pollutant Discharge Elimination System (TPDES)
  - ☐ Texas Land Application Permit (TLAP)
  - ☐ State Only Concentrated Animal Feeding Operation (CAFO)
  - ☐ Water Treatment Plant Residuals Disposal Permit
- ☐ Class B Biosolids Land Application Permit
- ☐ Domestic Septage Land Application Registration

#### Water Rights New Permit

- ☐ New Appropriation of Water
- ☐ New or existing reservoir

#### Amendment to an Existing Water Right

- ☐ Add a New Appropriation of Water
- ☐ Add a New or Existing Reservoir
- ☐ Major Amendment that could affect other water rights or the environment

### Section 4. Plain Language Summary

Provide a brief description of planned activities.

## Section 5. Community and Demographic Information

Community information can be found using EPA's EJ Screen, U.S. Census Bureau information, or generally available demographic tools.

**Information gathered in this section can assist with the determination of whether alternative language notice is necessary. Please provide the following information.**

(City)

(County)

(Census Tract)

Please indicate which of these three is the level used for gathering the following information.

☐

City

☐

County

☐

Census Tract

(a) Percent of people over 25 years of age who at least graduated from high school

(b) Per capita income for population near the specified location

(c) Percent of minority population and percent of population by race within the specified location

(d) Percent of Linguistically Isolated Households by language within the specified location

(e) Languages commonly spoken in area by percentage

(f) Community and/or Stakeholder Groups

(g) Historic public interest or involvement

## Section 6. Planned Public Outreach Activities

(a) Is this application subject to the public participation requirements of Title 30 Texas Administrative Code (30 TAC) Chapter 39?

☐ Yes ☐ No

(b) If yes, do you intend at this time to provide public outreach other than what is required by rule?

☐ Yes ☐ No

If Yes, please describe.

**If you answered "yes" that this application is subject to 30 TAC Chapter 39, answering the remaining questions in Section 6 is not required.**

(c) Will you provide notice of this application in alternative languages?

☐ Yes ☐ No

**Please refer to Section 5. If more than 5% of the population potentially affected by your application is Limited English Proficient, then you are required to provide notice in the alternative language.**

If yes, how will you provide notice in alternative languages?

- ☐ Publish in alternative language newspaper
- ☐ Posted on Commissioner's Integrated Database Website
- ☐ Mailed by TCEQ's Office of the Chief Clerk
- ☐ Other (specify)

(d) Is there an opportunity for some type of public meeting, including after notice?

☐ Yes ☐ No

(e) If a public meeting is held, will a translator be provided if requested?

☐ Yes ☐ No

(f) Hard copies of the application will be available at the following (check all that apply):

- ☐ TCEQ Regional Office ☐ TCEQ Central Office
- ☐ Public Place (specify)

## Section 7. Voluntary Submittal

For applicants voluntarily providing this Public Involvement Plan, who are not subject to formal public participation requirements.

Will you provide notice of this application, including notice in alternative languages?

☐ Yes ☐ No

What types of notice will be provided?

- ☐ Publish in alternative language newspaper
- ☐ Posted on Commissioner's Integrated Database Website
- ☐ Mailed by TCEQ's Office of the Chief Clerk
- ☐ Other (specify)

## Administrative and Technical Review Checklist for Municipal Solid Waste (MSW) Permits, Registrations and Amendments

This checklist is designed to provide guidance for the Municipal Solid Waste (MSW) rules found in Title 30 Texas Administrative Code (30 TAC) Chapter 330, for Type I, IV and V registration, permit, and permit amendment applications. Areas of the checklist that are shaded in gray are for information purposes only.

Please fill out application information before selecting and filling out a checklist.

Applicant Information	
Company:	City of Corpus Christi
First name:	David
Last name:	Lehfeldt
Applicant Title:	Director of Solid Waste Services
Prefix:	Mr
Street Address:	2525 Hygeia Street
City:	Corpus Christi
State:	Texas
Zip code:	78415
Applicant E-Mail:	

Consultant Information	
First name:	Chad
Last name:	Ellinger
Consultant Title:	Project Director
Prefix:	Mr
Consultant Firm:	SCS Egnineers
Consultant Address:	12651 Briar Forest Dr., Suite 205
City:	Houston
State:	Texas
Zip code:	77077
Consultant E-Mail:	

Application Information	
Facility Name:	J.C. Elliott Transfer Station
Application Date	11/8/2024
CN:	600131858
MSW ID:	
RN:	
Authorization Type:	Permit
County:	Nueces
Application Type:	New Permit

ID	App. Part	Checklist Item	Item Type	Citation	Complete?	Location	Applicant Comments	Application Area
1	General	Submit all four parts of the permit, permit amendment or registration application	Required	330.57(a) & (b)	Yes	Permit Application	All four parts provided	Format-Application
2	General	Submit TCEQ Part I Form (Form No. 0650)	Required	330.57(c)(1)	Yes	Parts I/II, Application Forms Tab	Provided	Forms
8	General	Part II of the application contains location and coordination information.	Informational	330.57(c)(2)				Format-Application
9	General	Part III of the application contains design information	Informational	330.57(c)(3)				Format-Application
10	General	Part IV of the application contains the site operating plan	Informational	330.57(c)(4)				Format-Application
11	General	The application should address all aspects of application and design requirements, even to show why not applicable (N/A)	Informational	330.57(d)				Format-Application
12	General	Submit data of sufficient completeness, accuracy and clarity	Required	330.57(d)	Yes	Permit Application	Provided	Format-Application
13	General	Failure to provide complete information may be cause for ED to return application.	Informational	330.57(d)				Format-Application
14	General	Provide 4 Copies for Initial Submittal (1 original and 3 copies)	Required	330.57(e)	Yes	Permit Application	Provided	Format-Application
15	General	Provide 4 copies for NOI Responses including 1 copy with marked revisions (redline/strikeout)	Required	330.57(g)(6)	Yes	N/A	Not applicable	Format-Application
16	General	Application must be prepared in accordance with Texas Occupations Code, Texas Engineering Practice Act, Chapter 1001 and Texas Geoscience Practice Act, Chapter 1002	Informational	330.57(f)				Format-Application
17	General	Provide a PE signature, seal and date on the title page of each bound engineering report or individual engineering plan, and on each engineering drawing	Required	330.57(f)(1)	Yes	Permit Application	Provided	Format-Application
18	General	Provide PG sign, seal, & date for applicable items	Required	330.57(f)(2)	Yes	N/A	Not applicable	Format-Application
19	General	Applications that are not sealed are incomplete and shall be returned	Informational	330.57(f)(3)				Format-Application
20	General	Submit the application in three ring binders	Required	330.57(g)(1)	Yes	Permit Application	Provided	Format-Application
21	General	Submit Title Page with Name, Application No., Site Operator Name, Operator Name (if applicable), Location, Date Prepared and Revision Date(s)	Required	330.57(g)(2)	Yes	Permit Application	Provided	Format-Application
22	General	Provide Table of Contents with PE seal	Required	330.57(g)(3)	Yes	Permit Application	Provided	Format-Application
23	General	Use 8.5x11 inch or 11x17 paper (folded to 8.5x11 inch)	Required	330.57(g)(4)	Yes	Permit Application	Provided	Format-Application
24	General	Provide pages with date (original and revised) and sequential page numbers	Required	330.57(g)(5)	Yes	Permit Application	Provided	Format-Application
25	General	Provide legible drawings/maps	Required	330.57(h)(1)	Yes	Permit Application	Provided	Format-Maps/Drawing
26	General	Provide color coding on all figures and drawings that is legible and distinct after copying in black & white	Required	330.57(h)(2)	Yes	Permit Application	Provided	Format-Maps/Drawing
27	General	Provide a standard engineering scale on each figure or drawing	Required	330.57(h)(3)	Yes	Permit Application	Provided	Format-Maps/Drawing
28	General	Provide a dated title block on each figure or drawing	Required	330.57(h)(4)(A)	Yes	Permit Application	Provided	Format-Maps/Drawing
29	General	Provide a bar scale at least 1 inch on all figures and drawings	Required	330.57(h)(4)(B)	Yes	Permit Application	Provided	Format-Maps/Drawing
30	General	Provide a revision block on all figures and drawings	Required	330.57(h)(4)(C)	Yes	Permit Application	Provided	Format-Maps/Drawing
31	General	Provide a PE or PG seal, if required, on all figures and drawings	Required	330.57(h)(4)(D)	Yes	Permit Application	Provided	Format-Maps/Drawing
32	General	Include drawing number and a page number on each drawing and figure	Required	330.57(h)(4)(E)	Yes	Permit Application	Provided	Format-Maps/Drawing
33	General	Include a north arrow on each map or plan drawing	Required	330.57(h)(5)(A)	Yes	Permit Application	Provided	Format-Maps/Drawing
34	General	Include a reference to base map & date of most current base map used, if the map is based upon another map	Required	330.57(h)(5)(B)	Yes	Permit Application	Provided	Format-Maps/Drawing

35	General	Include a legend on each map or plan drawing	Required	330.57(h)(5)(C)	Yes	Permit Application	Provided	Format-Maps/Drawings
36	General	Provide match lines and section lines that reference the drawing where the match or section is shown.	Required	330.57(h)(G)	Yes	Permit Application	Provided	Format-Maps/Drawings
45	General	Acknowledge that the construction and operation of the waste management facility shall comply with Subchapter U of 30 TAC Chapter 330 (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations) or other approved air authorizations. Owners or operators of these types of facilities should consult with the Air Permits Division on or before the date that the municipal solid waste application is filed with the executive director	Acknowledgement	330.55(a)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Other Authorizations
46	General	Acknowledge that all liquids resulting from the operation of solid waste facilities shall be disposed of in a manner that will not cause surface water or groundwater pollution. Facilities shall provide for the treatment of wastewaters resulting from waste management activities and from cleaning and washing. Owners or operators shall ensure that storm water and wastewater management is in compliance with the regulations of the commission.	Acknowledgement	330.55(a)	Yes	Part III, Section 2.3	Sanitation and Water Pollution Control	Other Authorizations
49	General	It is the responsibility of an owner or operator to possess or acquire a sufficient interest in or right to the use of the surface estate of the property for which a permit is issued, including the access route. The granting of a permit does neither convey any property rights or interest in either real or personal property; nor does it authorize any injury to private property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the scope of the authority under which a permit is issued	Informational	330.67(a)				General Information
51	General	Executive director approval or a permit will be required if any on-site operations subsequent to closure of a landfill facility involve disturbing the cover or liner of the landfill.	Informational	330.67(c)				General Information
52	General	It is the responsibility of an owner or operator to obtain any permits or approvals that may be required by local agencies such as for building construction, discharge of uncontaminated waters into ditches under control of a drainage district, discharge of effluent into a local sanitary sewer system, etc.	Informational	330.67(d)				General Information
58	General	If at any time during the life of the facility the owner or operator becomes aware of any condition in the permit or registration that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the facility in compliance, the owner or operator shall submit to the executive director requested changes to the permit or registration in accordance with 30 TAC §305.62 or §305.70 and must be approved prior to their implementation	Informational	330.73(a)				General Information
60	General	The owner or operator shall obtain and submit certification by a Texas-licensed professional engineer that the facility has been constructed as designed in accordance with the issued registration or permit and in general compliance with the regulations prior to initial operation. The owner or operator shall maintain that certification on site for inspection	Informational	330.73(d)				General Information

61	General	After all initial construction activity has been completed and prior to accepting any solid waste, the owner or operator shall contact the executive director and region office in writing and request a pre-opening inspection. A pre-opening inspection shall be conducted by the executive director within 14 days of notification by the owner or operator that all construction activities have been completed, accompanied by representatives of the owner or operator and the engineer	Informational	330.73(e)				General Information
62	General	The MSW facility shall not accept solid waste until the executive director has confirmed in writing that all applicable submissions required by the permit or registration and this chapter have been received and found to be acceptable, and that construction is in compliance with the permit or registration and the approved site development plan. If the executive director has not provided a written or verbal response within 14 days of completion of the pre-opening inspection, the facility shall be considered approved for acceptance of waste	Informational	330.73(f)				General Information
63	General	Identify if the Regulated Entity or Customer has any delinquent fees	Required	330.59(h), 330.671, 330.675	Yes	None		Delinquent Fees
64	Part I	Provide a copy of the application, including all revisions and supplements on a publicly accessible Web site	Required in Part I Form	330.57(i)(1)				Part I Form
65	Part I	Provide the commission with the Web address link for the application materials	Required in Part I Form	330.57(i)(1)				Part I Form
66	Part I	Signature Page must have signature and notarization	Required in Part I Form	330.59(a)(1)				Part I Form
67	Part I	Applicant's name, mailing address & phone no.	Required in Part I Form	330.59(a)(1)				Part I Form
68	Part I	Description of the nature of the business	Required in Part I Form	330.59(a)(1)				Part I Form
69	Part I	Activities that require a permit (conducted at the facility)	Required in Part I Form	330.59(a)(1)				Part I Form
70	Part I	Location description, facility name & mailing address	Required in Part I Form	330.59(b)(1); 305.45(a)(1)				Part I Form
71	Part I	Access routes	Required in Part I Form	330.59(b)(2)				Part I Form
72	Part I	Lat. & Long. of the facility	Required in Part I Form	330.59(b)(3)				Part I Form
73	Part I	Lat. & Long. depicted	Required in Part I Form	330.59(c)(1)(A)				Part I Form
74	Part I	All maps should show the facility location	Required in Part I Form	305.45(a)(6)				Part I Form
76	Part I	All maps should show other structures or locations regarding the regulated facility and associated activities	Required in Part I Form	305.45(a)(6)				Part I Form
77	Part I	At least one map with a scale not less than 1 inch = 1 mile	Required in Part I Form	305.45(a)(6)				Part I Form
78	Part I	Permit/Registration boundary and 1 mile beyond to show the following:	Required in Part I Form	330.59(c)(1)(B)				Part I Form
79	Part I	Wells, springs, surface water bodies	Required in Part I Form	305.45(a)(6)(A)				Part I Form
80	Part I	Character of adjacent land including public roads, towns, development as residential, commercial, agricultural, etc.	Required in Part I Form	305.45(a)(6)(B)				Part I Form
81	Part I	Location of any waste disposal activities conducted on the tract but not included in the application	Required in Part I Form	305.45(a)(6)(C)				Part I Form
82	Part I	General location map, TxDOT, scale of 1/2 inch = 1 mile and most current map used	Required in Part I Form	330.59(c)(2)				Part I Form
83	Part I	Land Ownership Map, within 1/2 mile & mineral interest ownership	Required in Part I Form	330.59(c)(3)(A)				Part I Form
84	Part I	Land Ownership List both in hardcopy and electronic form (alternatively pre-printed mailing labels)	Required in Part I Form	330.59(c)(3)(B)				Part I Form
85	Part I	Legal description of property or other documentation of ownership	Required in Part I Form	330.59(d)(1)(A)				Part I Form
86	Part I	If Platted; plat record with county, book, page number and acreage information	Required in Part I Form	330.59(d)(1)(B)				Part I Form
87	Part I	Signed, sealed and dated surveyed metes and bounds description of the facility	Required in Part I Form	330.59(d)(1)(C)				Part I Form
88	Part I	Signed & sealed metes & bounds drawing	Required in Part I Form	330.59(d)(1)(D)				Part I Form
89	Part I	Signed property owner affidavit	Required in Part I Form	330.59(d)(2)				Part I Form
90	Part I	Acknowledge that State may hold owner responsible	Required in Part I Form	330.59(d)(2)(A)				Part I Form
92	Part I	Acknowledge that the owner & State shall have access during life of the facility and during closure	Required in Part I Form	330.59(d)(2)(C)				Part I Form



94	Part I	Verified legal status of applicant and list of persons with 20% or more ownership in the facility	Required in Part I Form	330.59(e)				Part I Form
95	Part I	Ownership status as federal, state, private, public, or other	Required in Part I Form	305.45(a)(2)				Part I Form
96	Part I	List of all Texas solid waste sites that the owner or operator has owned or operated within the last ten years. The site name, site type, permit or registration number, county, and dates of operation shall also be submitted.	Required in Part I Form	330.59(f)(1)				Part I Form
97	Part I	List of all solid waste sites in all states, territories, or countries in which the owner or operator has a direct financial interest. The type of site shall be identified by location, operating dates, name, and address of the regulatory agency, and the name under which the site was generated.	Required in Part I Form	330.59(f)(2)				Part I Form
98	Part I	Shall employ a licensed solid waste facility supervisor before operating	Required in Part I Form	330.59(f)(3)				Part I Form
99	Part I	Names of principals & supervisors owner or operators organization together with previous affiliations with other organizations involved with solid waste activities	Required in Part I Form	330.59(f)(4)				Part I Form
101	Part I	Signatory meets 305.44, documentation of delegated signatory authority	Required in Part I Form	330.59(g)				Part I Form
102	Part I	Corporations - signed by a corporate officer	Required in Part I Form					Part I Form
103	Part I	Partnership or proprietorship - signed by a general partner or proprietor	Required in Part I Form					Part I Form
104	Part I	Municipality, public agency - signed by an executive officer or elected official	Required in Part I Form					Part I Form
105	Part I	Signatory certification statement	Required in Part I Form					Part I Form
106	Part I	Hazardous Waste Management	Required in Part I Form	305.45(a)(7)(A)				Part I Form
107	Part I	Underground Injection Control	Required in Part I Form	305.45(a)(7)(B)				Part I Form
108	Part I	NPIDES	Required in Part I Form	305.45(a)(7)(C)				Part I Form
109	Part I	Prevention of Significant Deterioration	Required in Part I Form	305.45(a)(7)(D)				Part I Form
110	Part I	Nonattainment Program	Required in Part I Form	305.45(a)(7)(E)				Part I Form
111	Part I	NESHAPS	Required in Part I Form	305.45(a)(7)(F)				Part I Form
112	Part I	Ocean dumping permit	Required in Part I Form	305.45(a)(7)(G)				Part I Form
113	Part I	Dredge & fill permit	Required in Part I Form	305.45(a)(7)(H)				Part I Form
114	Part I	Licenses under the TRCA	Required in Part I Form	305.45(a)(7)(I)				Part I Form
115	Part I	Other environmental permits	Required in Part I Form	305.45(a)(7)(K)				Part I Form
116	Part I	Permit Application Fee is \$2050.00	Required in Part I Form	THSC 361.0675				Part I Form
117	Part I	A copy of the payment receipt to the MSW Permits Section, if paid by check.	Required in Part I Form	330.59(h)(1)				Part I Form
118	Part I	Prepared by PE, PG, or qualified person	Required in Part I Form	330.57(f)				Part I Form
119	Part I	Description of facility & systems	Required in Part I Form	305.45(a)(8)(A)				Part I Form
120	Part I	Volume, average & max rate of disposal for each place of disposal	Required in Part I Form	305.45(a)(8)(B)(i)				Part I Form
121	Part I	Physical, chemical, thermal, organic, bacteriological, radiological properties of waste	Required in Part I Form	305.45(a)(8)(B)(ii)				Part I Form
122	Part I	Other reasonable information	Required in Part I Form	305.45(a)(8)(C)				Part I Form
123	Part II	Provide the sources and characteristics of all waste to be accepted.	Required	330.61(b)(1)	Yes	Part I/II, Section 2.2	Sources and Characteristics of Waste	Waste Acceptance Plan
124	Part II	Specify parametric limitations of each type of waste to be managed by the facility	Required	330.61(b)(4)	Yes	Part I/II, Section 2.2.1	Waste Types and Generation Areas	Waste Acceptance Plan
125	Part II	Provide a brief description of the general sources and generation areas contributing wastes to the facility. This description shall include an estimate of the population or population equivalent served by the facility	Required	330.61(b)(1)(A)	Yes	Part I/II, Section 2.2.1 and Section 2.2.3	Waste Types and Generation Areas, and Population Equivalent	Waste Acceptance Plan
126	Part II	Provide a descriptive narrative that describes the percentage of incoming waste that must be recovered and its intended use	Required if Requested	330.61(b)(1)(A)	Yes	N/A	Not applicable	Waste Acceptance Plan
127	Part II	Provide the maximum amount of solid waste to be received daily and annually projected for five years. Provide the maximum amount of solid waste to be stored and the maximum and average lengths of time that solid waste is to remain at the facility. Provide the intended destination of the solid waste received at this facility	Required	330.61(b)(1)(B)	Yes	Part I/II, Section 2.2.2	Waste Acceptance Rate	Waste Acceptance Plan

130	Part II	Provide any site specific conditions that require special design considerations & possible mitigation of conditions identified under sections (b) - (e)	Required	330.61(a)	Yes	Part I/II, Section 3.7	Site-Specific Conditions Requiring Special Design Considerations	Facility Impact
131	Part II	Provide information regarding the likely impacts of the facility on cities, communities, groups of property owners, or individuals.	Required	330.61(h)	Yes	Part I/II, Section 3.1	Impact on Surrounding Area	Facility Impact
132	Part II	Provide information on the compatibility of the facility with surrounding land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest.	Required	330.61(h)	Yes	Part I/II, Section 3.1	Impact on Surrounding Area	Facility Impact
133	Part II	Provide information on the character of surrounding land use within one mile	Required	330.61(h)(2)	Yes	Part I/II, Section 3.1.2	Character of Surrounding Land Use	Existing Conditions
134	Part II	Provide information about the growth trends within five miles & directions of development	Required	330.61(h)(3)	Yes	Part I/II, Section 3.1.4	Growth Trends	Existing Conditions
135	Part II	Indicate the proximity to residences & items listed in 330.61(c)(4) & (12), ~ no. of residences & commercial establishments including direct & distance to nearest, population density, all within one mile	Required	330.61(h)(4)	Yes	Part I/II, Section 3.1.5	Proximity to Residences and Other Uses	Existing Conditions
136	Part II	Indicate all wells and the well density within 500 ft.	Required	330.61(h)(5)	Yes	Part I/II, Section 3.1.6	Oil/Gas and Water Wells	Existing Conditions
137	Part II	Provide any other information requested by the E)	Required	330.61(h)(6)	Yes	N/A	Not applicable	Existing Conditions
138	Part II	Provide data on availability & adequacy of access roads	Required	330.61(i)(1)	Yes	Part I/II, Section 3.2	Transportation Analysis	Transportation
139	Part II	Provide the existing & expected traffic volumes on access roads within one mile of the facility during the expected life of the facility	Required	330.61(i)(2)	Yes	Part I/II, Section 3.2.2	Traffic Volumes	Transportation
140	Part II	Provide an estimate of traffic volume generated by the facility on access roads within one mile of the facility	Required	330.61(i)(3)	Yes	Part I/II, Section 3.2.3	Facility Generated Traffic Volumes	Transportation
141	Part II	Provide documentation of coordination for roadway improvements and documentation of coordination with TxDOT for traffic and location restrictions	Required	330.61(i)(4)	Yes	Part I/II, Section 3.2.5 and Appendix I/II-A.3	TxDOT Correspondence	Transportation
146	Part II	Provide notice to the airport & the FAA for MSW units within 6 miles of a small airport or within 5 miles of a large commercial airport	Required	330.545(b)	Yes	Part I/II, Section 3.2.4	Airport Locations	Transportation
148	Part II	Discuss in general terms the geology and soils of the proposed site	Required	330.61(j)(1)	Yes	Part I/II, Section 3.3	General Geology and Soils Statement	Geology
152	Part II	Provide data on site specific groundwater conditions	Required	330.61(k)(1)	Yes	Part I/II, Section 3.4.1	Groundwater Conditions	Groundwater and Surface Water
153	Part II	Provide data on surface water at or near the site	Required	330.61(k)(2)	Yes	Part I/II, Section 3.4.2	Surface Water Features	Groundwater and Surface Water
154	Part II	Provide information on how facility will comply with applicable Texas Pollutant Discharge Elimination System (TPDES) storm water permitting requirements and the Clean Water Act, §402, as amended. This may include the information requires by 30 TAC 330.61(k)(3)(A) & (B)	Required	330.61(k)(3)	Yes	Part I/II, Section 3.4.3	Texas Pollutant Discharge Elimination System	Groundwater and Surface Water
155	Part II	As applicable, provide a certification statement indicating the owner/operator will obtain the appropriate TPDES permit coverage when required	Required	330.61(k)(3)(A)	Yes	Part I/II, Section 3.4.3	Texas Pollutant Discharge Elimination System	Groundwater and Surface Water
156	Part II	As applicable, provide a copy of permit number under an individual wastewater permit	Required	330.61(k)(3)(B)	Yes	N/A	Not applicable	Groundwater and Surface Water
157	Part II	Provide the location of any water wells.	Required	330.61(l)(1)	Yes	Part I/II, Section 3.1.6 and Appendix I/II-C	Oil/Gas and Water Wells	Abandoned Oil and Water Wells
158	Part II	All water supply wells must be outside monitoring system or approved in the permit	Informational	330.61(l)(1)				Abandoned Oil and Water Wells
160	Part II	Provide the location of oil & gas wells production wells may remain if identified & don't disrupt operations	Required	330.61(l)(2)	Yes	N/A	Not applicable	Abandoned Oil and Water Wells
161	Part II	Production wells may remain if identified & they do not disrupt facility operations	Informational	330.61(l)(2)				Abandoned Oil and Water Wells
162	Part II	Indicate if the facility is within the 100yr floodplain. If facility within a floodplain see location restrictions in 30 TAC Chapter 330 Subchapter M	Required	330.61(m)(1)	Yes	Part I/II, Section 3.5.1	Floodplains	Floodplains and Wetlands

165	Part II	Acknowledge that the construction and operation of the facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species.	Acknowledgement	330.61(n)(1)	Yes	Part I/II, Section 3.6 and Appendix I/II-B.2	Protection of Endangered or Threatened Species	Endangered Species
165	Part II	Acknowledge that the construction and operation of the facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species. If the WWTP permit contains a coordination and a review letter from the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Acknowledgement	330.61(n)(1)	Yes	Part I/II, Section 3.6 and Appendix I/II-B.2	Protection of Endangered or Threatened Species	Endangered Species
166	Part II	Provide a demonstration of whether facility is located within species range and provide a biological assessment.	Required	330.61(n)(2)	Yes	Part I/II, Section 3.6 and Appendix I/II-B.2	Protection of Endangered or Threatened Species	Endangered Species
166	Part II	Provide a demonstration of whether facility is located within species range and provide a biological assessment. If the WWTP permit contains a coordination and a review letter from the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Required	330.61(n)(2)	Yes	Part I/II, Section 3.6 and Appendix I/II-B.2	Protection of Endangered or Threatened Species	Endangered Species
167	Part II	Provide documentation of compliance with Natural Resource Code, Chapter 191 (Texas Antiquities Code).	Required	330.61(o)	Yes	Part I/II, Section 3.1.5, Subsection Historic Site and Cultural Resources and Appendix I/II-A.2	Archaeological/Historical Review Correspondence	Historical Commission
167	Part II	Provide documentation of compliance with Natural Resource Code, Chapter 191 (Texas Antiquities Code). If the WWTP permit contains coordination and a review letter from the Texas Historical Commission, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Required	330.61(o)	Yes	Part I/II, Section 3.1.5, Subsection Historic Site and Cultural Resources and Appendix I/II-A.2	Archaeological/Historical Review Correspondence	Historical Commission
168	Part II	Provide documentation that Parts I and II of the application were submitted for review to the applicable council of governments for compliance with regional solid waste plans.	Required	330.61(p)	Yes	Part I/II, Section 2.3 and Appendix I/II-A.1	Regional Solid Waste Management	COG Review
169	Part II	Acknowledgement that the owner or operator requested a review letter from any local government, as appropriate for compliance with local solid waste plans. A review letter is not a prerequisite to a final determination on a permit or registration application.	Acknowledgement	330.61(p)	Yes	Part I/II, Section 2.4	Local Solid Waste Management	COG Review
170	Part II	Provide a constructed map showing boundary, zoning, & land use within one mile including info from 330.61(c)(4), (5), & (10) (schools, hospitals, etc.)	Required	330.61(q)	Yes	Figure I/II-8	Part I/II Figures	Maps/Drawings
171	Part II	Provide the prevailing wind direction with a wind rose.	Required	330.61(c)(1)	Yes	Figure I/II-1	Part I/II Figures	Maps/Drawings
172	Part II	Provide the location of all known water wells within 500 feet of the proposed permit boundary with the state well numbering system designation for Water Development Board "located wells".	Required	330.61(c)(2)	Yes	Part I/II, Appendix I/II-C.1	Water Well Location Map and Well Identification	Maps/Drawings
173	Part II	Provide the location of all structures and inhabitable buildings within 500 feet of the facility.	Required	330.61(c)(3)	Yes	Figure I/II-9	Part I/II Figures	Maps/Drawings
174	Part II	Provide the location of all schools, licensed day-cares, churches, hospitals, cemeteries, ponds, lakes, residential, commercial, & recreational areas within one mile of the facility.	Required	330.61(c)(4)	Yes	Figure I/II-8	Part I/II Figures	Maps/Drawings

175	Part II	Provide the location and surface type of roads used for access within one mile of the facility	Required	330.61(c)(5)	Yes	Figure I/II-10	Part I/II Figures	Maps/Drawings
176	Part II	Provide the latitude & longitude of the facility	Required	330.61(c)(6)	Yes	Figure I/II-1	Part I/II Figures	Maps/Drawings
177	Part II	Provide the location of all area streams	Required	330.61(c)(7)	Yes	Figure I/II-4	Part I/II Figures	Maps/Drawings
178	Part II	Provide the location of all airports within six miles	Required	330.61(c)(8)	Yes	Figure I/II-1	Part I/II Figures	Maps/Drawings
179	Part II	Indicate the property boundary of facility	Required	330.61(c)(9)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
180	Part II	Indicate all drainage, pipeline, and utility easements within & adjacent to the facility	Required	330.61(c)(10)	Yes	Figure I/II-6	Part I/II Figures	Maps/Drawings
181	Part II	Provide the location of all access control features	Required	330.61(c)(11)	Yes	Figure I/II-14	Part I/II Figures	Maps/Drawings
182	Part II	Provide the location of all archaeological sites, historical sites, and sites with an aesthetic quality adjacent to the facility	Required	330.61(c)(12)	Yes	Figure I/II-8	Part I/II Figures	Maps/Drawings
183	Part II	Provide a facility layout map	Required	330.61(d)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
184	Part II	A set of maps may be provided	Informational	330.61(d)				Maps/Drawings
186	Part II	Provide the location of interior roads	Required	330.61(d)(2)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
187	Part II	Indicate the location of monitor wells	Required	330.61(d)(3)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
188	Part II	Provide the location of all facility buildings	Required	330.61(d)(4)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
189	Part II	Provide notes on sequence of development	Required	330.61(d)(5)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
190	Part II	Indicate the location of all facility fencing	Required	330.61(d)(6)	Yes	Figure I/II-7	Part I/II Figures	Maps/Drawings
192	Part II	Indicate the location of site entrance roads	Required	330.61(d)(8)	Yes	Figure I/II-14	Part I/II Figures	Maps/Drawings
198	Part II	Provide a general topographic maps: USGS 7.5 minute or equivalent one map at scale 1 in. = 2,000 ft.	Required	330.61(e)	Yes	Figure I/II-4	Part I/II Figures	Maps/Drawings
199	Part II	Provide Aerial Photograph(s) that are at least 9 in. by 9 in. at scale range of one inch = 1,667-3,334 ft. that covers an area at least one mile in radius of the site. Facility boundary and fill areas (as applicable) must be shown.	Required	330.61(f)	Yes	Figure I/II-3	Part I/II Figures	Maps/Drawings
200	Part II	A series of photos showing growth trends may be used	Informational	330.61(f)(2)				Maps/Drawings
201	Part II	All submitted prints & photocopies must be legible	Informational	330.61(f)(3)				Maps/Drawings
202	Part II	Provide zoning map within two miles and a copy of any nonconforming use or special permit required for the facility	Required	330.61(h)(1)	Yes	Figure I/II-8	Part I/II Figures	Maps/Drawings
210	Part II	No solid waste disposal operations are permitted in the 100-yr. floodway	Informational	330.547(a)				Floodplains and Wetlands
211	Part II	Demonstrate that, a facility located in 100 year flood plains, does not restrict the flow of the 100 yr. flood, reduce temporary storage capacity, or result in washout of solid waste so as to pose a hazard to human health and the environment	Required	330.547(b)	Yes	Part I/II, Section 3.5.1 and Figure I/II-15	Floodplains	Floodplains and Wetlands
212	Part II	Demonstrate that storage and processing facilities are located outside of the 100 year floodplain	Required	330.547(c)	Yes	Part I/II, Section 3.5.1 and Figure I/II-15	Floodplains	Floodplains and Wetlands
213	Part II	For storage and processing facilities located within the 100 year floodplain, please provide a demonstration that the facility is designed to prevent washout during a 100 year storm event, or a conditional letter of map amendment from the Federal Emergency Management Administration administrator	Required	330.547(c)	Yes	Part I/II, Section 3.5.1 and Figure I/II-15	Floodplains	Floodplains and Wetlands
214	Part II	Acknowledge if the facility will be located in wetlands	Acknowledgement	330.553(a) & (b)	Yes	Part I/II, Section 3.5.2 and Appendix I/II-B.1	Wetlands	Floodplains and Wetlands
215	Part II	Demonstrate, if located within wetlands, that there is no practicable alternative location	Required	330.553(b)(1)	Yes	N/A	Not applicable	Floodplains and Wetlands

216	Part II	Acknowledge that the facility's construction & operations shall not cause or contribute to violations of state water quality standards, violation of any applicable toxic effluent standard or prohibition under the Clean Water Act §307; jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, or violate any requirement under the Marine protection, Research, & Sanctuaries Act	Acknowledgement	330.553(b)(2)(A) - (D)	Yes	Part I/II, Appendix I/II-B, Section 330.553 Wetlands	Wetlands Determination	Floodplains and Wetlands
217	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing erosion, stability, & migration potential of native wetland soils, muds, and deposits used to support the landfill unit	Required	330.553(b)(3)(A)	Yes	N/A	Not applicable	Floodplains and Wetlands
218	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing erosion, stability, & migration potential of dredged and fill materials used to support the landfill unit	Required	330.553(b)(3)(B)	Yes	N/A	Not applicable	Floodplains and Wetlands
219	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the volume and chemical nature of the waste managed in the landfill unit	Required	330.553(b)(3)(C)	Yes	N/A	Not applicable	Floodplains and Wetlands
220	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the impacts on fish, wildlife, and other aquatic resources and their habitat for the release of solid waste	Required	330.553(b)(3)(D)	Yes	N/A	Not applicable	Floodplains and Wetlands
221	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the potential effects of catastrophic release of waste to the wetlands and the resulting impacts on the environment	Required	330.553(b)(3)(E)	Yes	N/A	Not applicable	Floodplains and Wetlands
222	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected	Required	330.553(b)(3)(F)	Yes	N/A	Not applicable	Floodplains and Wetlands
223	Part II	Sufficient information shall be provided to the ED to allow a reasonable determination to be made with respect to the demonstrations cited in 30 TAC §330.553(b)	Informational	330.553(b)(5)				Floodplains and Wetlands
224	Part II	Provide the steps taken to achieve no net loss of wetlands	Required	330.553(b)(4)	Yes	N/A	Not applicable	Floodplains and Wetlands
225	Part II	Acknowledge that the operation of this facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species	Acknowledgement	330.551(a)	Yes	Part I/II, Section 3.6 and Appendix I/II-B.2	Protection of Endangered or Threatened Species	Endangered Species
226	Part II	The term "Harassing" means; An intentional or negligent act or omission that creates the likelihood of injury to wildlife	Informational	330.551(b)(1)				Endangered Species
227	Part II	The term "Harming" means; An act of omission that actually injures or kills wildlife, including acts that annoy it to such an extent as to significantly disrupt essential behavioral patterns	Informational	330.551(b)(2)				Endangered Species
228	Part II	The term "Taking" means; collecting an endangered or threatened species or attempting to engage in such conduct	Informational	330.551(b)(3)				Endangered Species
229	Part II	Acknowledge that no solid waste unloading, storage, disposal, or processing operations shall occur within any easement, buffer zone, or right-of-way that crosses the facility	Acknowledgement	330.543(a)	Yes	Part I/II, Appendix I/II-B, Section 330.543 Easements and Buffer Zones	Provided	Easements and Buffer Zone
268	Part II	Submit information for on-site local geologic or geomorphologic features	Required	330.559(2)	Yes	Part I/II, Section 3.3	General Geology and Soils Statement	Geology
269	Part II	Identify local human-made features or events	Required	330.559(3)	Yes	Part I/II, Section 3.3	General Geology and Soils Statement	Geology
270	Part III	Describe facility access control features	Required	330.63(b)(1)	Yes	Part III, Section 2.1	Facility Access	General Facility Design



271	Part III	Submit a process design for the facility that includes items 330.63(b)(2)(A) through 330.63(b)(2)(I)	Required	330.63(b)(2)	Yes	Part III, Section 2.2.1 and Figure III-1.2	Waste Flow Diagram	General Facility Design
272	Part III	Submit a flow diagram(s) to describe the storage, processing, and disposal sequences for each type of waste and/or feedstock/recyclable	Required	330.63(b)(2)(A)	Yes	Figure III-1.2	Part III, Attachment 1 Figures	General Facility Design
273	Part III	Submit a schematic view drawing(s) showing phases for collection, separation and processing/disposal of each type of waste and/or feedstock/recyclable material	Required	330.63(b)(2)(B)	Yes	Figure III-1.3	Part III, Attachment 1 Figures	General Facility Design
274	Part III	Provide ventilation & odor control measures for each unit	Required	330.63(b)(2)(C)	Yes	Part III, Section 2.2.3	Ventilation and Odor Control	General Facility Design
275	Part III	Provide construction details of storage, processing units & components, dimensions, capacity, materials used, etc.	Required	330.63(b)(2)(D)	Yes	Part III, Section 2.2.4 and Part III, Attachment 1 Figures	Generalized Construction Details	General Facility Design
276	Part III	Provide performance data for all storage and processing units and ancillary equipment	Required	330.63(b)(2)(D)	Yes	Part III, Section 2.2.4 and Part III, Attachment 1 Figures	Generalized Construction Details	General Facility Design
278	Part III	Submit location and engineering designs for containment of storage, processing and loading & unloading areas including freeboard	Required	330.63(b)(2)(F)	Yes	Part III, Section 2.3	Sanitation and Water Pollution Control	General Facility Design
279	Part III	Describe the storage and handling of grease, oil and sludge, including the maximum time waste will be on-site and details of ultimate disposition	Required	330.63(b)(2)(G)	Yes	Part III, Section 2.2.1	Waste Flow Diagram	General Facility Design
280	Part III	Provide details of effluent disposal	Required	330.63(b)(2)(H)	Yes	Part III, Section 2.2.4	Generalized Construction Details	General Facility Design
281	Part III	Provide designs for noise pollution control	Required	330.63(b)(2)(I)	Yes	Part III, Section 2.2.5	Noise Pollution Control and Visual Screening	General Facility Design
282	Part III	Describe how the processing areas will be designed for proper cleaning and to prevent surface water runoff onto, into, and off the treatment areas	Required	330.63(b)(3)(A)	Yes	Part III, Section 2.3.1 and 2.3.2	Surface Waste and Groundwater Protection, and Floor Wash Down	General Facility Design
283	Part III	Describe construction material used for walls and floors that can be hosed down and scrubbed	Required	330.63(b)(3)(B)	Yes	Part III, Section 2.3.1 and 2.3.2	Surface Waste and Groundwater Protection, and Floor Wash Down	General Facility Design
284	Part III	Describe water or steam connections and equipment for cleaning	Required	330.63(b)(3)(C)	Yes	Part III, Section 2.3.2	Floor Wash Down	General Facility Design
285	Part III	Provide adequate floor drains and/or sumps	Required	330.63(b)(3)(D)	Yes	Part III, Section 2.2.4	Generalized Construction Details	General Facility Design
286	Part III	Describe proper disposal of liquids resulting from waste processing, cleaning, and washing and provide for the treatment of waste water	Required	330.63(b)(4)	Yes	Part III, Section 2.3.2	Floor Wash Down	General Facility Design
287	Part III	Describe how facility will be designed to protect endangered species	Required	330.63(b)(5)	Yes	Part III, Section 2.4	Protection of Endangered Species	General Facility Design
336	Part III	Submit if applicable, a floodplain development permit from any agency with jurisdiction over the proposed improvements	Required if Requested	330.63(c)(2)(D)(ii)	Yes	N/A	Not applicable	Surface Water Drainage Report
337	Part III	Submit if applicable a Conditional Letter of Map Amendment from FEMA	Required if Requested	330.63(c)(2)(D)(iii)	Yes	N/A	Not applicable	Surface Water Drainage Report
338	Part III	Submit if applicable, Corps of Engineers Section 404 Specification of Disposal Sites for Dredged or Fill Material permit for construction of all necessary improvements	Required if Requested	330.63(c)(2)(D)(iv)	Yes	N/A	Not applicable	Surface Water Drainage Report
339	Part III	Provide for storage & transfer units a description of design features for the rapid processing and minimum detention of solid waste at the facility	Required	330.63(d)(1)(A)	Yes	Part III, Section 4.3	Waste Storage Period	Waste Management Unit Design
340	Part III	Provide design features for a facility to prevent the creation of nuisances or public health hazards	Required	330.63(d)(1)(A)	Yes	Part III, Section 4.3	Waste Storage Period	Waste Management Unit Design
545	Part III	Indicate that a characterization of the contaminated groundwater, including concentrations of assessment constituents as defined in § 330.409	Required	330.63(f)(7)(A)	Yes	Part III, Section 2.3	Sanitation and Water Pollution Control	Groundwater Sampling & Analysis Plan
701	Part III	Specify in the closure plan that the operator will begin closure no later than 30 days after final receipt of waste or no later than one year if the unit has remaining capacity and additional waste may be received	Required	330.457(f)(3)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
702	Part III	Provide for closure activities to be completed within 180 days of initiation	Required	330.457(f)(4)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
704	Part III	Acknowledge that following receipt of closure documents and the inspection report by the TCEQ region, the ED may acknowledge termination of operation & closure & deem the facility properly closed	Acknowledgement	330.457(f)(6)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan

706	Part III	Indicate that notice of closure will be published in the newspaper of largest circulation 90 days prior to the initiation of a final facility closure. The notice shall provide the name, address, and physical location of the facility; the TCEQ authorization number; and the last date of intended receipt of waste.	Required	330.461(a)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
707	Part III	Acknowledge that notice of closure will be provided to the ED 90 days prior to the initiation of a final facility closure and that the owner or operator will also make available an adequate number of copies of the approved final closure and post-closure plans (if applicable) for public access and review	Acknowledgement	330.461(a)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
708	Part III	Acknowledge that least one closure sign will be posted at every point of access and notify all persons who utilize the facility of the date of closure and the prohibition against further receipt of waste materials.	Acknowledgement	330.461(b)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
709	Part III	Indicate that suitable barriers will be installed at all access points to adequately prevent the unauthorized dumping of solid waste at the closed facility.	Required	330.461(b)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
710	Part III	Indicate that an Affidavit to the Public will be submitted to the ED by registered mail, if waste will remain onsite and indicate that The Owner or Operator will also record a certified notation on the deed to the facility property that the land has been used as a landfill and submit a certified copy of the modified deed to the ED.	Required if Requested	330.461(c)(1)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
711	Part III	Acknowledge that a certification, signed by a P.E., will be provided within 10 days of final closure activities, verifying that final facility closure has been completed in accordance with the approved closure plan and will include all applicable documentation necessary for certification.	Acknowledgement	330.461(c)(2)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan
713	Part III	The owner or operator may request permission from the ED to remove the notation from the deed if all wastes are removed from the facility	Informational	330.461(d)				Closure Plan
714	Part III	Submit a closure plan for Storage and Processing units to remove all waste, waste residues, and any recovered materials. Units shall be dismantled and removed off-site or decontaminated.	Required	330.459(a)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan For Processing Facilities
715	Part III	Provide plans for the evacuation of all material on-site to an authorized facility and the disinfecting of all contaminated water handling units, tipping areas, processing and post-processing areas (as applicable)	Required	330.459(b)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan For Processing Facilities
716	Part III	Acknowledge that if there is evidence of a release, the ED may require an investigation, assessment, and or corrective action.	Acknowledgement	330.459(c)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan For Processing Facilities
717	Part III	Submit a plan (if combustible material is stored outdoors) for closure of a recycling facility that includes collecting processed and unprocessed materials, and transporting the materials to an authorized facility for disposition	Required	330.459(d)(1)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan For Processing Facilities
718	Part III	Provide for the closure plan to be implemented (if combustible material is stored outdoors) and completed within 180 days following the most recent acceptance of processed or unprocessed materials	Required	330.459(d)(2)	Yes	Part III, Attachment 2	Closure Plan	Closure Plan For Processing Facilities
737	Part III	Submit cost estimates for closure & post-closure. Existing facilities must submit a copy of the financial assurance documentation. New facilities must submit financial assurance within 60 days prior to receipt of waste	Required	330.63(j)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
742	Part III	Provide cost estimates to close a Recycling facility that stores combustible materials outdoors.	Required	330.505(a)(1)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates

743	Part III	Provide a closure cost estimate that equals the costs of closure of the facility, including disposition of the maximum inventories of all waste; processed and unprocessed combustible materials stored outdoors on site during the life of the facility.	Required	330.505(a)(2)(A)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
744	Part III	Provide a closure cost estimate that is based on the costs of hiring a third party that is not affiliated with the owner or operator; and is based on a per cubic yard and/or short ton measure for collection and disposition costs.	Required	330.505(a)(2)(B)-(C)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
745	Part III	Provide for the closure cost estimate & financial assurance to be increased if conditions change which increase the maximum cost of closure at any time during the active life of the facility.	Required	330.505(a)(3)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
746	Part III	A reduction in the closure cost estimate and the amount of financial assurance may be approved if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the facility.	Required if Requested	330.505(a)(4)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
747	Part III	Provide for the maintenance of financial assurance for Recycling facilities that store combustible materials outdoors or that pose a risk.	Required	330.505(b)(1)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
748	Part III	Provide for the maintenance of financial assurance until closure is approved by FID.	Required	330.505(b)(2)	Yes	Part III, Attachment 3	Closure Cost Estimates	Closure Cost Estimates
758	Part IV	A site operating plan shall cover all on-site units in accordance with Subchapters D & E of Chapter 330.	Informational	330.65(a)				Site Operating Plan
785	Part IV	Indicate that the facility will provide the reports required by 30 TAC §330.675 to the Executive Director.	Required	330.675	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
988	Part IV	Provide information identifying any permit required under the TPDES and any permit requirements imposed by other agencies for a grease, grit, & sludge processing facility.	Required	330.65(d)	Yes	N/A	Not applicable	Site Operating Plan
989	Part IV	Identify source & characteristics of wastes that will be received and Specify any limiting parameters that may influence the design and operation of the facility.	Required	330.203(a)	Yes	Part IV, Section 2.1	Waste Sources and Characteristics	Site Operating Plan
990	Part IV	Provide estimate of the amount of each waste to be received daily, max amount stored at any one time, max & average time waste will remain on-site, max & average processing time, intended destination of generated wastes, & description of how 10% will be recovered if applicable.	Required	330.203(b)	Yes	Part IV, Section 2.3	Waste Acceptance Rate	Site Operating Plan
991	Part IV	Acknowledge that 10% recovery of material for beneficial use is considered to be the recovery of fats, oil, and greases, but does not include the recovery of water.	Acknowledgement	330.203(b)	Yes	N/A	Not applicable	Site Operating Plan
1000	Part IV	Acknowledge that failure to achieve the relevant 10 percent recycling rate in any two quarters within any one-year period will cause a registration to terminate and will require the owner or operator of the facility to obtain a permit to continue facility operations.	Acknowledgement	330.9(g)(1)	Yes	N/A	Not applicable	Site Operating Plan
1001	Part IV	Provide for a quarterly report to be submitted that will include volume of waste received, percent solids, and the method of determining the percent solids, processed, disposed, and recycled or reused.	Required	330.9(g)(1)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1002	Part IV	Provide in the quarterly report, the method(s) utilized to achieve at least 10% recycling or reuse of incoming material.	Required	330.9(g)(1)	Yes	N/A	Not applicable	Site Operating Plan
1003	Part IV	Submit a quarterly report that reconciles the volume of waste with the amounts on manifests, shipping documents, or trip tickets and indicate where the recyclable material was taken for recycling.	Required	330.9(g)(1)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1004	Part IV	Acknowledge that the addition of any material such as lime, polymer, or flocculent added as part of the recycling process is not allowed to be considered as part of the 10% recovery of material from the waste stream and must be subtracted from the material considered as recycled.	Acknowledgement	330.9(g)(1)	Yes	N/A	Not applicable	Site Operating Plan



1005	Part IV	Acknowledge that diverting material from the waste stream without processing is not considered to be recycling as part of this activity.	Acknowledgement	330.9(g)(1)	Yes	N/A	Not applicable	Site Operating Plan
1006	Part IV	Provide the characteristics and constituent concentrations of wastes generated by the facility and indicate that documentation that all wastes leaving the facility can be adequately managed by other authorized facilities will be provided.	Required	330.205(a)	Yes	Part IV, Section 2.5	Waste Disposal	Site Operating Plan
1007	Part IV	Indicate that all wastes generated by a facility must be processed or disposed at an authorized solid waste management facility.	Required	330.205(b)	Yes	Part IV, Section 2.5	Waste Disposal	Site Operating Plan
1008	Part IV	Indicate that all wastewaters generated by a facility shall be managed as contaminated water in accordance with 330.207.	Required	330.205(c)	Yes	Part IV, Section 3.0	Facility - Generated Wastes	Site Operating Plan
1010	Part IV	Indicate that the facility shall be designed and operated to produce a sludge that is acceptable at municipal solid waste landfills and does not exceed standards specified in 30 TAC §330.205(d).	Required If Requested	330.205(d)	Yes	Part IV, Section 3.0	Facility - Generated Wastes	Site Operating Plan
1011	Part IV	Indicate that sludges exceeding the limits shall not be disposed in municipal solid waste landfills and must be sent to an authorized facility for further processing or disposal as a hazardous waste, as appropriate or disposed in a municipal solid waste landfill with dedicated Class 1 industrial solid waste cells if the sludge is nonhazardous.	Required If Requested	330.205(d)	Yes	Part IV, Section 3.0	Facility - Generated Wastes	Site Operating Plan
1012	Part IV	The owner or operator shall not discharge contaminated water without specific written authorization.	Informational	330.207(a)				Site Operating Plan
1013	Part IV	Provide a plan that describes how all liquids resulting from the operation of the facility shall be disposed of in a manner that will not cause surface water or groundwater pollution.	Required	330.207(a)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1014	Part IV	Indicate that contaminated water shall be collected and contained until properly managed.	Required	330.207(b)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1015	Part IV	Indicate that leachate shall be collected and contained until properly managed.	Required	330.207(b)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1016	Part IV	Indicate that collection units other than storage tanks shall have a clay or synthetic liner and the liner shall be constructed in accordance with 30 TAC §330.33(h).	Required If Requested	330.207(b)	Yes	N/A	Not applicable	Site Operating Plan
1018	Part IV	Indicate that the use of leachate & gas condensate in mining process is prohibited.	Required	330.207(c)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1019	Part IV	Indicate that the facility will not discharge to a septic system.	Required	330.207(d)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1020	Part IV	Indicate that off-site discharge of contaminated waters shall be made only after approval under the Texas Pollutant Discharge Elimination System authority.	Required	330.207(e)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1021	Part IV	Acknowledge that wastewaters discharged to a facility permitted under Texas Water Code, Chapter 26 must not interfere with or pass-through the treatment facility processes or operations, interfere with or pass-through its sludge processes, use, or disposal or otherwise be inconsistent with the prohibited discharge standards, including 40 Code of Federal Regulations Part 403, General Pretreatment Regulations for Existing and New Source Pollution.	Acknowledgement	330.207(f)(1)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1022	Part IV	Indicate that the daily effluent design standard for oil and grease concentration leaving the facility and entering a public sewer system shall not exceed 200 milligrams per liter, the concentration established in the wastewater discharge permit pretreatment limit or the concentration established by the treatment facility permitted under Texas Water Code, Chapter 26, the National Pollutant Discharge Elimination System, or the limits established in 30 TAC §330.207, if the discharge points do not require compliance with locally set limits.	Required	330.207(g)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan

1023	Part IV	Indicate that lagoons, open-top storage tanks, open vessels, and underground storage units are prohibited at liquid waste transfer facilities	Required	330.207(h)	Yes	Part IV, Section 4.0	Contaminated Water Management	Site Operating Plan
1024	Part IV	Provide plans demonstrating that all waste shall be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and shall be contained or bundled so as not to result in litter	Required	330.209(a)	Yes	Part IV, Section 5.0	Storage Requirements	Site Operating Plan
1025	Part IV	Provide a description of on-site storage area for source-separated or recyclable materials that is separate from a transfer station or process area and provides for the control of odors, vectors, and windblown waste	Required If Requested	330.209(b)	Yes	N/A	Not applicable	Site Operating Plan
1026	Part IV	Provide plans for process area of transfer stations that recover material from putrescible or liquid waste. Such plans shall provide for the storage of processed and unprocessed waste & recycled materials in enclosed buildings, vessels, or containers	Required If Requested	330.209(c)	Yes	N/A	Not applicable	Site Operating Plan
1027	Part IV	Provide a plan that describes how all waste containing food wastes shall be stored in covered or closed containers that are leak-proof, durable, and designed for safe handling and easy cleaning	Required	330.211	Yes	Part IV, Section 6.0	Approved Containers	Site Operating Plan
1028	Part IV	Indicate that nonreusable containers shall be of suitable strength to minimize vector scavenging or rummaging	Required	330.211(1)	Yes	Part IV, Section 6.0	Approved Containers	Site Operating Plan
1029	Part IV	Indicate that reusable containers must be maintained in a clean condition as not to constitute a nuisance, harbor, feed, and reproduce vectors	Required	330.211(2)	Yes	Part IV, Section 6.0	Approved Containers	Site Operating Plan
1030	Part IV	Indicate that any containers emptied manually must be capable of being serviced without physical contact with waste	Required	330.211(2)(A)	Yes	Part IV, Section 6.0	Approved Containers	Site Operating Plan
1031	Part IV	Indicate that containers that are mechanically handled must be designed to prevent spillage/leakage during storage, handling, and transport	Required	330.211(2)(B)	Yes	Part IV, Section 6.0	Approved Containers	Site Operating Plan
1032	Part IV	Provide a plan that describes how a citizen's collection stations shall be operated in accordance with 30 TAC §330.213	Required If Requested	330.213(a)	Yes	Part IV, Section 7.0	Citizen's Collection Station	Site Operating Plan
1033	Part IV	Indicate that it is the responsibility of the person that owns or operates the collection center to provide for the collection of deposited waste on a scheduled basis and supervise the facility in order to maintain it in a sanitary condition	Required If Requested	330.213(a)	Yes	N/A	Not applicable	Site Operating Plan
1034	Part IV	A citizen's collection station may accept sharps from single-family or multi-family dwellings, hotels, motels, or other establishments that provide lodging and related services for the public. The sharps will not be considered medical waste, as defined in 30 TAC §330.3	Required If Requested	330.213(b)	Yes	N/A	Not applicable	Site Operating Plan
1035	Part IV	Provide operational standards for stationary compactors that describe how they will operated and maintained in such a way as not to create a public nuisance through material loss or spillage, odor, vector breeding or harborage, or other condition	Required If Requested	330.215(1) and (2)	Yes	Part IV, Section 8.0	Requirements for Stationary Compactors	Site Operating Plan
1036	Part IV	Indicate that a copy of the permit or registration, application, and any other plans or related documents, and as-built plans will be maintained in the site operating record and shall be made available for inspections by agency representatives or other interested parties	Required	330.219(a)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1037	Part IV	Indicate that operator shall record & retain location restriction demonstrations, inspection records, training procedures, closure plans, monitoring, testing, analytical data relating to closure, cost estimates, financial assurance documents, all correspondence, modification, approvals, manifests, shipping documents, tickets relating to special waste, & documents as specified by the executive director in the operating record.	Required	330.219(b)(1) - (7)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan

1038	Part IV	Indicate that trip tickets will be maintained according to the record retention provisions in 30 TAC §312.145.	Required	330.219(b)(8)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1040	Part IV	Indicate that all reports will be signed by a person who is a duly authorized as a signatory for reports. A person is duly authorized if authorized in writing by the owner or operator in accordance with 30 TAC §305.44(a) and the authorization specifies individual or position with responsibility and this written authorization is submitted to the executive director.	Required	330.219(c)(1)(A) - (C)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1041	Part IV	Acknowledge that if the authorization to sign is not longer accurate a new authorization will be submitted.	Acknowledgement	330.219(c)(2)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1042	Part IV	Indicate that any person signing a report shall make the certification in 305.44(b).	Required	330.219(c)(3)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1043	Part IV	Indicate that the operator shall maintain records on-site, available for inspection by the executive director for a period consisting of the two most recent calendar years.	Required	330.219(d)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1045	Part IV	Indicate that the results of final product testing under 30 TAC §330.613 or §332.71 will be maintained in the site operating record.	Required	330.219(d)(2)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1046	Part IV	Indicate that copies of annual reports will be maintained in the site operating record for 5 years.	Required	330.219(d)(3)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1047	Part IV	Indicate that the site operating record shall be furnished and available for inspection by executive director.	Required	330.219(e)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1048	Part IV	Indicate that the operator shall retain site operating record for the life of the facility.	Required	330.219(f)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1049	Part IV	Indicate that the executive director may set alternative recordkeeping & notification schedules.	Required	330.219(g)	Yes	Part IV, Section 10.0	Record-keeping and Reporting Requirements	Site Operating Plan
1051	Part IV	Provide a fire protection plan that describes the source of fire protection (a local fire department, fire hydrants, fire extinguishers, water tanks, water well, etc.), procedures for using the fire protection source, and employee training and safety procedures. The fire protection plan shall comply with local fire codes.	Required	330.221(c)	Yes	Part IV, Section 11.0	Fire Protection Plan	Site Operating Plan
1052	Part IV	Provide a description of the availability of water under pressure for firefighting purposes.	Required	330.221(a)	Yes	Part IV, Section 11.0	Fire Protection Plan	Site Operating Plan
1053	Part IV	Provide a description of on-site firefighting equipment.	Required	330.221(b)	Yes	Part IV, Section 11.0	Fire Protection Plan	Site Operating Plan
1054	Part IV	Indicate that all employees shall be trained in the contents and use of the fire protection plan.	Required	330.221(c)	Yes	Part IV, Section 11.1	Fire Protection Training	Site Operating Plan
1055	Part IV	Provide a description of the artificial barriers, natural barriers, or a combination of both, appropriate to protect human health and safety and the environment that are used to control access to the facility and indicate that uncontrolled access to the facility shall be prevented.	Required	330.223(a)	Yes	Part IV, Section 12.1	Site Security	Site Operating Plan
1056	Part IV	Provide a description of the, minimum two lane, access road from the public road and how it is designed for expected traffic volumes and adequate turning radii.	Required	330.223(b)	Yes	Part IV, Section 12.2	Traffic Control	Site Operating Plan
1057	Part IV	Provide a description of vehicle parking for equipment, employees, and visitors. Indicate that safety bumpers at hoppers must be provided for vehicles. And provide a description of the positive means to control dust and mud.	Required	330.223(b)	Yes	Part IV, Section 12.1	Site Security	Site Operating Plan
1058	Part IV	Provide a description of perimeter control fencing that includes having lockable gates and attendant on site during operating hours. Operating and transport areas shall be enclosed by walls or fence.	Required	330.223(c)	Yes	Part IV, Section 12.1	Site Security	Site Operating Plan
1059	Part IV	Provide a description of the unloading areas and indicate that unloading areas will be confined to as small an area as practical and be monitored by attendant.	Required	330.225(a)	Yes	Part IV, Section 13.0	Unloading Waste	Site Operating Plan

1060	Part IV	Provide a description of the signs & forced access lanes used to prevent indiscriminate dumping.	Required	330.225(a)	Yes	Part IV, Section 13.0	Unloading Waste	Site Operating Plan
1061	Part IV	Indicate that the facility is not required to accept any solid waste that he/she determines will cause or may cause problems in maintaining full and continuous compliance	Required	330.225(a)	Yes	Part IV, Section 13.0	Unloading Waste	Site Operating Plan
1062	Part IV	Provide procedures to ensure that waste in unauthorized areas is removed immediately and disposed of properly.	Required	330.225(b)	Yes	Part IV, Section 13.0	Unloading Waste	Site Operating Plan
1063	Part IV	Provide procedures for the detection and prevention of the unloading of processing of prohibited wastes.	Required	3330.225@	Yes	Part IV, Section 13.0	Unloading Waste	Site Operating Plan
1064	Part IV	Indicate that prohibited waste must be returned immediately to the transporter or generator.	Required	330.225(c)	Yes	Part IV, Section 13.0	Unloading Waste	Site Operating Plan
1065	Part IV	Provide a description of how storage & processing areas are designed to control and contain worst case spill or release and will account for precipitation from a 25-year, 24-hour storm.	Required	330.227	Yes	Part IV, Section 14.0	Spill Prevention and Control	Site Operating Plan
1066	Part IV	Specify the waste acceptance and facility operating hours.	Required	330.229(a)	Yes	Part IV, Section 15.0	Operating Hours	Site Operating Plan
1067	Part IV	The waste acceptance hours may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless otherwise approved by the executive director or commission for a permit. The operating hours for operating heavy equipment and transporting materials on- or off-site may be any time between the hours of 5:00 a.m. and 9:00 p.m., Monday through Friday, unless otherwise approved in the authorization.	Required	330.229(a)	Yes	Part IV, Section 15.0	Operating Hours	Site Operating Plan
1068	Part IV	Specify alternative operating hours of up to five days in a calendar year to accommodate special occasions, special purpose events, holidays, or other special occurrences.	Required	330.229(b)	Yes	Part IV, Section 15.0	Operating Hours	Site Operating Plan
1069	Part IV	Indicate that the facility will record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.	Required	330.229(d)	Yes	Part IV, Section 15.0	Operating Hours	Site Operating Plan
1070	Part IV	Indicate that the commission's regional offices may allow additional temporary operating hours to address disaster or other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area.	Required	330.229(c)	Yes	Part IV, Section 15.0	Operating Hours	Site Operating Plan
1071	Part IV	Indicate that a sign measuring at least 4' X 4' must be displayed at all entrances. Indicate that information on the sign must including the facility name and type, hours and days of operation, authorization number, and facility rules.	Required	330.231	Yes	Part IV, Section 16.0	Facility Sign	Site Operating Plan
1072	Part IV	Indicate that windblown material and litter shall be collected as necessary, throughout the facility, along fences and access roads, and at the gate, at least once per day on days that the facility is in operation, to minimize unhealthy, unsafe, or unsightly conditions.	Required	330.233(a)	Yes	Part IV, Section 17.0	Control of Windblown Material and Litter	Site Operating Plan
1073	Part IV	Indicate the measures used to control windblown waste.	Required	330.233(a)(1)	Yes	Part IV, Section 17.0	Control of Windblown Material and Litter	Site Operating Plan
1074	Part IV	Provide a description of fence or screen used to minimize windblown waste if the facility is not completely enclosed.	Required	330.233(b)	Yes	Part IV, Section 17.0	Control of Windblown Material and Litter	Site Operating Plan
1075	Part IV	Provide procedures to encourage waste hauling vehicles to cover loads that may include posting signs, reporting offenders, and assessing surcharges.	Required	330.235	Yes	Part IV, Section 18.0	Material Along Route to the Facility	Site Operating Plan
1077	Part IV	Provide a description of all weather access roads at the facility and how the tracking of mud and debris onto public roadways will be minimized.	Required	330.237(a)	Yes	Part IV, Section 19.0	Facility Access Roads	Site Operating Plan

1078	Part IV	Provide procedures use to ensure that dust from on-site and other access roadways shall not become a nuisance to surrounding areas and indicate that a water source and necessary equipment or other means of dust control shall <del>be required</del>	Required	330.237(b)	Yes	Part IV, Section 19.0	Facility Access Roads	Site Operating Plan
1079	Part IV	Provide procedures to be used to maintain on site roads and minimize depressions, ruts, and <del>potholes</del>	Required	330.237(c)	Yes	Part IV, Section 19.0	Facility Access Roads	Site Operating Plan
1080	Part IV	Describe screening or other means used to prevent noise pollution & adverse visual <del>impacts</del>	Required	330.239	Yes	Part IV, Section 20.0	Noise Pollution and Visual Screening	Site Operating Plan
1081	Part IV	Provide procedures used to ensure that the design capacity of the facility shall not be exceeded and that waste will not be allowed to accumulate in quantities that create a nuisance, <del>create odors, or harbor vectors</del>	Required	330.241(a)	Yes	Part IV, Section 21.0	Overloading and Breakdown	Site Operating Plan
1082	Part IV	Provide procedures that describe how unprocessed grease, grit, & septage will only be <del>stored up to 22hrs</del>	Required	330.241(a)(1)	Yes	N/A	Not applicable	Site Operating Plan
1083	Part IV	Provide procedures that provide for the restriction, diversion or removal of waste if the facility experiences a significant work stoppage.	Required	330.241(b)	Yes	Part IV, Section 21.0	Overloading and Breakdown	Site Operating Plan
1084	Part IV	Provide an alternative processing/disposal procedures for when facility is inoperable for <del>more than 24hrs</del>	Required	330.241(c)	Yes	Part IV, Section 21.0	Overloading and Breakdown	Site Operating Plan
1085	Part IV	Provide procedures for washing down all working surfaces in contact with waste at least weekly or twice per week for facilities that <del>operate continuously</del>	Required	330.243(a)	Yes	Part IV, Section 22.0	Sanitation	Site Operating Plan
1086	Part IV	Provide procedures to ensure that wash water shall not be allowed to accumulate without <del>proper treatment</del>	Required	330.243(b)	Yes	Part IV, Section 22.0	Sanitation	Site Operating Plan
1087	Part IV	Provide procedures that demonstrate that wash water shall be collected & disposed of in an <del>authorized manner</del>	Required	330.243(c)	Yes	Part IV, Section 22.0	Sanitation	Site Operating Plan
1088	Part IV	Acknowledge that air emissions from municipal solid waste facilities must not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act.	Acknowledgement	330.245(a)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1090	Part IV	Provide a description of odor-retaining containers & vessels used to store liquid and <del>solid waste</del>	Required	330.245(c)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1091	Part IV	Provide a description of how the facility has been designed and will be operated to provide adequate ventilation and prevent nuisance odors from leaving boundary of facility	Required	330.245(d)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1092	Part IV	Indicate that air pollution emission capture & abatement equipment shall be cleaned and maintained per manufacturer's recommendations and as necessary so that the equipment efficiency can be adequately <del>maintained</del>	Required	330.245(e)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1093	Part IV	Provide a description of the measures/equipment, in accordance with 30 TAC §330.245(f)(1) - (4), that will be use to <del>control odor at the facility</del>	Required	330.245(f)(1) - (4)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1094	Part IV	Indicate that the process areas that recover material from solid waste that contains putrescibles shall be maintained totally within an enclosed building and describe how openings to the process area shall be controlled to prevent releases of nuisance odors from leaving the property boundary of the facility.	Required	330.245(g)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1095	Part IV	Provide a description of how facility shall be designed to allow a minimal time of exposure of liquid waste to the air and minimize waste contact with air during unloading of liquid <del>waste into the facility</del>	Required	330.245(h)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan

1096	Part IV	Acknowledge that the reporting of emissions events shall be made in accordance with §101.201 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements) and reporting of scheduled maintenance shall be made in accordance with §101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements).	Acknowledgement	330.245(j)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1097	Part IV	Provide procedures for the control of ponded water to avoid its becoming a nuisance and alleviate any objectionable odors	Required	330.245(k)	Yes	Part IV, Section 23.0	Ventilation and Air Pollution Control	Site Operating Plan
1098	Part IV	Indicate that facility personnel will be trained in the appropriate sections of the facility's health and safety plan.	Required	330.247	Yes	Part IV, Section 24.0	Health and Safety Plan	Site Operating Plan
1099	Part IV	Indicate that the facility shall provide potable water and sanitary facilities for all employees and visitors.	Required	330.249	Yes	Part IV, Section 25.0	Employee Sanitation Facilities	Site Operating Plan

# 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**

**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:**

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## PARTS I &amp; II

TYPE V PERMIT APPLICATION  
J.C. ELLIOTT TRANSFER STATION  
NUECES COUNTY, TEXAS  
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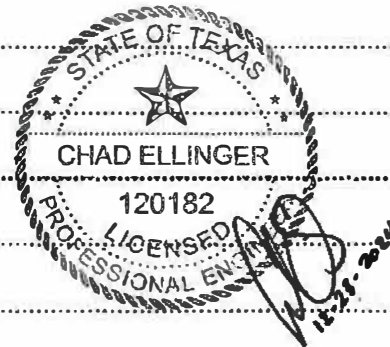
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Part I Application Form  
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## 1.0 PROPERTY AND OWNERSHIP SUMMARY

The property ownership information for the J.C. Elliott Transfer Station is summarized in the following sections.

### 1.1 Facility Location and History

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. The site location is shown on Figures I/II-1 and I/II-2 in Parts I/II of this permit application. Additionally, an aerial photograph showing the site and access roads is included as Part I/II, Figure I/II-3, and a general topographic map is included as Part I/II, Figure I/II-4.

The transfer station property is largely undeveloped and has not previously been used for solid waste operations.

The permit boundary, a 24.95-acre tract as described in Section 1.2 below, is part of an 89.64-acre tract owned by the City of Corpus Christi. There is currently no physical address for the transfer station facility property.

The physical address for the transfer station will be obtained upon Permit approval. The approximate coordinates of the property are North 27°42'16" latitude and West 97°27'11" longitude with an approximate elevation of 20.0' (NAVD 88 Vertical datum).

### 1.2 Property Description and Ownership Information

The property that comprises the J.C. Elliott Transfer Station is depicted on the Permit Boundary Map, provided in the Legal Description portion of the Documentation section following this text. Also included is a metes and bounds description of the property. The recording information for the property is included on both the boundary map and the metes and bounds description and is summarized below.

The 24.95-acre permit-boundary comprises part of the following tracts situated in the Enrique Villareal Survey, Abstract I in Nueces County, Texas:

- An 89.64-acre tract out of Lot 4, Section 14 & Lot 1, Section 16, Bohemian Colony Land, (Vol. A, Page 48 of Map records of Nueces County and Vol. 161, Pgs. 526-528 D.R.N.C.T. Document No. 2020057458).
- A 0.48-acre tract out of Lot 4, Section 14, Bohemian Colony Land, (D.R.N.C.T. Document No. 2002034080).

The facility will be located on the northwest quarter of the referenced tract. Ownership information is provided in the Documentation section of Part I/II and in the Part I (TCEQ-0650) form. A Property Owner Affidavit provided on behalf of the City is included in the Documentation section of Part I/II.

### 1.3 Adjacent Land Ownership and Mineral Interest Ownership

The Nueces County Appraisal District Tax Rolls and Tax Maps were reviewed in November 2024 to determine adjacent landowners, mineral interest owners, and others potentially affected by the J.C. Elliott Transfer Station. The landowner list contains the name and mailing address of each owner within ¼-mile radius of the facility. The Appraisal District records did not indicate any mineral interest ownership

under the facility. However, Nueces County records, specifically Deed Number 2020057458, indicates that the Grantor (Leonard Ray Elzner, Dennis Roy Elzner, Deanna Howard, Deborah Covill Kucera, Sandra Kay Lamkin Gallops, Andrew Calvin Simcik, Stephen James Elzner, Dawn M. Beadles, Emily J. Benick, Mary F. Elzner, Linda S. Zaludek, Lisa Jo Encarguez Castic, Lance Joseph Elzner, Rebecca J. Elzner, Mary Jeanette Bearden, Patricia Bentley, Richard A. Smith, Victor Simcik, Jr., Elaine Stallings, Elizabeth Simcik, and Matthew Simcik) and Grantor's heirs, and successors reserve all oil, gas, and other minerals in and under and that may be produced from the property. The land ownership list is included in Part I/II, Appendix I/II-D, Land Ownership List.

#### 1.4 Easements

There is one utility easement for an overhead electrical line recorded in the County records to potentially be located within the site boundary, as shown on Figure I/II-6, Drainage, Pipeline and Utility Easement Location Map, the precise location of this easement and the electrical line within and adjacent to the site has not been determined. However, there is ample space in the buffer zones to accommodate the electrical line. There are no known drainage easements within the site.

**Table I/II-1.1 On-Site Easements**

<b>Easement Type</b>	<b>Grantee</b>	<b>Nueces County Record Reference</b>
Utility (no width given)	Central Polwer and Light Company	Document No. 162220, Vol. 268, Pg. 257, (April 30, 1941)

#### 1.5 Legal Authority

The City of Corpus Christi, a public entity, is the sole owner of this site and has legal authority to operate as a provider of solid waste management services. There are no other owners or operators having a 20% ownership in the proposed facility. A copy of the city charter for the City of Corpus Christi is provided in the Legal Authority portion of the Documentation section following this text.

#### 1.6 Evidence of Competency

The evidence of competency for this permit application meets the requirements of 30 TAC §330.59(f) and is provided in the Documentation section of Parts I/II of the application.

The City of Corpus Christi has owned, operated, or has a direct financial interest in several solid waste facilities in Nueces County. A listing of these sites is included in the Evidence of Competency portion of the Documentation section following this text.

Mr. David Lehfeldt is the current Director of Solid Waste Services for the City of Corpus Christi. Mr. Lehfeldt holds a bachelor's degree in Geology with a major emphasis on structural geology. He has more than 30 years of local government experience in the solid waste business. He has worked for the City of Corpus Christi in the Solid Waste Services Department since 2018, holding various positions, including Deputy Director of Solid Waste Services and Interim Director of Solid Waste Services.

Mr. Philip Aldridge is the current Assistant Director of Solid Waste Services for the City of Corpus Christi. Mr. Aldridge holds a bachelor's degree in Water Resource Management with a major emphasis on Hydrogeology. He has over 15 years of experience in local, state and private sector waste management. Mr. Aldridge has worked for the City of Corpus Christi in the Solid Waste Services Department since 2019.



Mr. Lehfeltdt and Mr. Aldridge both hold Class A Municipal Solid Waste Licenses from the TCEQ. This meets the requirement of 30 TAC §330.59(f)(3), which states that the solid waste facility supervisor be licensed in accordance with TAC Chapter 30. The Director of Solid Waste Services and the Assistant Director of Solid Waste Services will have the responsibility for operations at the J.C. Elliott Transfer Station.

The City Council approves policies and oversees the management and operation of the Solid Waste Department.

The requirement of 30 TAC §330.56(f)(5) and §330.59(f)(6) are not applicable as the proposed site does not include a mobile liquid waste processing unit, nor is this application for a landfill permit application.

### **1.7 Appointments**

Documentation evidencing the appointment of the Authorized Agent for signing authority of the application included in the Appointments portion of the Documentation section following this text. The City of Corpus Christi has appointed SCS Engineers, Houston, Texas, as the consulting engineer responsible for developing this permit. Mr. Chad Ellinger, P.E., is the Engineer for the project. Mr. Neiman Young, Assistant City Manager, has the authority to sign this application and the Notice of Appointment.

### **1.8 Application Fees**

The required application fee of \$150 was submitted electronically to:

Texas Commission on Environmental Quality  
Financial Administration Division, MC 214  
P.O. Box 13087  
Austin, Texas 78711-3087

### **1.9 Application Posting Information**

In accordance with 30 TAC §330.57(i)(1), a complete copy of this permit application is posted to the internet as indicated on the Part I form. All future revisions or supplements to this permit application will also be posted at the same location. This internet posting is for informational purposes only.

The TCEQ web site will also contain information on the filing of this permit application along with a link to the web address of the posted application.

In accordance with 30 TAC §330.69(b), the owner or operator will post notice signs at the site within 45 days of the executive director's receipt of this application. The sign posting is for informational purposes only. The signs will:

- Have a white background and be no smaller than four feet by four feet;
- Consist of dark lettering, with letters at least three inches in height and block printed capital lettering;
- Identify, as appropriate, that the application is for a proposed facility;
- Include the words "For further information on how the public may participate in Texas Commission on Environmental Quality (TCEQ) permitting matters, contact TCEQ," the toll free telephone number for the Office of Public Assistance, and the agency's Web site address;

**FOR PERMITTING PURPOSES ONLY**

- Include the name and address of the owner or operator;
- Include the telephone number of the owner or operator;
- Remain in place and legible until the close of the final comment period; and
- Be posted in both English and Spanish, in accordance with the alternative language requirements in 30 TAC §39.405(h)(2).

As applicable, the signs will be located within ten feet of every property line bordering a public highway, street, or road. The signs will be visible from the street and spaced at not more than 1,500-foot intervals. A minimum of one sign, but no more than three signs, will be placed along any property line parallel to a public highway, street, or road.

**1.10 Required Permits/Authorizations**

In accordance with 30 TAC §305.45(a)(7), the required permits and authorizations for the facility are summarized below in Table I/II-1.2.

**Table I/II-1.2 Required Permits/Authorizations**

<b>Permit/Authorization Status</b>	<b>Program</b>
N/A	Hazardous Waste Management program under the Texas Solid Waste Disposal Act
N/A	Underground Injection Control (UIC) program under the Texas Injection Well Act
N/A	National Pollution Discharge Elimination Systems (NPDES) program under the Federal Clean Water Act (CWA) and Waste Discharge program under the Texas Water Code, Chapter 26
N/A	Prevention of Significant Deterioration (PSD) Program under the Federal Clean Air Act
N/A	Nonattainment Program under the Clean Air Act
N/A	National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act
N/A	Ocean dumping permits under the Marine Protection Research and Sanctuaries Act
N/A	Dredge and fill permits under the Federal Clean Water Act
N/A	Licenses under the Texas Radiation Control Act
RQD	NPDES Stormwater Pollution Control §402 Permit
N/A	U.S. Army Corps of Engineers Dredge and Fill Permit §404
N/A	Subsurface area drip dispersal system permits under the Texas Water Code, Chapter 32
RQD (see note 1 below)	TCEQ Air Quality Permit or Registration

Notes: N/A = Not Applicable  
REC = Received  
RQD = Required  
APP = Applied For

1. Standard Air Permit for MSW Transfer Stations (30 TAC § 330.981 *et seq.*).



## 2.0 FACILITY FEATURES AND WASTE ACCEPTANCE PLAN

The site will include the transfer station structure, a gatehouse with scale(s), drainage features, and a perimeter fence with locking gates. The transfer station structure is a dual-level, fully-enclosed building with an above-grade processing floor (tipping floor). The fully-enclosed building footprint will be approximately 390 feet wide by 367 feet long with concrete floor, an entry and exit with locking overhead doors, and a roof. A Site Layout Plan is included as Figures I/II-7. The general design and construction details for the fully-enclosed building components are included in Part III, Attachment 1.

General operations will be conducted in a manner that allows for the prompt, efficient and safe unloading of waste. The waste will be discharged from the collection vehicles onto the facility processing floor (tipping floor). Heavy machinery will be used to push waste to hoppers with open top transfer trailer awaiting below in loading shoots. The transfer trailers will be tarped before transfer to the Cefe Valenzuela Landfill or another authorized disposal facility located within 50 miles.

### 2.1 Proposed Permit

By way of this permit application, the City of Corpus Christi proposes to construct and operate a new Type V MSW facility in Nueces County pursuant to 30 TAC § 330.9. The facility will have a waste intake, at its peak, projected at approximately 2,500 tons/day. The site has not previously been used for solid waste operations. A Site Layout Plan is included as Part I/II, Figures I/II-7.

### 2.2 Sources and Characteristics of Waste

The acceptable waste characteristics, waste restrictions, general sources and service areas, waste rates, and storage requirement for the J.C. Elliott Transfer Station are summarized in the following sections. There are no known waste constituents or characteristics in the acceptable waste stream that could be a limiting parameter that may impact or influence the design and operation of the facility.

#### 2.2.1 Waste Types and Generation Areas

The J.C. Elliott Transfer Station is a Type V facility. This facility is authorized to accept municipal solid waste (MSW). Class 2 and 3 industrial non-hazardous waste and certain types of special waste may be accepted at the facility provided the wastes are properly identified and provided the acceptance of such waste does not interfere with site operations. Recyclables including but not limited to white goods, electronic goods, and Household Hazardous Waste (HHW) will be accepted and stored inside the transfer station until removed and taken to a facility authorized to accept such wastes. Other wastes such as brush and tires may be processed either inside or outside the building in a designated area. Based on the following list of acceptable wastes, there are no limiting waste constituents or characteristics that may impact or influence the design and operation of the facility. Therefore, the parameter limitations, as required by §330.203(a), are not applicable to this facility.

Waste accepted and recycled at the facility is expected to consist of the following wastes as defined in 30 TAC §330.3:

#### **Primary Waste Types:**

- Municipal Solid Waste - Solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including garbage, rubbish, ashes, street cleanings, automobile parts, and all other solid waste other than industrial solid waste;

- Putrescible Waste - Organic wastes, such as garbage, that are capable of being decomposed by microorganisms with sufficient rapidity as to cause odors or gases or are capable of providing food for or attracting birds, animals, and disease vectors;
- Rubbish - Nonputrescible solid waste (excluding ashes), consisting of both combustible and noncombustible waste materials. Combustible rubbish includes paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, brush, or similar materials; noncombustible rubbish includes glass, crockery, tin cans, aluminum cans, and similar materials that will not burn at ordinary incinerator temperatures (1,600 degrees Fahrenheit to 1,800 degrees Fahrenheit);
- Yard Waste - Leaves, grass clippings, yard and garden debris, and brush, including clean woody vegetative material not greater than six inches in diameter that results from landscaping maintenance and land-clearing operations. The term does not include stumps, roots, or shrubs with intact root balls;
- Special Waste – Any solid waste or combination of solid waste that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling to protect the human health or the environment. Only those special wastes that do not interfere with site operations will be accepted at this facility including but not limited to:
  - Hazardous waste from conditionally exempt small-quantity generators (CESQG) that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes) may be accepted provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator. These waste materials will be stored inside the transfer station building until removed and taken to a facility that is authorized to accept the waste;
  - Deceased animals that are incidental to routine collection of municipal solid waste and that can be systematically processed along with other solid waste;
  - Pharmaceuticals, contaminated foods, or contaminated beverages other than those contained in normal household waste on a case by case basis;
  - Empty containers which have been used for pesticides, herbicides, fungicides or rodenticides, provided the containers have been triple rinsed or crushed;
  - Non-RACM - Incidental amounts of non-regulated asbestos containing materials (Non-RACM) (incidental amount is defined as the maximum of 10 percent of the waste received on an annual basis by scale weight);
  - HHW including but not limited to lead acid storage batteries, used oil, used oil filters from internal combustion engines, paints, and electronic goods will be stored inside the transfer station building until removed and taken to a facility authorized to accept such wastes;
    - Some accepted HHW or CESQG wastes, such as paints may be in the form of unopened containers (like new) or slightly used containers. Rather than disposing such recyclable/reusable hazardous wastes, the Site Manager may make these wastes available to residential customers and local charities;
    - Electronic goods will be collected inside the transfer station building and recycled as defined in §330.3. Any reusable electronic good (e.g. computer, printer, etc.) can be sent to Goodwill or Electronics Recycler for refurbishment and reuse.

- Used oil filters from internal combustion engines (to include filters which have been crushed and/or processed to remove free-flowing used oil) will not be intentionally and knowingly sent for disposal to a landfill unless the filter has been or will be:
  - Crushed to less than 20% of its original volume to remove all free-flowing used; or
  - Processed by a method other than crushing to remove all free-flowing used oil. A filter is considered to be processed if:
    - The filter has been separated into component parts and the free-flowing used oil has been removed from the filter element by some means of compression in order to remove free-flowing used oil;
    - The used filter element of a filter consisting of a replaceable filtration element in a reusable or permanent housing has been removed from the housing and pressed to remove free-flowing used oil; or
    - The housing is punctured and the filter is drained for at least 24 hours.
- Whole used or scrap tires (pending approval of a tire processor registration);
- White goods (i.e., household appliances, refrigerators, stoves) and metal. Items containing CFCs will be handled in accordance with 40 Code of Federal Regulations §82.156(f);
- Construction or demolition (C & D) Waste - Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.

**Other Waste Types:**

- Class 2 industrial Wastes - Any individual solid waste or combination of industrial solid waste that are not described as Hazardous, Class 1, or Class 3 as defined in §335.506 of the TCEQ regulations (relating to Class 2 Waste Determination); and
- Class 3 Wastes - Inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable, as further defined in §335.507 of the TCEQ regulations (relating to Class 3 Waste Determination).

**Prohibited Waste Types:**

The facility will not accept the following wastes:

- Regulated hazardous wastes;
- Polychlorinated biphenyls (PCB) waste;
- Radioactive waste;
- Regulated Asbestos Containing Materials (RACM);
- Certain Special Wastes, including:

- Hazardous waste other than from Conditionally Exempt Small Quantity Generators (CESQGs) that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes) provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month. CESQG waste from industrial generators will not be accepted;
- Class 1 non-hazardous industrial waste;
- Untreated medical waste
- Municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
- Septic tank pumpings;
- Grease and grit trap wastes;
- Waste from commercial or industrial waste water treatment plants; air pollution control facilities; and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 code of Federal Regulations (40 CFR), Part 261, Appendix VIII but has not been listed as a commercial product in 40 CFR, §261.33(e) or (f);
- Slaughterhouse wastes;
- Incinerator ash; and
- Soil contaminated by petroleum products, crude oils, or chemicals in concentrations greater than 1,500 mg/kg total petroleum hydrocarbons, or contaminated by constituents of concern exceeding the concentrations listed in Table 1 of 30 TAC §335.521(a)(1);
- Items containing chlorinated fluorocarbons (CFC's), such as refrigerators, freezers, and air conditioners, will only be accepted at the site for processing if the generator or transporter provides written certification that the CFC has been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. If the site accepts any items containing CFC's, the City will have the CFC's evacuated by a certified refrigerant removing technician prior to processing at the transfer station; and
- Liquid waste (any waste material that is determined to contain "free liquids" as deemed by EPA Method 9095 (Paint Filter Test), as described in "Test Methods for Evaluating Solid Wastes, Physical Chemical Methods" (EPA Publication Number SW-846)) shall not be accepted unless it is:
  - Bulk or non-containerized liquid waste that is: household waste other than septic waste, or contained liquid waste and the container is a small container similar in size to that normally found in the household waste, the container is designated to hold liquids for use other than storage, or the waste is a household waste.

**Generation Areas:**

The facility is planned to primarily serve residents and businesses within the City of Corpus Christi and Nueces County as well as portions of the surrounding areas including Aransas, Bee, Duval, Goliad, Jim Wells, Kleberg, Live Oak, McMullen, Refugio, and San Patricio Counties, but may serve other counties as well.

**2.2.2 Waste Acceptance Rate**

The projected maximum amount of waste to be received daily and annually for the first five years of facility operation is approximately 2,500 tons per day, or 912,500 tons per year. However, the facility is not currently expected to reach the projected maximum amount for several years and reasonably anticipates the following volumetric increases (which may fluctuate and should not be construed as interim waste acceptance limitations):

Year	Projected Daily Waste Acceptance Rate	Projected Annual Waste Acceptance Rate
1	600 tons	187,800 tons
2	650 tons	203,450 tons
3	700 tons	219,100 tons
4	750 tons	234,750 tons
5	800 tons	250,400 tons

**2.2.3 Population Equivalent**

Based on the TCEQ definition for population equivalency, the average volume per ton of waste entering a municipal solid waste processing facility is 3 cubic yards with a generation rate of 5 pounds per person per day.

The population equivalent (PE) served by the facility for the projected peak daily acceptance rate of approximately 2,500 tons per day is estimated as follows:

$$\begin{aligned}
 \text{Annual rate per person} &= 5 \text{ pounds/person/day} \times 365 \text{ days/year} \div 2,000 \text{ pounds/ton} \\
 &= 0.9125 \text{ tons/person/year} \\
 \text{PE} &= 912,500 \text{ tons/year} \div 0.9125 \text{ tons/person/year} \\
 &= 1,000,000 \text{ persons}
 \end{aligned}$$

**2.2.4 Waste Storage and Off-Site Disposal**

Waste storage or holding will occur on the tipping floor, including partially-filled transfer vehicles at the end of the operating day. The maximum volume of waste that will be stored overnight at the facility at any given time is 1,000 tons or less, which includes the waste in fully loaded, covered transfer vehicles waiting to haul waste off-site. Other than brush and tires, no storage of waste materials will occur off the tipping floor, except for waste in fully loaded, covered transfer trailers waiting to be hauled off-site. Solid waste will generally be processed within an average of 4 to 6 hours. The solid waste will not be allowed to accumulate on-site for such a period that will allow the creation of a nuisance or public health hazard due to odors, fly breeding, or harborage of other vectors. Storage periods significantly above average are as a result of equipment breakdown or acts of God, and will only be permitted for the time required to repair or replace the malfunctioning equipment or to allow any exigent circumstances to subside. The

maximum volume of waste that can be stored at the facility under these circumstances is 1,000 tons which includes the waste in loaded transfer vehicles waiting to haul waste off-site.

During time periods including holidays, the solid waste may be temporarily stored at the site not to exceed a time period of 72 hours. If waste remains on the tipping floor during these periods, rather than covered transfer vehicles, the overhead doors will be closed to control potential odors, flies and other vectors.

All non-recycled wastes will be transferred to Cefe Valenzuela Landfill or another landfill facility permitted by the TCEQ.

### **2.3 Regional Solid Waste Management**

30 TAC §330.61(p) requires that the owner or operator provide documentation that Parts I and II of the permit application were submitted for review to the applicable council of governments for compliance with regional solid waste plans. The regional authority for Nueces County is the Coastal Bend Council of Governments (CBCOG). The CBCOG is an intergovernmental planning agency that serves an 11 county region, encompassing the Coastal Bend region. CBCOG's solid waste management plan is presented in "Amended Regional Solid Waste Management Plan 2000-2020", as dated December 2, 2002. A more recent version entitled "Coastal Bend Regional Solid Waste Management Plan 2022-2042" was obtained through the URL link, [www.tceq.texas.gov/downloads/permitting/waste-permits/waste-planning/docs/draft\\_cbcog\\_rswmp\\_2022.pdf](http://www.tceq.texas.gov/downloads/permitting/waste-permits/waste-planning/docs/draft_cbcog_rswmp_2022.pdf). Parts I and II of this permit application are presented in a manner to assist the CBCOG in evaluating the facility for consistency with the goals and objectives of the 2022 Plan that seeks to provide for adequate solid waste handling and management facilities while preventing adverse health, social, economic, and environmental impacts.

A letter was sent to CBCOG summarizing the permit application and transmitting a copy of Parts I and II of this application for review. A copy of the related correspondence is included in Part I/II, Appendix I/II-A.1.

### **2.4 Local Solid Waste Management**

30 TAC §330.61(p) requires that the owner or operator request a review letter from local governments for compliance with any applicable local solid waste plan. Nueces County and the City of Corpus Christi do not have a solid waste management plan; therefore, no further considerations are required as this regulation is not applicable to this facility.



### 3.0 EXISTING CONDITIONS SUMMARY

In accordance with 30 TAC §330.61, the following sections include the required portions of Part II of the permit application that summarize the existing conditions of both the facility property and the surrounding area. The main topics include land use and zoning, population and community growth trends, locations of water and oil/gas wells, prevailing wind direction, transportation analysis, general geology, soils, groundwater and surface water information, and floodplain, wetlands, and endangered species data.

#### 3.1 Impact on Surrounding Area

A land use and zoning compatibility analysis was performed for the J.C. Elliott Transfer Station. The results of the analysis are summarized in the following sections.

##### 3.1.1 Zoning

The J.C. Elliott Transfer Station is located within the City of Corpus Christi in Nueces County, Texas. The zoning for the facility location, based on information from the City of Corpus Christi is “FR”, which is Farm Rural District. The City of Corpus Christi Guide to Permitted Uses in Zoning Districts states that the “FR” zoning district includes lands that are relatively undeveloped and agricultural in nature. The “FR” zoning district is intended to permit the continued use of the land for agricultural purposes and is also the default zoning district for newly-annexed land that has not yet been placed in an appropriate zoning classification for final use. The Corpus Christi Unified Development Code minimum requirements state that no land may be used except for a purpose permitted in the zoning district in which it is located. The facility is subject to land development permitting by the City of Corpus Christi for construction.

##### 3.1.2 Character of Surrounding Land Use

Existing uses of the site and the surrounding area are shown on Figure I/II-8, Land Use Map. The map was prepared based on a field reconnaissance study (Hanson Professional Services Inc., July 2024) and a review of aerial photographs (GoogleEarth™) of the surrounding area. Portions of the land within a one-mile radius are developed with a wide variety of commercial and residential uses. Public works land represents the largest percentage of land use within a one-mile radius of the site. The next largest component of land use consists of agricultural properties. The breakdown of overall land use within the one-mile radius is shown on Table I/II-3.1.

**Table I/II-3.1 Land Use Within a One-Mile Radius**

Land Use	Area (in acres)	Percentage of Total Area
Industrial	95.35	4.7%
Commercial	32.79	1.6%
Public Works	1,141.1	55.5%
Institutional	33.82	1.6%
Schools	0.0	0.0%
Residential	10.18	0.5%
Water Bodies	16.68	0.8%
Park / Recreational Areas	14.25	0.7%
J.C. Elliott Transfer Station Facility	24.95	1.2%
Open Space / Ag Use	687.41	33.4%
<b>Total</b>	<b>2,056.53</b>	<b>100.0%</b>

### 3.1.3 Population and Community Growth Trends

According to the 2020 U.S. Census, the population for Nueces County was 353,178, which is the most recent census data available at the time of preparation of this permit application. The Nueces County estimated population for 2030 is 357,196 based on a 0.2 percent growth rate estimated by the World Population Review.

**Table I/II-3.2 Census Population and Estimates for Nueces County, Texas 2010-2030**

Year	Projected Population of Nueces County	Population Data Source
2010	340,223	US Census
2020	353,178	US Census
2025	353,687	Estimate
2030	357,196	Estimate

### 3.1.4 Growth Trends

The site is located within the City of Corpus Christi in Nueces County. According to the World Population Review, Nueces County has an estimated growth rate of 0.2 percent.

The area surrounding the J.C. Elliott Transfer Station consists predominantly of public works facilities, agricultural land, light industrial businesses, and scattered residential properties. Significant development within the vicinity of the site during the past 10 years includes construction of the Crosstown Expressway (SH 286) extension to the east of the site and residential development to the southwest of the site. There has been very little growth in the remaining area surrounding the site.

### 3.1.5 Proximity to Residences and Other Uses

In accordance with 30 TAC §330.61(h)(4), the following paragraphs describe certain specific uses of the properties within a one-mile radius of the facility. The locations of ponds, licensed day care facilities, residences, churches, parks, cemeteries, commercial and industrial areas within a one-mile radius of the facility are shown on Part I/II, Figure I/II-8 and are discussed in further detail in the following paragraphs. No known hospitals, archeological or historical sites, or sites with exceptional aesthetic qualities were identified within one mile of the facility.

#### Ponds and Lakes

Oso Creek and one known pond are located within a one-mile radius of the site. All ponds and bodies of water are shown on Part I/II, Figure I/II-8.

#### Residential

A driving survey of the area in July 2024 and review of aerial photography shows two residential areas within a one-mile radius of the facility. One area is north of Saratoga Boulevard and the other is south of Oso Creek. The nearest existing residence is approximately 0.45 miles southeast from the facility permit boundary on the opposite side of Oso Creek and SH 286. All residential areas are shown on the Land Use Map, provided as Figure I/II-8.



*Churches*

A driving survey of the area in July 2024 and review of aerial photography indicated that there is one church located within one mile of the facility, located southeast of the facility along the intersection of SH 286 and Bay Area Drive.

*Licensed Day Care Facilities*

A search for licensed day care centers in the Texas Department of Family and Protective Services website indicates there is one licensed day care operation, the Stepping Stones Academy, located approximately 0.75 miles north of the facility.

*Parks and Recreational Areas*

A driving survey of the area in July 2024 and review of aerial photography indicates that there is one recreational facility, Legacy Sports, located within one mile of the facility, approximately 0.7 miles to the north.

*Cemeteries*

There are no known cemeteries located within one mile of the facility.

*Schools*

A driving survey of the area in July 2024 and review of aerial photography indicates that there are no schools located within a one-mile radius of the facility.

*Commercial and Industrial*

A driving survey of the area in July 2024 and review of aerial photography indicated that there are approximately 70 businesses within a one-mile radius of the facility. These include commercial and light industrial activities.

The businesses nearest the facility boundary are located approximately 0.52 miles northeast of the site to the east of SH 286. All commercial and industrial areas are shown on the Land Use Map, provided as Figure I/II-8.

*Historic Site and Cultural Resources*

In accordance with 30 TAC §330.61(o), a letter was sent to the Texas Historical Commission (THC) for concurrence that there are no historical, archeological, or site with exceptional aesthetic quality on the facility property or in the surrounding area that would be affected by the J.C. Elliott Transfer Station. A copy of the THC correspondence is included in Part I/II, Appendix I/II-A.2.

*Miscellaneous Uses*

Other miscellaneous land uses within a one-mile radius of the facility include the existing J.C. Elliott Landfill to north and east of the facility, the Cabaniss Field Naval Outlying Field (NOLF) to the east of the facility across SH 286, and the Greenwood Wastewater Treatment Plant to the northwest of the facility along Saratoga Boulevard. These additional land uses are shown on the Land Use Map, provided as Figure I/II-8.

### 3.1.5.1 *Structures and Inhabitable Buildings Within 500 Feet of the Site*

In accordance with §330.61(c)(3), the structures and inhabitable buildings within a 500-foot radius of the facility have been identified on Part I/II, Figure I/II-9. There are nine structures within 500 feet of the facility's permit boundary all of which are located within the site property boundary and owned by the City of Corpus Christi. No inhabitable structures have been identified within 500 feet of the facility's permit boundary.

### 3.1.6 **Oil/Gas and Water Wells**

The locations of water and oil/gas wells within one mile of the permit boundary of the facility were determined based on a water well database search performed by The Banks Group. The well database search is included in Appendix I/II-C, Well Location Summary. No known water wells or oil/gas wells were identified within a 500-foot radius of the facility.

### 3.1.7 **Prevailing Wind Direction**

A wind rose is included on Figure I/II-1 to illustrate the prevailing wind direction. The nearest available wind rose (Corpus Christi Cabaniss Field) for the site, between 1949 and 2023, indicates that the prevailing wind is from the south-southeast.

## 3.2 **Transportation Analysis**

The transportation analysis includes data on the availability and adequacy of roads that the owner or operator will use to access the facility; data on the volume of vehicular traffic on access roads within one mile of the facility, both existing and expected, during the expected life of the facility; projected volume of traffic expected to be generated by the facility on the access roads within one mile of the facility; documentation of coordination of all designs associated with the site entrance with the agency exercising maintenance responsibility of the public roadway involved; and documentation of coordination with the Texas Department of Transportation (TxDOT) for traffic and location restrictions.

### 3.2.1 **Site Access**

Public access to the facility will be provided by an existing entrance road located on the west side of State Highway 286 about 4000 feet south of Saratoga Boulevard (State Highway 357). The existing entrance previously served the J.C. Elliott Landfill (MSW-423A) and currently serves the existing transfer station (Registration Number 40228) located within the J.C. Elliott Landfill permit boundary. City solid waste transport vehicles will utilize the existing entrance. Empty transfer trailers returning from Cefe F. Valenzuela Landfill may access the site by traveling on Greenwood Avenue to the back entrance to the J.C. Elliott Landfill and then internal J.C. Elliott Landfill paved roadways.

The existing site entrance/exit is a 60-foot-wide paved driveway. The driveway intersects the southbound frontage road of SH 286 at a three-way stop with no sight restrictions or conflicts that impair the turning of the vehicles or the view of drivers on SH 286. Vehicles that turn into the site entrance driveway (see Part I/II, Figure I/II-7 – Site Layout Plan) will have approximately 600 feet of staging room before they reach the gatehouse. This will prevent any traffic congestion on SH 286 due to vehicles waiting to access the facility. The existing driveway exit is controlled by a stop sign but may be modified in the future as recommended by TxDOT, the entity responsible for SH 286.

State Highway 286, Saratoga Boulevard, Greenwood Drive, and J.C. Elliott internal roadways consist of asphalt paving underlain by flexible base material. Access to the transfer station will be controlled by a

gate and perimeter fencing as shown on Figure I/II-7 – Site Layout Plan. Based on the information above, the roadways that provide access to the facility are adequate in capacity and structure to continue to serve the needs of the owner or operator and the general public. The three main roadways, SH 286, SH 357, and Greenwood Drive are asphalt paved with 80,000 pound vehicle weight limits.

### 3.2.1.1 Access Road Adequacy

Based on the information above, the roadways that provide access to the facility are adequate in capacity and structure to continue to serve the needs of the owner or operator and the general public. The three main roadways, SH 286, SH 357, and Greenwood Drive are asphalt paved with 80,000 pound vehicle weight limits. Hanson has coordinated with TxDOT, the entity responsible for SH 286 and SH 357, to confirm the public roadways are adequate for the facility generated traffic. The City is responsible for the maintenance of Greenwood Drive.

Correspondence evidencing Hanson's coordination with TxDOT is included in Appendix I/II-A.3.

### 3.2.2 Traffic Volumes

Citizen traffic will access the facility via the entrance off SH 286. Waste transfer and other City or facility support vehicles may use the SH 286 entrance or enter the facility from Greenwood Drive through the J.C. Elliott Landfill. The 2023 TxDOT daily traffic volumes in the vicinity of the facility were obtained which represent the average two-way traffic passing a specific location in a 24-hour period. Future traffic is projected through the year 2040 based on the use of the Traffic Data Pocket Guide ([https://www.fhwa.dot.gov/policyinformation/pubs/pl18027\\_traffic\\_dat\\_pocket\\_guide.pdf](https://www.fhwa.dot.gov/policyinformation/pubs/pl18027_traffic_dat_pocket_guide.pdf)). The actual site operating life for the facility may vary due to various future factors. The existing traffic volumes for roadways within one mile of the facility are shown on Figure I/II-10 and in the Table I/II-3.3.

**Table I/II-3.3 Existing and Future Traffic Volumes For Roadways Within One Mile of the Facility**

Roadway	Segment	2023 Volumes <sup>1,2</sup>	2040 Volumes <sup>2,3</sup>
SH 286	North of Facility Entrance	24,241	64,319
	South of Facility Entrance, South of Oso Creek	24,633	65,359
	South of Facility Entrance, South of FM 43	12,430	32,980
Saratoga Blvd	North of Facility Entrance, East of SH 286	13,000	19,317
FM 43	South of Facility Entrance, West of SH 286	3,663	23,546

1. Source: TxDOT Statewide Traffic Count Map

2. Traffic volumes are in units of vehicles per day.

3. Future volumes calculated using the FHWA [https://www.fhwa.dot.gov/policyinformation/pubs/pl18027\\_traffic\\_dat\\_pocket\\_guide.pdf](https://www.fhwa.dot.gov/policyinformation/pubs/pl18027_traffic_dat_pocket_guide.pdf).

### **3.2.3 Facility Generated Traffic Volumes**

The current volume of traffic using the existing J.C. Elliott Transfer station is estimated to be about 580 vehicles per day, including public and private haulers, citizen vehicles and employee vehicles. This is expected to remain the same upon opening of the new transfer station but will gradually increase over time with population growth and as the greater efficiency and larger capacity of the new facility is taken advantage of. The maximum total volume of traffic generated by the facility is expected to be approximately 2,500 vehicles per day in about 2040. These would consist of short-haul and long-haul garbage trucks, citizen vehicles, and employee vehicles.

Comparison of the traffic to be generated at the facility with the traffic data on Table I/II-3.3 shows that the volume of the traffic generated by the facility represents a relatively small percentage of the existing and projected volumes on the access roads within one mile of the facility. Based on the findings of this traffic study, there are no existing or future restrictions on the main access roadways within one mile of the facility that would prevent safe and efficient operations for both the facility-generated traffic as well as the other vehicles in the area.

### **3.2.4 Airport Locations**

There are no public-use airports within six miles of the site as indicated on Part I/II, Figure I/II-1. The nearest runway of a public-use airport is at Corpus Christi International Airport, located approximately 6.5 miles northwest of the facility. In accordance with 30 TAC 330.61(i)(5), an airport impact evaluation is required only for landfill units and landfill mining operations, and thus not required for Type V facilities.

### **3.2.5 TxDOT Correspondence**

In accordance with 30 TAC §330.61(i)(4), TxDOT was contacted for any traffic or location restrictions which may apply to the facility. Coordination with TxDOT is included in Parts I/II, Appendix I/II-A.3.

## **3.3 General Geology and Soils Statement**

In accordance with 30 TAC §330.61(j), a general discussion of the geology and soils at the J.C. Elliott Transfer Station is included in the following sections.

### **3.3.1 Physiography and Topography**

The site is located in Nueces County, Texas. The topography of the site is generally flat. Oso Creek is located south/southwest of the facility boundary and to the west of FM 535. Oso Creek drains to Oso Bay. Part I/II, Figure I/II-4 shows the general site topography based on United States Geological Survey (USGS) maps, dated 2019.

Area rainfall averages are approximately 31.8 inches per year for the Corpus Christi, Texas area (U.S. Climate Data).

The natural surface drainage in the site area generally drains to Oso Creek which runs along the southern property boundary and then drains to Oso Bay. The approximate existing ground elevation of the site is approximately 20 ft-msl.

### **3.3.2 Geologic Setting**

The geologic strata outcropping in Nueces County are sedimentary and range in geologic age from Quaternary to Recent and consist mainly of clay, sand, silt, and gravel and includes mainly stream channel, point bar, natural levee and backswamp deposits. Most of the soils in this area are underlain and formed by the Beaumont Formation. The Beaumont Formation consists fresh water sediments deposited by rivers in an alluvial environment, possibly lagoons. The surface of the county slopes to the southeast (*Soil Survey of Nueces County*, US Department of Agriculture Soil Conservation Service, March 1979).

The thickness of the Beaumont Formation is as much as 500 feet thick. Quaternary Alluvium is associated with the deposits along Oso Creek. (*Ground-Water Resources of Nueces and San Patricio Counties, Texas*, Texas Water Development Board, May 1968).

A geologic map of the area is included as Figure I/II-11.

### **3.3.3 On-Site Soils**

The facility property is composed mainly of three soil types, according to the Natural Resource Conservation Service's Soil Geographic Database for Nueces County (TX355, June 21, 2024): Victoria clay with 0 to 1% slopes, Victoria clay with 1 to 3% slopes, and saline Gullied land. The majority of the facility property consists of Victoria clay. A Soils Map is included as Figure I/II-13.

## **3.4 Ground and Surface Water Statement**

In accordance with 30 TAC §330.61(k), a general discussion of the groundwater and surface water conditions at the J.C. Elliott Transfer Station is included in the following sections.

### **3.4.1 Groundwater Conditions**

As shown on Part I/II, Figure I/II-12, the facility is not located in the Edwards Aquifer Recharge Zone.

The geologic units referred to in this section are further described in Section 3.3.2. The site is located over the Gulf Coast Aquifer, a State-designated Major Aquifer (*Major Aquifers of Texas*, Texas Water Development Board, undated). The principal groundwater bearing units in Nueces County consist of the Goliad Sand, Lissie Formation, and Beaumont Clay which are parallel to the coast and dip to the southeast (*Groundwater Resources of Nueces and San Patricio Counties*, Texas Water Development Board, May 1968).

The Beaumont Clay yields small to moderate quantities of fresh to moderately saline groundwater and is approximately 500 feet thick. The Lissie Formation yields small to large quantities of groundwater that is slightly saline to moderately saline and can be 600 feet thick. The Goliad Sand is up to 600 feet thick and yields small to large quantities of groundwater that is fresh to slightly saline (*Groundwater Resources of Nueces and San Patricio Counties*, Texas Water Development Board, May 1968). There are no State-designated Minor Aquifers beneath the site (*Minor Aquifers of Texas*, Texas Water Development Board, undated).

### **3.4.2 Surface Water Features**

The site generally slopes from northeast to southwest and stormwater runoff currently drains southwest into Oso Creek or roadside ditches that drain southwest to Oso Creek approximately 700 feet southwest of the proposed facility. Oso Creek runs generally southeast into Oso Bay approximately 8 miles



southeast of the facility. Oso Bay runs generally northeast into Corpus Christi Bay which connects to the Gulf of Mexico. Based on the topography of the site and the surrounding area, relevant stormwater flows will originate on-site. Runoff from neighboring properties will generally flow into road side ditches that drain southwest into Oso Creek without entering the facility. There is one perennially filled pond/water of body within a 1-mile radius of the facility boundary. The pond is located approximately 1,100 feet south/southwest from the facility (permit boundary) across Oso Creek, and appears on Google Earth maps as far back as 1956. A second perennial pond is located approximately 3,380 feet southeast of the facility across Highway 286. According to the National Wetlands Inventory, an intermittent pond is located approximately 230 feet west of the facility. All ponds and creek locations are shown on Part I/II, Figure I/II-2.

### **3.4.3 Texas Pollutant Discharge Elimination System**

Since the facility will perform vehicle or equipment maintenance activities, vehicle or equipment rehabilitation, mechanical repairs, fueling, lubrication, or cleaning within the permit boundary of the facility, the facility will obtain a Texas Pollutant Discharge Elimination System (TPDES) multi-sector general permit prior to operation. The facility will also obtain a stormwater permit prior to construction of the facility.

## **3.5 Floodplains and Wetlands Statement**

### **3.5.1 Floodplains**

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the site area (Nueces County, Texas and Incorporated Areas: Map No. 48355C0505G, Effective Date October 13, 2022) was reviewed and is included as Figure I/II-15. According to the published FEMA map, no portion of the facility property is located within the 100-year floodway. However, a portion of the transfer station road system and building will be located within the 100-year floodplain. Although these facilities are located on a small portion of the floodplain, the roads and building will be elevated to at least 1 foot above the floodplain elevations shown on Figure I/II-15, therefore there will not be washout of solid waste in the event of a flood.

The City's Floodplain Management Division (FMD) manages development within FEMA-designated floodplains located in the City of Corpus Christi. The FMD will issue a floodplain development permit for non-residential construction provided the lowest floor is elevated to at least 1 foot above the base flood elevation. As mentioned above, the roads and building elevations will be at least 1 foot above the base flood elevation.

There are approximately 2.25 acres within the transfer station permit boundary that are designated as floodplain. There is a total of approximately 51 acres of floodplain located on the north side of Oso Creek between Greenwood Drive and SH 286 on property owned by the City, including the transfer station property. There will be about 0.6 acres of roadway located in the floodplain and 0.11 acres of the southwest corner of the transfer station building located in the floodplain. The small portion of the floodplain in which construction of the transfer station roads and building will be located should not significantly restrict the flow of a 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain.

### **3.5.2 Wetlands**

Coastal Environments, Inc. (CEI) performed a wetlands study for the property. The purpose of the study was to determine the approximate sizes and locations of wetlands and other areas that could potentially be

classified as “Jurisdictional Waters of the United States” and to identify wetlands on the facility according to the Texas Water Code (TWC) §11.502. CEI identified no jurisdictional waters of the U.S. or wetlands within the Type V permit boundary.

A copy of CEI’s study report and correspondence with the USACE are included in Appendix I/II-B.1.

### **3.6 Protection of Endangered or Threatened Species**

CEI performed a threatened and endangered species assessment for the property. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings in accordance with the requirements of 30 TAC §330.61(n). Through field efforts and searches for electronic records of RTE species on or near the property resulted in only one observation from the property (a Wood Stork flying high along Oso Creek) and three from the near vicinity of the property (two White-tailed Hawk sightings at the adjacent landfill and a Texas tortoise across the highway. CEI concluded the project is not likely to adversely affect threatened and endangered species. The CEI report is included in Appendix I/II-B.2.

The United States Fish and Wildlife Service (USFWS) was contacted in accordance with 30 TAC 330.61(n)(2). A request for verification of threatened and endangered species assessment was submitted to the Texas Parks and Wildlife Department (TPWD) by CEI. Supporting documentation provided by TPWD and a copy of the threatened and endangered species assessment conducted by CEI and coordination with the USFWS is included in Part I/II, Appendix I/II-B.2.

### **3.7 Site-Specific Conditions Requiring Special Design Considerations**

In accordance with 30 TAC §330.61(a), the requirements of 30 TAC §330.61(h) through (o) have been evaluated and discussed in the above Sections 3.1 through 3.6 of the existing conditions summary. There are no special design considerations or possible mitigation of conditions required at the facility.

#### 4.0 SUPPLEMENTARY TECHNICAL REPORT

In accordance with 30 TAC §305.45(a)(8), a supplementary technical report is required to be submitted with an application to provide a general description of the facilities and the systems used for or in connection with the collection, transportation, treatment, and disposal of waste, or used in connection with an injection activity. There is no disposal of waste at the facility. There is no injection activity proposed at the J.C. Elliott Transfer Station; therefore, the related portions of 30 TAC§305.45(a)(8) are not applicable to this facility. The volume and rate of acceptance, the types of allowable wastes, the physical properties and characteristics of the allowable wastes, and the general plan of operation of the facility are discussed in Section 2.0 Waste Acceptance Plan.



**FOR PERMITTING PURPOSES ONLY**

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## **APPLICATION FORMS**

FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## **PART I APPLICATION FORM**



# 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<sup>1</sup>](#). Include a [Core Data Form \(TCEQ 10400\)<sup>2</sup>](#) 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 [\[REDACTED\]](#) 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](http://www.tceq.texas.gov/goto/view-30tac).

### Application Tracking Information

Facility Regulated Entity Name<sup>3</sup>:

J.C. Elliott Transfer Station

Site Operator (Permittee or Registrant Name)<sup>4</sup>:

City of Corpus Christi

MSW Authorization Number: 2423

Initial Submission Date: 11/8/2024

Revision Date: 12/30/2024

### 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

<sup>1</sup> [www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf](http://www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf)

<sup>2</sup> [www.tceq.texas.gov/goto/coredata](http://www.tceq.texas.gov/goto/coredata)

<sup>3</sup> Facility Regulated Entity Name must match the Regulated Entity Name indicated on the TCEQ Core Data Form.

<sup>4</sup> 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](http://www3.tceq.texas.gov) [REDACTED]

- ☐ 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: David Lehfelt

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](http://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

### **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):			

**12. General Information About the Facility**

Facility Regulated Entity Name:

J.C. Elliott Transfer Station

Contact Name: David Lehfeldt Title: Director of Solids 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: 361-826-1953

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 is 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.

- |   |   |
|---|---|
| <input type="checkbox"/> Landfill Unit(s)         | <input type="checkbox"/> Container(s)                 |
| <input type="checkbox"/> Incinerator(s)           | <input type="checkbox"/> Roll-off Boxes               |
| <input type="checkbox"/> Class 1 Landfill Unit(s) | <input type="checkbox"/> Surface Impoundment          |
| <input type="checkbox"/> Process Tank(s)          | <input type="checkbox"/> Autoclave(s)                 |
| <input type="checkbox"/> Storage Tank(s)          | <input type="checkbox"/> Refrigeration Unit(s)        |
| <input checked="" type="checkbox"/> Tipping Floor | <input type="checkbox"/> Mobile Processing Unit(s)    |
| <input type="checkbox"/> Storage Area             | <input type="checkbox"/> Compost Pile(s) or Vessel(s) |
| <input type="checkbox"/> Other (specify):         |   |

### 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).

## 17. Facility Contact Information

### Site Operator (Permittee or Registrant)

Name: City of Corpus Christi  
Customer Reference Number: **CN** 600131858  
Contact Name: David Lehfeldt Title: Director of Solid Waste Services  
Mailing Address: 2525 Hygeia Street  
City: Corpus Christi County: Nueces State: TX Zip Code: 78415  
Phone Number: 361-826-1953  
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 Ramachandrani, 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:

- |  |   |
|--|---|
| <input type="checkbox"/> Albuquerque, NM | <input checked="" type="checkbox"/> Galveston, TX |
| <input type="checkbox"/> Fort Worth, TX  | <input type="checkbox"/> Tulsa, OK                |

PAGE REVISION DATE: \_\_\_\_\_

**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.

## 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: David Lehfeldt Title: Director of Solid Waste Services

Email Address: [REDACTED]

Date: 12/23/24

### 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

David Lehfeldt

On this 23<sup>rd</sup> day of December, 2024

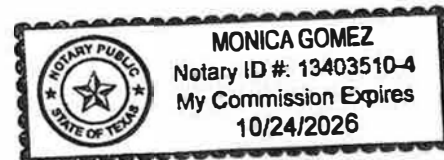
My commission expires on the 24<sup>th</sup> day of October, 2026

Monica Gomez

Notary Public in and for

Mueels, Texas (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public





## 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: David Lehfeldt

Email Address: [REDACTED]

Signature: *David Lehfeldt* Date: 12/23/24

### Notary

SUBSCRIBED AND SWORN to before me by the said David Lehfeldt

On this 13<sup>th</sup> day of December, 2024

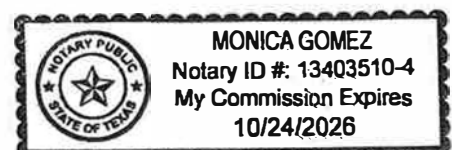
My commission expires on the 24<sup>th</sup> day of October, 2026

Monica Gomez

Notary Public in and for

Nullis, Texas (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<sup>5</sup>](#) 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) <a href="#">TCEQ-10400<sup>6</sup></a> [30 TAC 281.5(7)]	Application Forms

<sup>5</sup> [www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf](http://www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/00650-instr.pdf)

<sup>6</sup> [www.tceq.texas.gov/permitting/central\\_registry/guidance.html](http://www.tceq.texas.gov/permitting/central_registry/guidance.html)

**Attachments Table 2. Additional attachments as applicable.**

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

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

## TCEQ ePay Receipt

### Transaction Information

**Trace Number:** [REDACTED]  
**Date:** 11/05/2024 12:32 PM  
**Payment Method:** CC - Authorization [REDACTED]  
**ePay Actor:** KATIE CRAIG  
**TCEQ Amount:** \$150.00  
**Texas.gov Price::** \$153.63\*

\* This service is provided by Texas.gov, the official website of Texas. The price of this service includes funds that support the ongoing operations and enhancements of Texas.gov, which is provided by a third party in partnership with the State.

### Payment Contact Information

**Name:** JEFFREY REED  
**Company:** SCS ENGINEERS  
**Address:** 12651 BRIAR FOREST DR 205, HOUSTON, TX 77077  
**Phone:** 817-358-6159

### Cart Items

Voucher	Fee Description	AR Number	Amount
729398	NONHAZARDOUS WASTE PERMIT - MODIFICATIONS		\$100.00
729399	30 TAC 305.53B HWP NOTIFICATION FEE		\$50.00
	<b>TCEQ Amount:</b>		<b>\$150.00</b>

FOR PERMITTING PURPOSES ONLY

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## **TCEQ CORE DATA FORM**



TCEQ Use Only

# TCEQ Core Data Form

For detailed instructions on completing this form, please read the Core Data Form Instructions or call 512-239-5175.

## SECTION I: General Information

<b>1. Reason for Submission</b> (If other is checked please describe in space provided.)		
<input checked="" type="checkbox"/> New Permit, Registration or Authorization (Core Data Form should be submitted with the program application.)		
<input type="checkbox"/> Renewal (Core Data Form should be submitted with the renewal form)		<input type="checkbox"/> Other
<b>2. Customer Reference Number</b> (if issued)	<a href="#">Follow this link to search for CN or RN numbers in Central Registry**</a>	<b>3. Regulated Entity Reference Number</b> (if issued)
CN 600131858		RN 112093794

## SECTION II: Customer Information

<b>4. General Customer Information</b>		<b>5. Effective Date for Customer Information Updates</b> (mm/dd/yyyy)		12/30/2024	
<input type="checkbox"/> New Customer <input checked="" type="checkbox"/> Update to Customer Information <input type="checkbox"/> Change in Regulated Entity Ownership					
<input type="checkbox"/> Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)					
<i>The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).</i>					
<b>6. Customer Legal Name</b> (If an individual, print last name first: eg: Doe, John)			<i>If new Customer, enter previous Customer below:</i>		
City of Corpus Christi					
<b>7. TX SOS/CPA Filing Number</b>		<b>8. TX State Tax ID</b> (11 digits)		<b>9. Federal Tax ID</b> (9 digits)	<b>10. DUNS Number</b> (if applicable)
<b>11. Type of Customer:</b>		<input type="checkbox"/> Corporation		<input type="checkbox"/> Individual	
Government: <input checked="" type="checkbox"/> City <input type="checkbox"/> County <input type="checkbox"/> Federal <input type="checkbox"/> Local <input type="checkbox"/> State <input type="checkbox"/> Other		<input type="checkbox"/> Sole Proprietorship		Partnership: <input type="checkbox"/> General <input type="checkbox"/> Limited	
<b>12. Number of Employees</b>				<b>13. Independently Owned and Operated?</b>	
<input type="checkbox"/> 0-20 <input type="checkbox"/> 21-100 <input type="checkbox"/> 101-250 <input type="checkbox"/> 251-500 <input checked="" type="checkbox"/> 501 and higher				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<b>14. Customer Role</b> (Proposed or Actual) – as it relates to the Regulated Entity listed on this form. Please check one of the following					
<input type="checkbox"/> Owner <input type="checkbox"/> Operator <input checked="" type="checkbox"/> Owner & Operator <input type="checkbox"/> Other:					
<input type="checkbox"/> Occupational Licensee <input type="checkbox"/> Responsible Party <input type="checkbox"/> VCP/BSA Applicant					
<b>15. Mailing Address:</b>					
David Lehfeldt, Director of Solid Waste Services					
2525 Hygeia Street					
City		Corpus Christi	State	TX	ZIP
					78415
				ZIP + 4	
<b>16. Country Mailing Information</b> (if outside USA)			<b>17. E-Mail Address</b> (if applicable)		
			[REDACTED]		
<b>18. Telephone Number</b>		<b>19. Extension or Code</b>		<b>20. Fax Number</b> (if applicable)	

**SECTION III: Regulated Entity Information****21. General Regulated Entity Information** (If "New Regulated Entity" is selected, a new permit application is also required.)☒ New Regulated Entity ☐ Update to Regulated Entity Name ☐ Update to Regulated Entity Information

**The Regulated Entity Name submitted may be updated, in order to meet TCEQ Core Data Standards (removal of organizational endings such as Inc, LP, or LLC).**

**22. Regulated Entity Name** (Enter name of the site where the regulated action is taking place.)

J.C. Elliott Transfer Station

**23. Street Address of the Regulated Entity:****(No PO Boxes)**

City	State	TX	ZIP	78415	ZIP + 4
Corpus Christi					

**24. County****If no Street Address is provided, fields 25-28 are required.****25. Description to Physical Location:**

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.

**26. Nearest City****State****Nearest ZIP Code**

Corpus Christi

TX

78415

**Latitude/Longitude are required and may be added/updated to meet TCEQ Core Data Standards. (Geocoding of the Physical Address may be used to supply coordinates where none have been provided or to gain accuracy).**

**27. Latitude (N) In Decimal:****28. Longitude (W) In Decimal:**

Degrees

Minutes

Seconds

Degrees

Minutes

Seconds

27

42

16

97

27

11

**29. Primary SIC Code****30. Secondary SIC Code****31. Primary NAICS Code****32. Secondary NAICS Code**

(4 digits)

(4 digits)

(5 or 6 digits)

(5 or 6 digits)

4953

562111

**33. What is the Primary Business of this entity?** (Do not repeat the SIC or NAICS description.)

Type V MSW Transfer Station

**34. Mailing****Address:**

City	State	TX	ZIP	78415	ZIP + 4
Corpus Christi					

**35. E-Mail Address:****36. Telephone Number****37. Extension or Code****38. Fax Number** (if applicable)

( 361 ) 826-1953

**39. TCEQ Programs and ID Numbers** Check all Programs and write in the permits/registration numbers that will be affected by the updates submitted on this form. See the Core Data Form instructions for additional guidance.




<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input checked="" type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

## SECTION IV: Preparer Information

<b>40. Name:</b>	Chad Ellinger, P.E.	<b>41. Title:</b>	Project Director
<b>42. Telephone Number</b>	<b>43. Ext./Code</b>	<b>44. Fax Number</b>	<b>45. E-Mail Address</b>
( 281 ) 293-8494		( 281 ) 293-7878	

## SECTION V: Authorized Signature

46. By my signature below, I certify, to the best of my knowledge, that the information provided in this form is true and complete, and that I have signature authority to submit this form on behalf of the entity specified in Section II, Field 6 and/or as required for the updates to the ID numbers identified in field 39.

<b>Company:</b>	City of Corpus Christi	<b>Job Title:</b>	Director of Solid Waste Services
<b>Name (In Print):</b>	David Lehfeldt	<b>Phone:</b>	( 361 ) 826- 1953
<b>Signature:</b>		<b>Date:</b>	12/23/24





## Texas Commission on Environmental Quality Plain Language Summary of Municipal Solid Waste Permit or Permit Amendment Application

Applicants are required by public notice rules in Title 30 Texas Administrative Code, Chapter 39, Section [39.405\(k\)](#)<sup>1</sup> to provide this summary of an application.

### A. Purpose of the Proposed Facility

Transfer station.

### B. Information About the Applicant

Name: City of Corpus Christi

Applicant Type: City Government

Facility Name: J.C. Elliott Transfer Station

Permit Application Number: 2423

Customer Number (CN): 600131858

Regulated Entity Reference Number (RN): 112093794

### C. Location of the Proposed Facility

Facility Address (or description of site location if no address):

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.

Link to Map of Facility Location ([TCEQ Location Mapper](#)<sup>2</sup>): <https://arcg.is/1eeDPj1>

### D. Information about Facility Operation

What types of waste would be received?

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.

What geographical area would the wastes come from?

Primarily the City of Corpus Christi and Nueces County as well as portions of the surrounding areas including Aransas, Bee, Duval, Goliad, Jim Wells, Live Oak, McMullen, Refugio, and San Patricio Counties.

<sup>1</sup> [www.tceq.texas.gov/goto/view-30tac](http://www.tceq.texas.gov/goto/view-30tac)

<sup>2</sup> [www.tceq.texas.gov/gis/hb-610-viewer](http://www.tceq.texas.gov/gis/hb-610-viewer)

What days and hours would the facility operate?

24 hours per day, 7 days per week

At what rate would wastes be accepted?

A maximum of 2,500 tons per day

How would wastes be managed?

The proposed transfer station facility will be steel-framed and roofed with tipped concrete walls and a concrete tipping floor. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill. The building footprint will be approximately 390 feet wide by 370 feet long (144,300 square feet).

## **E. Pollution Control Methods**

What methods would the facility use for containing wastes and odors, and monitoring for releases?

All waste processing and storage will occur within the transfer station building. The solid waste will not be allowed to accumulate on-site for such a period that will allow the creation of a nuisance or public health hazard due to odors, fly breeding, or harborage of other vectors.

What methods would the facility use or require for preventing litter or spills, and for cleanup of litter and spills?

The transfer station is designed to control and contain spills and contaminated water from leaving the facility, contaminated water will be collected and discharged directly to a permitted wastewater plant.

Transfer of waste will occur within the building and will be protected from the wind. In addition, the perimeter fence will capture any incidental windblown trash. Litter along fence lines, access roads, or surrounding the building will be collected and brought to the processing area. Collection vehicles will be completely enclosed or covered as they enter and exit the facility to minimize windblown trash.





## Comisión de Calidad Ambiental de Texas

### Resumen en lenguaje sencillo de la solicitud de permiso municipal de residuos sólidos o de modificación del permiso

Los solicitantes están obligados por las normas de notificación pública del Título 30 del Código Administrativo de Texas, Capítulo 39, Sección [39.405\(k\)](#)<sup>1</sup> a proporcionar este resumen de una solicitud.

#### A. Objetivo de la instalación propuesta

Estación de transferencia.

#### B. Información sobre el solicitante

Nombre: City of Corpus Christi

Tipo de solicitante: Gobierno de la ciudad

Nombre de la instalación: J.C. Elliott Transfer Station

Número de solicitud de permiso: 2423

Número de cliente (CN): 600131858

Número de referencia de la entidad regulada (RN): 112093794

#### C. Ubicación de la instalación propuesta

Dirección del establecimiento (o descripción de la ubicación del sitio si no hay dirección):

La J.C. Elliott Transfer Station estará ubicada en el condado de Nueces, Texas, junto a State Highway 286, aproximadamente a 0,8 millas al suroeste de la intersección de State Highway 286 y State Highway 286.

Enlace al mapa de ubicación de las instalaciones en [TCEQ Location Mapper](#)<sup>2</sup>:

<https://arcg.is/1eeDPj1>

#### D. Información sobre el funcionamiento de las instalaciones

¿Qué tipos de residuos se recibirán?

Residuos sólidos municipales que incluyen desechos resultantes o incidentales a actividades municipales, comunitarias, comerciales, institucionales y recreativas; residuos de construcción o demolición; residuos especiales que no interfieran con las operaciones del sitio; y otros residuos como los residuos industriales Clase 2 y Clase 3.

¿De qué zona geográfica procederían los residuos?

Principalmente City of Corpus Christi y el condado de Nueces, también partes de las áreas circundantes, incluidos los condados de Aransas, Bee, Duval, Goliad, Jim Wells, Live Oak, McMullen, Refugio y San Patricio.

<sup>1</sup> [www.tceq.texas.gov/goto/view-30tac](http://www.tceq.texas.gov/goto/view-30tac)

<sup>2</sup> [www.tceq.texas.gov/gis/hb-610-viewer](http://www.tceq.texas.gov/gis/hb-610-viewer)

¿Qué días y horas funcionará la instalación?

24 hours per day, 7 days per week

¿A qué ritmo se aceptarían los residuos?

A maximum of 2,500 tons per day

¿Cómo se gestionarían los residuos?

The proposed transfer station facility will be steel-framed and roofed with tipped concrete walls and a concrete tipping floor. Waste materials deposited on the tipping floor within the building will be pushed by front-end loaders into the transfer trailers and hauled to an area landfill. The building footprint will be approximately 390 feet wide by 370 feet long (144,300 square feet).

#### **E. Métodos de control de la contaminación**

¿Qué métodos utilizará la instalación para contener los residuos y los olores, y para controlar las emisiones?

All waste processing and storage will occur within the transfer station building. The solid waste will not be allowed to accumulate on-site for such a period that will allow the creation of a nuisance or public health hazard due to odors, fly breeding, or harborage of other vectors.

¿Qué métodos utilizaría o exigiría la instalación para evitar la basura o los derrames, y para la limpieza de la basura y los derrames?

The transfer station is designed to control and contain spills and contaminated water from leaving the facility, contaminated water will be collected and discharged directly to a permitted wastewater plant.

Transfer of waste will occur within the building and will be protected from the wind. In addition, the perimeter fence will capture any incidental windblown trash. Litter along fence lines, access roads, or surrounding the building will be collected and brought to the processing area. Collection vehicles will be completely enclosed or covered as they enter and exit the facility to minimize windblown trash.



FOR PERMITTING PURPOSES ONLY

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## **DOCUMENTATION**

FOR PERMITTING PURPOSES ONLY

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## LEGAL DESCRIPTION

**EXHIBIT "A"**  
**TRANSFER STATION PERMIT BOUNDARY**  
**LEGAL DESCRIPTION**  
**BEING A 24.95 ACRE TRACT**  
**NUECES COUNTY, TEXAS**

A 24.95 acre tract of land , being out of an 89.64 acre tract, out of Lot 4, Section 14, & Lot 1, Section 16, Bohemian Colony Lands, as recorded in Document No. 2020057458, Deed Records, Nueces County, Texas and being out of 0.48 acre tract, as recorded in Document Number 2002034080, Deed Record, Nueces County, Texas. Said 24.95 acre being more particularly described as follows:

**COMMENCING** at a found 5/8 inch iron rod with a cap stamped "Urban Eng", for the southwest corner of said 89.64 acre tract, **THENCE** North 28°36'58" East, with the west line of said 89.64 acre tract, a distance 652.55 feet to a set 5/8" iron rod with red plastic cap stamped "HANSON CRP, TX", (hereto after referred as set iron rod) for the southwest corner and **POINT OF BEGINNING** of the herein described tract;

**THENCE** North 28°36'58" East, a distance of 1095.89 feet to set iron rod for the northwest corner of the herein described tract;

**THENCE** South 61°53'00" East, a distance of 1044.20 feet to set mag nail with a Hanson washer, for the northeast corner of the herein described tract;

**THENCE** South 28°08'04" West, a distance of 172.01 feet to a set iron rod and being the beginning of a tangent curve to the left having a radius of 100.00 feet and a chord bearing and distance of South 32°37'45" West, 15.67 feet;

**THENCE** in a southerly direction with said curve to the left an arc distance of 15.69 to a set iron rod for a corner of the herein described tract;

**THENCE** South 28°08'04" West, a distance of 13.69 feet to a set iron rod and being the beginning of a tangent curve to the right having a radius of 75.00 feet and a chord bearing and distance of South 47°25'59" West, 49.57 feet;

**THENCE** in a westerly direction with said curve to the right, an arc distance of 50.52 feet to a set iron rod for a corner of the herein described tract;

**THENCE** South 66°43'55" West, a distance of 87.08 feet to a set iron rod and being the beginning of a tangent curve to the left having a radius of 70.00 feet and a chord bearing and distance of South 47°26'01" West, 46.27 feet;

**THENCE** in a southerly direction with said curve to the left, an arc distance of 47.15 feet to a set iron rod for a corner of the herein described tract;

**THENCE** South 28°08'07" West, a distance of 27.17 feet to set iron rod to a point on the east line of the herein described tract;

**THENCE** South 28°08'06" West, a distance of 726.74 feet to set iron rod for the southeast corner of the herein described tract;

**THENCE** North 60°49'25" West, a distance of 966.34 feet to the **POINT OF BEGINNING** and containing 24.95 acres of land, or 1,086,789 square feet.

NOTE: ALL BEARINGS ARE GRID BEARINGS BASED ON THE TEXAS STATE PLANE COORDINATE SYSTEM FOR THE LAMBERT SOUTH ZONE (NAD 1983). EXHIBIT "B" TO ACCOMPANY THIS DESCRIPTION.

*Stacey King Mora*

**Stacey King Mora, RPLS**  
**Registered Professional Land Surveyor**  
**Texas Registration No. 6166**  
**Hanson Professional Services Inc.**  
**TBPE F#417 TBPLS F# 100395-00**

**Date:** November 20, 2023







**Legend:**

- 1/4 SECTION CORNER
- 1/2 SECTION CORNER
- 3/4 SECTION CORNER
- 1/4 SECTION CORNER
- 1/2 SECTION CORNER
- 3/4 SECTION CORNER
- 1/4 SECTION CORNER
- 1/2 SECTION CORNER
- 3/4 SECTION CORNER
- 1/4 SECTION CORNER
- 1/2 SECTION CORNER
- 3/4 SECTION CORNER
- 1/4 SECTION CORNER
- 1/2 SECTION CORNER
- 3/4 SECTION CORNER

**Line Table:**

LINE NO.	BEARING	DISTANCE	AREA
1	N 71° 0' 0" E	1413.7	10.00
2	N 44° 2' 0" E	1409.94	10.00
3	N 32° 0' 0" E	1413.7	10.00
4	N 23° 0' 0" E	1409.94	10.00
5	N 24° 1' 0" E	1413.7	10.00
6	N 20° 0' 0" E	1409.94	10.00
7	N 24° 5' 0" E	1413.7	10.00
8	N 12° 5' 0" E	1409.94	10.00
9	N 33° 4' 0" E	1413.7	10.00
10	N 59° 0' 0" E	1409.94	10.00

**Curve Table:**

CURVE NO.	BEARING	DISTANCE	AREA
1	N 71° 0' 0" E	1413.7	10.00
2	N 44° 2' 0" E	1409.94	10.00
3	N 32° 0' 0" E	1413.7	10.00
4	N 23° 0' 0" E	1409.94	10.00
5	N 24° 1' 0" E	1413.7	10.00
6	N 20° 0' 0" E	1409.94	10.00
7	N 24° 5' 0" E	1413.7	10.00
8	N 12° 5' 0" E	1409.94	10.00
9	N 33° 4' 0" E	1413.7	10.00
10	N 59° 0' 0" E	1409.94	10.00

**General Notes:**

- Grid Bearings and Distances shown hereon are referenced to the Texas Coordinate System of 1983, Texas South Zone 4205, and are based on the North American Datum of 1983(2011) Epoch 2010.00.
- Some features shown on this Survey may be out of scale for clarity.
- This Survey was prepared from field data obtained on November 11, 12, and December 03, 2020.
- The Gradient Boundary shown on this drawing was prepared under the direction of David L. Nesbitt, L.S.L.S. for this transaction and is not styled to be submitted to the Texas General Land Office.

**Zoning:**

Subject Tract, is within Zone "FR" (Form-Rural District) per the City of Corpus Christi UDC:

- Min. Lot Area (acre) -- 5
- Min. Lot Width (ft.) -- 150
- Min. Yards (ft.):
- Street (front) -- 50
- Street (corner) -- 25
- Side (Single) -- 25
- Side (Total) -- 50
- Rear -- 25
- Max Height (ft.) -- 45

**Fieldnotes:**

Fieldnotes, for Enriquez Villareal Section 14 and of which is rec'd of Nueces County Tract, as described May Land to 526-528, record said 89.64 Acre.

Beginning, at a Northwest Right roadway, the co said Lot 4, or described in a o.l., to the City 840-843, of th this Tract and having a dela length of 1413.7 West, 1409.94 Concrete Found, Tract, bears So

With the said a Right-of-Way li Monument Foun

Thence, South Right-of-Way li red plastic [N:17,143,873.5; Oso Creek, for 1

Thence, with th Oso Creek, and

- \* North 71° 0' 0" E with a red plast
- \* North 44° 2' 0" E with a red plast
- \* North 32° 0' 0" E with a red plast
- \* North 23° 0' 0" E with a red plast
- \* North 24° 1' 0" E with a red plast
- \* North 20° 0' 0" E with a red plast
- \* North 24° 5' 0" E with a red plast
- \* North 12° 5' 0" E with a red plast
- \* North 33° 4' 0" E with a red plast
- \* North 59° 0' 0" E with a red plast



**Title Commitment:**

First American Title Guaranty Company  
G.F. No. FTC-3011834  
Effective Date: October 09, 2020, at 8:00 a.m.  
Issued Date: October 20, 2020, at 8:00 a.m.

This Survey was prepared in reference to the above Title Commitment and is Certified to the Parties shown hereon, for this transaction only and is not intended for any subsequent transactions or parties. It does not constitute a title search by the surveyor. All information regarding record easements, adjoiners, and other documents that might affect the quality of a title to the tract shown hereon was gained from the Title Commitment.

Recorded: NOVEMBER 7, 1941 in DOCUMENT NO. 169857, VOLUME 65, PAGE 141, of the OIL AND GAS records, of Nueces County, Texas. By: S.A. SIMCIK AND WIFE, MARY ANN SIMCIK

To: R.R. JAMES  
Title to said interest has not been investigated subsequent to the date of the aforesaid instrument. (Geographically affects Lot 1, Section 16. Not a Survey matter.)

Oil, Gas and Mineral Lease, and all terms, conditions and stipulations therein: Recorded: NOVEMBER 24, 1936 in DOCUMENT NO. 108592, VOLUME 33, PAGE 207, of the OIL AND GAS records, of Nueces County, Texas. Lessor: S.A. SIMCIK AND WIFE, MARY ANN SIMCIK Lessee: R.R. JAMES

Title to said interest has not been investigated subsequent to the date of the aforesaid instrument. (Geographically affects Lot 1, Section 16. Not a Survey matter.)

Oil, Gas and Mineral Lease, and all terms, conditions and stipulations therein: Recorded: MAY 18, 1981 in DOCUMENT NO. 224919, VOLUME 346 PAGE 103, of the OIL AND GAS records, of Nueces County, Texas. Lessor: VICTOR F. SIMCIK, ET ALS Lessee: W.J. HEDRICK, TRUSTEE

Title to said interest has not been investigated subsequent to the date of the aforesaid instrument. (Geographically affects Lots 1 & 8, Section 16. Not a Survey matter.)

Easement: To: CENTRAL POWER AND LIGHT COMPANY Recorded: SEPTEMBER 19, 1929 in DOCUMENT NO. 59019, VOLUME 187, PAGE 530, of the DEED records, of Nueces County, Texas. Purpose: EASEMENT AND RIGHT OF WAY (Does not affect subject Tract.)

Easement: To: CENTRAL POWER AND LIGHT COMPANY Recorded: APRIL 30, 1941 in DOCUMENT NO. 162220, VOLUME 268, PAGE 257, of the DEED records, of Nueces County, Texas. Purpose: EASEMENT AND RIGHT OF WAY (May affect subject Tract, ambiguous and non-plottable.)

ORDINANCE NO. 022337 BY THE CITY OF CORPUS CHRISTI UNDER DOCUMENT NO. 1998000359, OFFICIAL PUBLIC RECORDS OF NUECES COUNTY, TEXAS. (Does affect subject Tract, blanket in nature.)

**Surveyor's Certificate:**

The Gradient Boundary shown on this drawing was prepared under my direction on December 04, 2020, by methodology approved by the Texas General Land Office and is true and correct to the best of my knowledge.



David L. Nesbitt, L.S.L.S.  
License No. 5302

**Surveyor's Certificate:**

We, Urban Engineering, have made on on the ground field survey, under my direction and supervision, of the property legally described hereon; observable, aboveground evidence of buildings, structures and other improvements situated on the premises have been shown; said property has access to and from a dedicated roadway. This Survey substantially complies with the current Texas Society of Professional Surveyors Standards and Specifications for a Category 1A, Condition II Land Title Survey.



James D. Carr, R.P.L.S.  
License No. 6458

REV. BY	DATE	DESCRIPTION	APPROVED
<p><b>CATEGORY 1A LAND TITLE SURVEY</b></p>			
<p>LEGAL DESCRIPTION: for a 89.64 Acre Tract of Land, situated in the Enriquez Villareal Survey, Abstract 1, comprising portions of Lot 4, Section 14 and Lot 1, Section 16, Bohemian Colony Land, a map of which is recorded in Volume A, Page 48, of the Map Records of Nueces County, Texas, also being a portion of a 130 Acre Tract, as described in a Warranty Deed from C.B. Land and Annie May Land to S.A. Simcik, recorded in Volume 161, Pages 526-528, recorded in the Deed Records of Nueces County, Texas.</p>			
<p>DRAWN BY: BDL SCALE: 1"= 200' JOB NO: 43201.CO.05</p>			
<p>CHK'D. BY: DATE: 12/04/20 SHEET: 1 OF: 1</p>			

FOR PERMITTING PURPOSES ONLY

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## LEGAL AUTHORITY





**CITY OF CORPUS CHRISTI  
CERTIFICATION OF PUBLIC RECORD**

THE STATE OF TEXAS §

COUNTY OF NUECES §

I, the undersigned City Secretary of the City of Corpus Christi, Texas, so certify that the following is a true and correct copy of the City Charter approved by voters of Corpus Christi on November 8, 2016, as same appears in the Official Records of the City of Corpus Christi, Texas, of which the City Secretary's Office is the lawful custodian.

WITNESSETH MY HAND and the Official Seal of the City of Corpus Christi, Texas, this 5th day of August, 2024.

Rebecca Huerta  
City Secretary  
Corpus Christi, Texas

(S E A L)

## PART I - CHARTER

*Footnotes:*

--- (1) ---

**Editor's note—** The Charter, which passed at public referendum on April 4, 1987, as approved by Ord. No. 19692, adopted April 7, 1987, has been treated as superseding the provisions of the Charter approved by S.B. 318, on March 15, 1909, as amended. Amendments are listed in the Charter Comparative Table following the Charter.

Subsequently, the Charter was amended in its entirety on January 19, 1991, April 3, 1993, and November 2, 2004, to read as herein set out. Absence of a history note indicates that the provisions are unchanged from the amendments of January 19, 1991, April 3, 1993, and November 2, 2004.

## ARTICLE I. - HOME RULE GOVERNMENT

### Sec. 1. - Incorporation.

The inhabitants of the City of Corpus Christi, Texas, within its corporate limits as established by Chapter 33, pages 304-351, Special Laws of Texas, 1909, 31st Legislature, Regular Session, and as established or extended by the Charter of the City of Corpus Christi, Texas, as amended, and as extended by ordinances of the City of Corpus Christi, Texas, are hereby constituted a body politic and corporate, in perpetuity, under the name "City of Corpus Christi," hereinafter referred to as the "city," with such powers, privileges, rights, duties and immunities as are herein provided.

### Sec. 2. - Annexation.

The city shall have the power by ordinance to fix the boundary limits of the city and to provide for the alteration and extension of the boundary limits.

### Sec. 3. - Form of government and council.

The municipal government provided by this Charter shall be known as the "Council-Manager Government." Pursuant to its provisions and subject only to the limitations imposed by the state constitution and by this Charter, all powers of the city shall be vested in an elective council, hereinafter referred to as the "the council," which shall enact local legislation, determine policies, appoint the city manager, and which council and city manager shall execute the laws and administer the government of the city.

### Sec. 4. - Initiative and referendum.

- (a) The legislative power of the city is vested in the city council, but the people of the city reserve unto themselves the powers of initiative and referendum which shall be exercised in the manner prescribed in this Charter.
- (1) *Initiative*. The registered voters of the city shall have the power to propose ordinances to the city council and, if the council fails to adopt the ordinance in substantially the form in which it was presented, to adopt or reject the ordinance proposed at an election as provided herein.
- (2) *Referendum*. The registered voters of the city shall have the power to require reconsideration by the city council of any adopted ordinance or part thereof and, if the council fails to repeal the ordinance, or the disputed part thereof, to approve or reject it at an election as provided herein.
- (b) The power of initiative and referendum reserved herein shall not extend to specific items contained in the operating or capital budgets of the city, contracts, appropriations already made, the levy of taxes or the individual salaries of city officials or employees. The powers of initiative and referendum contained herein are not in lieu of the referendum powers and procedures provided elsewhere in this Charter and under state law; therefore, the powers of initiative and referendum provided in this section shall not apply when another referendum procedure is available under this [Charter] or state law.
- (c) Any fifty registered voters may commence initiative proceedings and any five registered voters may commence referendum proceedings by filing with the city secretary a statement that they intend to circulate petitions calling for an initiative or referendum. The statement shall include the following:
- (1) The names and addresses of the registered voters commencing the proceedings;
- (2) The full text of the ordinance being proposed by initiative or the full text of the ordinance to be reconsidered by referendum.
- (3) The name and address of the registered voter who is designated to receive all communications from the city secretary and city attorney under this section.
- (d) In the case of an initiative, the city attorney shall draft an ordinance in legal form, consistent with the laws of the state and the United States, incorporating in substance the text submitted. The city secretary shall present the initiative or the request for referendum to the city council at its next regular meeting. Forty-five days from the date of presentment shall be allotted to the city council to consider the adoption of such ordinance by initiative. In the case of referendum, the statement commencing the referendum proceedings must be filed no later than the tenth day after the city council adopts the ordinance and the city council shall have until the adjournment of the next regular city council meeting following receipt of the statement to reconsider such ordinance.

(e)

In the event the council fails to take the proposed action within the time allotted, the city secretary shall furnish to the proponents petition pages for circulation among the registered voters of the city. Each petition page shall contain the following:

- (1) A summary not to exceed one hundred words stating in substance the initiative or referendum measure to be considered by the voters and the notation that the full text of the ordinance is available for inspection at the office of the city secretary;
  - (2) The printed name, signer's residence address, and date of birth or voter registration number of each voter signing the petition;
  - (3) The signature of each signer in ink and the date of signing; and
  - (4) The date of issuance of the petition by the city secretary and, in the case of a referendum petition, the names and addresses of the five persons who initiated the procedure.
- (f) All petition pages comprising an initiative or referendum petition shall be assembled and filed with the city secretary as one instrument within ninety days from the date of issuance of the forms for such purposes by the city secretary. Within twenty days, the city secretary shall determine whether the same is signed by at least five percent of the registered voters of the city. If the certificate of the city secretary shows the initiative or referendum petition to have total signatures of registered voters in number that is less than the required five percent, the city secretary shall notify the person filing the petition, and it may be supplemented within ten days from the date of the city secretary's notice by filing supplementary petition pages as provided by the city secretary bearing signatures of other registered voters. Within ten days after such supplementary pages are filed, the city secretary shall again examine the original petition, as supplemented, and shall certify the results thereof to the council at its next regular meeting.
- (g) In the case of referendum, if all necessary petition pages comprising the referendum petition have been assembled and filed with the city secretary within sixty days from the deadline for action by the city council to reconsider the ordinance, the effectiveness of the disputed provisions shall be suspended pending the outcome of these referendum proceedings. Nothing herein shall be construed to prevent the city council from repealing the disputed provisions to be reconsidered during such period.
- (h) Whenever an initiative or referendum petition is certified by the city secretary to have valid signatures at least equal to five percent of the registered voters of the city and the city council does not adopt the ordinance proposed by initiative or repeal the disputed provisions sought to be reconsidered by referendum, the council shall include the proposition on the ballot at an election to be held as follows:
- (1) In the case of an initiative, at the next regular city council elections;
  - (2)

In the case of a referendum for which the necessary petition pages have been filed within sixty days from the deadline for action by the city council to reconsider the ordinance, at the next available uniform election date under state law; or

(3) In the case of any other referendum, at the next regular city council elections.

- (i) Not later than the next regular meeting of the city council following the election, the council shall canvass the election returns, and if a majority of the registered voters voting on the issue approve of the ordinance submitted by initiative or the referendum, such action shall become effective as of the date the returns are canvassed or as of any later effective date as may be provided.
- (j) Any ordinance adopted by initiative shall not be subject to repeal or substantial modification by action of the council for a period of four years from the date of the election, except by referendum election called by the council or by petition as herein provided. Any ordinance repealed by referendum shall not be reinstituted in whole or substantial part by action of the council for a period of four years from the date of the election, except by referendum election called by the council or by petition as herein provided.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

## ARTICLE II. - CITY COUNCIL

### IN GENERAL

#### Sec. 1. - Membership and term.

- (a) The city council shall consist of eight council members and a mayor. Five council members shall be elected by majority vote from single member districts, each member being a resident of his or her respective district and each district having as near as practical the same population; three council members shall be elected at large by plurality vote with winners required to gain at least twelve percent of the total votes cast for all candidates for all at large council member positions; and the mayor shall be elected at large by majority vote. The city council shall by ordinance equalize the single member districts as required by law; provided, however, no such ordinance shall be enacted less than ninety days before a regular election.
- (b) The mayor and members of the city council shall be elected for terms of two years and shall hold office until their respective successors have been elected and qualified. The regular election shall be held on the November uniform election date of even-numbered years as authorized by state law; provided that, a transition election shall be held on the second Saturday in May, 2011, for terms expiring upon the final canvass of the elections in November 2012.
- (c)

All council members shall take office at the first council meeting after the votes are canvassed from the regular election; provided, however, that in the event a run-off election is required, all council members shall take office at the first council meeting after the votes are canvassed from the run-off election.

- (d) No person shall serve more than four two-year terms consecutively as a council member, or four two-year terms consecutively as mayor, or six two-year terms consecutively in any combination of such offices. A person who has reached the limitation on terms provided in this section shall not be eligible for election or appointment to the city council until three consecutive terms of office for the council have expired.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

## Sec. 2. - Election procedures.

- (a) Candidates for mayor or city council shall file with the city secretary within the time provided by law an application to appear on the ballot. The candidate shall not owe delinquent taxes to the city, and the application shall meet the requirements of the Texas Election Code, as the same may be amended from time to time. No candidate shall be placed on the ballot unless his or her application is accompanied by either (1) a filing fee of \$100.00, or (2) a petition signed by registered voters residing in the territory from which the office is elected equal in number to the greater of: (a) twenty-five, or (b) one-half of one percent of the total vote received in the territory from which the office is elected by all candidates for mayor in the most recent mayoral regular election.
- (b) Political organizations may make nominations of candidates according to such regulations adopted by ordinance.
- (c) In regular or special elections of at large council members, each voter shall be entitled (but not required) to cast as many votes as there are at large council positions to be filled; provided, however, no voter may cast more than one vote for any one candidate.
- (d) The city council by ordinance may enact rules and regulations governing elections not inconsistent with this Charter or state or federal law.

## Sec. 3. - Runoff elections.

- (a) If no candidate for mayor receives a majority of all votes cast for such office at any regular or special election, there shall be held a run-off election at which the two candidates receiving the highest number of votes in the regular or special election shall stand for election.
- (b) If no candidate for city council from a given single member district receives a majority of all votes cast for such office at any regular or special election, there shall be held a run-off election at which the two candidates receiving the highest number of votes in the regular or special election shall stand for election.

- (c) If fewer than three candidates for at large city council positions receive a plurality of at least twelve percent each of the total votes cast for all at large city council candidates, there shall be held a run-off election at which:
- (1) If no candidate received at least twelve percent of the total votes cast for all candidates for the at large positions in the regular or special election, the four candidates receiving the highest number of votes shall stand for election;
  - (2) If only one candidate received at least twelve percent of the total votes cast for all candidates for at large positions in the regular or special election, the next three candidates receiving the highest number of votes shall stand for election; or
  - (3) If two candidates received at least twelve percent of the total votes cast for all candidates for at large positions in the regular or special election, the next two candidates receiving the highest number of votes shall stand for election. The winners in any such run-off election for at-large positions shall be determined by a plurality vote.
- (d) The run-off election shall be held in accordance with state law.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

#### Sec. 4. - The mayor pro tem.

- (a) The city council shall nominate and confirm one of the council members who shall be known and designated as mayor pro tem, and he or she shall receive no extra pay by reason of being or acting as mayor pro tem.
- (b) Whenever a regular or special meeting is scheduled to be held and both the mayor and mayor pro tem are absent, a majority of the council members present may proceed to elect one of those present as acting mayor for such meeting who shall preside and discharge the duties of the mayor. The absence of the mayor and mayor pro tem shall be noted in the minutes with a short statement of the reason for absence, if known.
- (c) When it is anticipated that both the mayor and mayor pro tem will be absent from the city, or unable to perform the duties of the office of mayor on the day of the meeting of the city council, the council by a majority vote shall name a member to be mayor pro tem for the particular meeting, and he or she shall be entitled to perform the duties and have the powers of the mayor on such occasion.

#### Sec. 5. - Disability of mayor.

If for any reason the mayor is absent from the city or unable to perform the duties of his or her office, the mayor pro tem shall act as mayor and during such absence or disability shall perform the duties and have the powers of the mayor; provided that, in the event that any disability of the mayor extends for a period longer than thirty (30) days, the council member elected at large who received the highest number of



votes at the most recent City Council election shall become mayor pro tem and shall act as mayor for the remainder of the period of such disability. He or she shall have all of the authority, rights and benefits of the mayor during such period.

(Ord. No. 030930, § 9, 11-8-2016)

**Sec. 6. - Mayor's veto power and general powers.**

- (a) Every ordinance, resolution or motion passed by the council shall, before it takes effect, be presented to the mayor for his or her approval and signature. If he or she approves it, he or she shall sign, but if he or she disapproves it he or she shall state his or her objections thereto in writing and return it to the council within seven days after presentation with his or her veto. If he or she does not return it with such disapproval nor sign it, such motion, ordinance or resolution shall, upon the expiration of the time for its return to the council, be in effect and force as if he or she had approved it.
- (b) In case of veto of any ordinance, resolution or motion by the mayor, the council may pass same over his or her veto by the affirmative vote of a majority of the council. If the mayor's veto is sustained, the matter shall not come before the council again within six months without the previous written consent of the mayor. The mayor may veto all or any item of any ordinance making appropriations but the veto shall extend only to the item disapproved. Those items which he or she approves shall become effective, but those disapproved shall not become effective unless passed over his or her veto as herein specified.
- (c) The mayor shall have the power to administer oaths and exercise such other powers, prerogatives and authority as are conferred on him or her by this Charter and state and federal law.

**Sec. 7. - Compensation.**

- (a) Each member of the city council, with the exception of the mayor, shall receive as compensation the sum of six thousand dollars (\$6,000.00) during each year of service on the council, such sum to be paid in equal installments throughout the year.
- (b) The mayor shall receive as compensation the sum of nine thousand dollars (\$9,000.00) during each year of service on the council, such sum to be paid in equal installments throughout the year.
- (c) The provisions of this section shall become effective immediately after the election and qualification for office of the first city council following its adoption.

**Sec. 8. - Judge of elections.**

The city council shall be the judge of the election and qualification of its own members, subject to review by the courts in case of contest.

Sec. 9. - Restrictions upon council members.

No member of the council shall be elected or appointed to any office created, or the compensation of which was fixed or increased, by action of the council passed while serving as a member thereof, until the expiration of one year following cessation of such member's service on the council.

Sec. 10. - Rules of the council.

The city council shall determine its own rules of procedure; may punish its members for disorderly conduct; may compel the attendance of its members; and may impeach a member in the manner herein provided.

Sec. 11. - Removal.

- (a) A council member shall be subject to removal by the council or by any other means authorized by law for:
  - (1) Willful violation of any code of ethics or conflicts of interest provision under state or federal law or city ordinance.
  - (2) Willful violation of any express prohibition of this Charter.
  - (3) Misconduct, malfeasance, incompetence, inability or willful neglect in performance of official duties.
  - (4) Conviction of any felony, or any misdemeanor involving moral turpitude.
  - (5) Failing to maintain any residency requirement provided by law.
  - (6) Absence from three consecutive regular council meetings without leave of absence first had, except due to circumstances over which the council member had no control.
- (b) A removal action by the council may be instituted on its own initiative, or shall be instituted upon petition by five or more registered voters, and any final decision to remove a member shall be by the majority vote of all council members holding office, with the exception of the challenged member. The council may provide by ordinance for the referral of any disciplinary matter involving a council member to the ethics commission for recommendation. The challenged member shall have the right to written articles of impeachment, an opportunity to be heard, to be represented by counsel, to summon witnesses who shall be required to give testimony, and to reasonable advance notice of the hearing. The burden of proof shall be on those bringing the charges. The hearing shall be open to the public, and the conclusions and findings of the council

shall be final. If the member is removed, a complete statement of the reasons therefor shall be filed with the city secretary. The council shall additionally have the authority to reprimand or suspend a member for a period of not more than thirty days if removal is not warranted.

- (c) Pending charges for removal, the council may suspend the challenged member from office for a period not exceeding thirty days by the majority vote of all council members holding office, with the exception of the challenged member.
- (d) Commission of any of the violations specified in subparagraphs (1) through (5) above shall additionally be grounds for forfeiture of office in proceedings pursuant to state law.
- (e) A member who is removed from office, whether pursuant to this section, by recall or other legal proceeding, or who resigns after any such proceedings have been initiated, shall not be eligible to be appointed to or run as a candidate for city office for two years from the date of removal, recall or resignation.

#### Sec. 12. - Vacancy in office of mayor.

- (a) In the event of death, resignation, permanent disability, forfeiture of office, recall or impeachment of the mayor, or if for any reason a vacancy shall exist in the office of mayor, the council member elected at large who received the highest number of votes in the last regular election shall immediately become the mayor, provided that such council member shall not be at that time the subject of any recall petition on file with the city secretary. notwithstanding the foregoing, in the event more than one year remains until the next regular city council election or the council member designated to become mayor is the subject of a recall petition on file with the city secretary, a special election shall be called by the then remaining council members to fill the vacancy in the office of mayor, and if there then are no remaining council members such special election shall be forthwith called by the county judge of Nueces County, Texas.
- (b) Any person who becomes mayor as provided above shall have all the duties and powers of the mayor for the remainder of the unexpired term of the mayor, unless sooner removed as provided in this Charter. In the event a council member becomes mayor, the office of the council member shall become vacant, and such vacancy shall be filled as provided in this article.

#### Sec. 13. - Vacancies in office of council member.

In the event of death, resignation, permanent disability, forfeiture of office, recall, or impeachment, of any council member, or if for any reason a vacancy shall exist in the office of any council member, the then remaining members of the council by majority vote shall forthwith fill such vacancy by appointment of a new council member having the qualifications for such vacancy or vacancies as established by law, and the appointed council member shall hold office until the next regular city election and until his or her successor has been elected and qualified, unless sooner removed as provided in this Charter; provided, however, that in the event a majority of the council members be recalled at the same recall election, then the vacancies in

the offices theretofore held by them shall be filled by a special election to be held within sixty days after such vacancies occur. Such election shall be forthwith called by the then remaining council members, and if there be no remaining council members, such election shall be forthwith called by the county judge of Nueces County, Texas.

Sec. 14. - Meetings of the council.

- (a) The city council shall meet in regular session at least once each week at city hall or at another governmentally owned place within the corporate limits of the city, unless the city council elects to adjust the regular meeting schedule for valid reasons recorded in the minutes; provided that in any event the city council is required to meet in regular session not less often than twice each month. Special sessions and workshop sessions may be held in any public place, and the council shall prescribe the manner in which such sessions shall be called.
- (b) A workshop session is a council meeting for the sole purpose of gathering information or discussing public business without taking action. In the event a workshop session is scheduled on the same day as and prior to a regular or special session, no discussion shall be held at the workshop of items previously scheduled for such regular or special session.
- (c) A majority of the council members holding office shall constitute a quorum. All meetings of the council shall be open to the public except as may be authorized by the laws of the state. The city secretary shall take minutes of all regular, special and workshop sessions of the council, except closed sessions, which minutes shall be open to the public in the archives of the city.
- (d) The council shall act only by ordinance, resolution, or motion. Any such method shall be valid except where a particular method is required by law or this Charter. Ordinances shall be confined to one subject which shall be clearly expressed in the title, but ordinances making appropriations may embrace more than one subject, provided that each shall be confined to the subject of appropriations. The following actions, in addition to others specified by law or this Charter, shall be by ordinance only:
  - (1) Amendment or repeal of any existing ordinance;
  - (2) Adoption, amendment or repeal of a code of ordinances or code of technical regulations;
  - (3) Conveyance or authorization of the conveyance of any real property;
  - (4) To prescribe a fine or penalty or establish any rule or regulation for the violation of which a fine or other penalty is imposed;
  - (5) To regulate the rates charged by a public utility; and
  - (6) To adopt any legislation.
- (e) The ayes and nays shall be taken upon the passage of all ordinances or resolutions and entered in the minutes. Every ordinance or resolution shall require on its final passage, the affirmative vote of a majority of all council members holding office, except those council members who are

disqualified from voting under state law or city ordinance.

- (f) No ordinance shall be passed finally on the date it is introduced but the same shall be considered and voted upon at two regular meetings, except in the case of emergency and then only when requested in writing by the mayor or a majority of the members of the council, and the finding of an emergency by the council shall be conclusive. No ordinance granting any franchise shall ever be passed as an emergency measure. For the purposes of this subsection, an "emergency" shall be defined as a condition involving an immediate need to preserve and protect public property, the need for the immediate and efficient utilization of physical resources in the city, the need for the immediate and equitable institution of zoning changes in order to protect the health, safety and welfare, or an immediate action necessary for the efficient and effective administration of the city's affairs.
- (g) Every ordinance imposing any fine, penalty or forfeiture shall be published in one issue of a newspaper of general circulation in the city, which publication may be of the full ordinance or a summary thereof which fully discloses the purposes, intent and effect of such ordinance, after which publication said ordinance shall be in force unless a later date shall be provided in the ordinance.

#### Sec. 15. - Contract before election.

It shall be unlawful for the city council, within the period beginning thirty days before any regular election and extending to the taking of office for the newly elected council, to take any council action whereby any appropriation of money not included in the budget is made or contract or obligation of the city is to be created or franchise granted, or any zoning or rezoning ordinance passed or hearing held without a two-thirds vote of the council, and any such council action taken without a two-thirds vote shall be void.

#### Sec. 16. - Interference.

Neither the council nor any of its members shall instruct or request the city manager or any of his or her subordinates to appoint to or remove from office or employment any person except a person appointed to office by the council under the provisions of this Charter. Except for the purposes of inquiry and investigation, enforcing an ordinance of the city, or enforcing a penal law, the council shall deal with the administrative service of the city solely through the city manager, and shall not give orders to any of the manager's subordinates. Any such inquiry, investigation or enforcement action shall only be made upon the affirmative vote of a majority of the city council. Willful violation of the foregoing provisions of this Charter by any member of the council shall constitute official misconduct.

#### Sec. 17. - Investigation.

The council shall have the express power to inquire into the official conduct of any department, division, agency, office, officer or employee of the city, and for that purpose shall have the power to administer oaths, subpoena witnesses, compel the production of books, papers and other evidence material to the inquiry. Refusal to attend and testify or to produce books, papers and other evidence material to the inquiry, shall result in forfeiture of any office, employment, emoluments or contract then accruing to the person so refusing. The council may provide by ordinance additional penalties for contempt in failing or refusing to obey any such subpoena, or to produce any such books, papers or other evidence and shall have the power to punish any such contempt in the manner provided by such ordinance.

#### Sec. 18. - Council responsibility.

All duties and responsibilities not expressly or implicitly delegated to the city manager by this Charter shall be the duties and responsibilities of the council. The mayor and each of the other council members shall be responsible for and shall require the city manager as the chief executive officer of the city to enforce all laws, federal, state and municipal.

#### RECALL

#### Sec. 19. - Power of recall.

The people of the city reserve the power to recall the mayor or any other council member and may initiate the process by filing with the city secretary a petition signed by at least ten percent of the voters registered to vote for a successor to the challenged council member. A person wishing to initiate a recall petition shall procure a form from the city secretary. Each page of the petition shall contain:

- (a) The name and position of the challenged council member;
- (b) A general statement of the grounds for recall, which shall not be subject to challenge;
- (c) The printed name, residence address (by street and number, or, if none, by other sufficient description), and date of birth or voter registration number of each signer;
- (d) The signature of each signer in ink; and
- (e) The date of issuance by the city secretary and the name and address of the person or group to whom the petition was issued.

The person procuring the form shall legibly fill in the name and position of the challenged council member and the general grounds for recall, and present the form to the city secretary. The city secretary shall then fill in the date of issuance, make such copies as are needed for the city secretary's records, and return the original to the person presenting it.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

Sec. 20. - Filing, examination and certification of petition.

All petition pages comprising a recall petition shall be assembled and filed with the city secretary as one instrument. All petition signatures must be made within one hundred eighty (180) days from the date the petition is filed. Within twenty days after a recall petition is so filed, the city secretary shall determine whether the same is signed by the required ten percent of the registered voters. The city secretary shall declare void any petition page which does not have an affidavit as required in the preceding section. If the certificate of the city secretary shall show the recall petition to have total signatures of registered voters in number less than the required ten percent, the city secretary shall notify the person filing the petition, and it may be supplemented within ten days from the date of such notice by filing supplementary petition pages bearing signatures of other registered voters. Within ten days after such supplementary pages are filed, the city secretary shall again examine the original petition, as supplemented, and shall certify the results thereof to the council at its next regular meeting, stating the number of signatures certified. If the petition, as supplemented, is found to have total signatures of registered voters in number less than the required ten percent, the city secretary shall return the petition, as supplemented, to the person filing the same, without prejudice to the filing of a new petition for the same purpose.

Sec. 21. - Recall election.

Whenever a recall petition is certified by the city secretary to have the signatures of the required ten percent of registered voters and the council member whose removal is sought does not resign within five days after such certification to the council, the council shall forthwith order and hold a recall election at the next available election date under Texas law. In the event at any one time there is before the council more than one recall petition certified by the city secretary as to which the council is then obligated to order a recall election, the council shall order and hold, on the same date, recall elections on all such petitions so certified.

Sec. 22. - Recall ballot.

The form of ballots used at recall elections shall conform to the requirements of state law.

Sec. 23. - Results of recall election.

If a majority of the votes cast are for recall, the office shall immediately become vacant and shall be filled as provided in this Charter.

Sec. 24. - Limitation on recall.

No recall petition shall be filed within the first four months after the office holder takes office or within the four months immediately preceding the date of the next regular election for the challenged office. No office holder shall be subjected to more than one recall election during a single term of office.

Sec. 25. - City secretary.

The council shall appoint the city secretary who shall serve at the pleasure of the council. The city secretary shall appoint any assistant secretaries and keep the records of the council, and shall have such other duties and responsibilities as may be assigned by this Charter and the council.

Sec. 26. - Municipal court.

- (a) There shall be a court for the trial of misdemeanors known as the municipal court, with such powers and duties as are defined and described by state law. The magistrates of the court shall be known as municipal judges, shall be appointed by council, shall have the necessary qualifications for appointment and receive such salary and term as may be fixed by ordinance.
- (b) Any person appointed by a city council as a municipal court judge, presiding municipal court judge, assistant, substitute, full-time or part-time judge may be removed from office at any time by a two-thirds vote of all members of the city council. Any person holding such office may be disciplined, censured or reassigned in lieu of removal from office by the same vote.
- (c) The city manager shall appoint a clerk of said court and deputy clerks, if any, who shall receive such salary as may be fixed by the manager.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

Sec. 27. - Independent audit.

The council shall provide for an independent annual audit for all city accounts and may provide for such more frequent audits as it deems necessary. Such audits shall be made by a certified public accountant or firm of such accountants who have no personal interest, direct or indirect, in the fiscal affairs of the city government or any of its officers. The council may procure such accountant or firm annually or for a period not exceeding five years, provided that the designation for any particular fiscal year shall be made no later than thirty days after the beginning of such fiscal year. If the state makes such an audit, the council may accept it as satisfying the requirements of this section.

(Ord. No. 030930, § 10, 11-8-2016)

Sec. 28. - Internal audit.



Either the council or the city manager may at any time provide for an internal audit of the accounts of any officer or department of the city government.

Sec. 29. - City Auditor.

- (a) The city council shall appoint a city auditor. The city auditor may be removed only by a majority of the city council.
- (b) The city auditor shall report to the city council and have such duties, responsibilities, and staff as determined by ordinance, including the responsibility to conduct, or cause to be conducted, financial, performance, investigative, and other audits following government auditing standards as promulgated by the Comptroller General of the United States.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

ARTICLE III. - CITY MANAGER

Sec. 1. - Appointment; qualifications; term; removal; compensation.

The council shall appoint a city manager who shall be the chief administrative and executive officer of the city. No member of the council shall, during the time for which he or she is elected, be chosen as city manager. The city manager may be removed at the will and pleasure of the council by a majority vote of the entire membership of the council. The action of the council in removing the city manager shall be final. In the case of the absence or disability of the city manager, the council may designate some qualified person to perform the duties of the office during such absence or disability. The city manager shall receive such compensation as may be fixed by the council.

Sec. 2. - Powers and duties.

The powers and duties of the city manager shall be as follows:

- (a) To see that all laws and ordinances are enforced.
- (b) To exercise control over all city departments and subdivisions thereof except as otherwise provided by Charter.
- (c) To execute all appropriately authorized deeds, contracts, agreements or franchises and to see that all terms and conditions imposed in favor of the city or its inhabitants in any such transactions are faithfully kept and performed, and in case of any violation thereof to take such action as may be necessary and proper to enforce or terminate the same.
- (d)

To attend all meetings of the council, with the right to take part in the discussion, but having no vote and to receive notice of all special meetings in the same manner as such notice is given to members of the council. Any action taken at any meeting of the council of which the city manager has not been notified shall be of no force or effect, except, however, the action of designating a person to perform those duties in the city manager's absence.

- (e) To recommend such measures to the council as may be deemed necessary or expedient.
- (f) To keep the council fully advised as to the financial condition and needs of the city and provide them quarterly financial reports.
- (g) To act as budget officer, and, as such, prepare and submit the annual budget to the council.
- (h) To operate the city within its budget.
- (i) To be an ex officio member of all boards or commissions without vote, but with the right of veto of any proposed expenditures the manager shall deem unlawful or not in the best interest of the city.
- (j) To perform such other duties as may be prescribed by the city Charter or by ordinance or resolution of the council; and to be responsible to the council for the proper administration of all the city affairs.
- (k) To appoint and remove all officers and employees not otherwise specified by this Charter.

#### ARTICLE IV. - ADMINISTRATION

##### Sec. 1. - Creation of departments.

- (a) The council shall establish city departments, offices or agencies in addition to those created by this Charter and may prescribe the functions of all departments, offices, and agencies, except that no function assigned by this Charter to a particular department, office or agency may be discontinued or assigned to any other unless so specified by this Charter.
- (b) All departments, offices and agencies under the direction and supervision of the manager shall be administered by an officer appointed by and subject to the direction and supervision of the manager. With the consent of council, the manager may serve as head of one or more such departments, offices or agencies or may appoint one person as the head of one, two or more of them.

##### Sec. 2. - Fiscal year; budget submission, contents, and adoption; appropriation.

- (a) The city's fiscal year shall be set by ordinance, but shall not be changed more often than every four years except by two-thirds vote of the council.
- (b)

At least sixty days prior to the beginning of the fiscal year, the city manager shall submit to the council a budget proposal estimating city revenues and expenses for the next year.

- (c) Expenditures in the proposed budget will not exceed estimated revenues and funds available from all sources.
- (d) The proposed budget shall provide a complete financial plan of all city funds and activities for the ensuing fiscal year and shall be in such form as the manager deems desirable or the council may require.
- (e) The city council shall adopt a balanced budget prior to the beginning of the fiscal year. If it fails to adopt the budget by this date, the amounts appropriated for current operation for the current fiscal year shall be deemed adopted for the ensuing fiscal year on a month to month basis, with all items in it prorated accordingly, until such time as the council adopts a budget for the ensuing fiscal year.
- (f) The city council shall appropriate monies as provided in the budget.

#### Sec. 3. - Interdepartmental transfer of funds.

Upon written recommendation of the city manager, the city council may at any time transfer the unencumbered balance of an appropriation made for the use of one department, division or purpose, to any other department, division or purpose.

#### Sec. 4. - Revenue in excess of total estimated income.

If at any time the total accruing revenue of the city shall be in excess of the total estimated income thereof as set forth in the budget, the council may from time to time appropriate such excess to such uses as will not conflict with any uses for which revenues specifically accrue.

#### Sec. 5. - Money drawn from city treasury.

No money shall be drawn from the city treasury, nor shall any obligation for the expenditure of money be incurred, except in pursuance of appropriations made by the council, and whenever an appropriation is so made, the city secretary shall forthwith give notice to the director of finance. At the close of each fiscal year the unencumbered balance of each appropriation shall revert to the fund from which it was appropriated.

#### Sec. 6. - Accounts maintained.

The city's accounts and records thereof shall be maintained and reported in accordance with generally accepted accounting principles.

#### Sec. 7. - Funds in treasury.

No contract, agreement or other obligation involving an expenditure of money requiring approval by the City Council shall be entered into, nor shall any ordinance, resolution or order for the expenditure of money be passed by the council or be authorized by any officer of the city, except in the case hereinafter specified, unless the director of finance first certifies to the council, or to the proper officer, as the case may be, that the money required for such contract, agreement, obligation or expenditure is in the treasury to the credit of the fund from which it is to be drawn and not appropriated for any other purpose, which certificate shall be filed and immediately recorded. The sum so certified shall not thereafter be considered unappropriated until the city is discharged from the contract, agreement or obligation.

**Sec. 8. - Money deemed in treasury.**

The following funds shall be considered moneys in the treasury:

- (a) All moneys actually in the treasury to the credit of the fund from which they are to be drawn,
- (b) All moneys applicable to the payment of the obligation or appropriation involved that are anticipated to come in the treasury before the maturity of such contract, agreement or obligation, from taxes, assessments, fees, fines, charges, revenues, or from any city undertaking, accounts and bills receivable, or other credits in process of collection,
- (c) All moneys applicable to the payment of such obligation or appropriation, which are to be paid into the city treasury prior to the maturity of such contract, agreement or obligation, and
- (d) All moneys applicable to the payment of the obligation or appropriation involved that are anticipated to come into the treasury before the maturity of such contract, agreement or obligation, from moneys to be received from bonds, notes or other obligations the city is lawfully authorized under state law or this Charter to issue, and which the city has authorized to be issued at one time or from time to time, and which are to be delivered and payment therefore received before the maturity of such contract, agreement or obligation, before the maturity of such contract agreement, or obligation.

**Sec. 9. - Obligation contrary to preceding sections void.**

All contracts, agreements or other obligations entered into, all ordinances passed and resolutions and orders adopted, contrary to the preceding sections shall be void, and no person whosoever shall have any claim or demand against the city thereunder, nor shall the council or any officer of the city waive or qualify the limits fixed by any ordinance, resolution or order as provided in Section 7 hereof, or fasten upon the city any liability whatever in excess of such limits, or relieve any party from an exact compliance with his contract under such ordinance, resolution or order; provided, that this section shall not apply in case of public disaster calling for extraordinary emergency expenditure.

**Sec. 10. - Legal department.**

There shall be a legal officer of the city, appointed by the manager and confirmed by council who shall be the city attorney. The city attorney shall appoint such assistants with the approval of the city manager as provided for by the city council. The city attorney shall be a competent attorney who shall have practiced law in the State of Texas for at least five years immediately preceding appointment. Responsibilities and duties of the city attorney shall include:

- (a) Legal advisor to the council, manager, officers, departments, divisions, boards and commissions of the city;
- (b) Representation of the city in all litigation, controversy and legal proceedings;
- (c) Drafting and filing approvals or written objections to all ordinances presented to council;
- (d) Reviewing and filing approvals or written objections to all contracts, franchises and other legal documents subject to city council approval and others as to form prior to execution by the city;
- (e) All written objections as set forth above shall be maintained by the city secretary as public records;
- (f) The city attorney shall see that all penal ordinances of the city are impartially enforced;
- (g) Any and all other duties as may be assigned by the manager or by ordinance; and
- (h) No contract for the employment of private counsel shall be made by the city, except upon the request in writing of the city attorney stating the necessity therefor and with the consent of the city manager.

#### Sec. 11. - Special police.

No persons, except as otherwise provided by general law or the Charter, or the ordinances passed in pursuance thereof, shall act as special police or special detective, except upon written authority from the city manager. Such authority when conferred shall be exercised only under the direction and control of the chief of police and for the time specified in the appointment.

### ARTICLE V. - PLANNING

#### Sec. 1. - Purpose and intent.

The city council shall establish comprehensive planning as a continuous governmental function in order to guide, regulate, and manage future development and redevelopment within the corporate limits and extraterritorial jurisdiction of the city to assure the most appropriate and beneficial use of land, water and other natural resources, consistent with the public interest.

## Sec. 2. - Organization of planning commission.

A planning commission is hereby established which shall consist of nine registered voters of the city. The members of the commission shall be appointed by the city council for staggered terms of three years. The commission shall elect a chairperson from among its membership each year at the first regular meeting in August and shall meet not less than once each month. Any vacancy in an unexpired term shall be filled by the city council for the remainder of the term.

## Sec. 3. - Powers and duties of planning commission.

### (a) The planning commission shall:

- (1) Reviews and make recommendations to the city council regarding the adoption and implementation of a comprehensive plan, any element or portion thereof, and any amendments thereto;
- (2) Review and make recommendations to the city council on all proposals to adopt or amend land development regulations for the purpose of establishing consistency with the comprehensive plan;
- (3) Monitor and oversee the effectiveness of the comprehensive plan, review and make recommendations to the council on any amendments to the plan, and forward to the council comprehensive updates to the plan at least once every five years;
- (4) Review and make recommendations to the city council regarding zoning or requests for zoning changes in a manner to insure the consistency of any such zoning or changes in zoning with the adopted comprehensive plan;
- (5) Exercise control over platting and subdividing land within the corporate limits and the extraterritorial jurisdiction of the city in a manner to insure the consistency of any such plats with the adopted comprehensive plan; and
- (6) Review and make recommendations to the city council on the city's annual capital budget and any capital improvement bond program.

### (b) The departments of the city government shall cooperate with the planning commission in furnishing it such information as is necessary in relation to its work.

### (c) The commission shall be responsible to and act as an advisory body to the council and shall perform such additional duties and exercise such, additional powers as may be prescribed by ordinance of the council.

## Sec. 4. - The comprehensive plan.

The city council shall adopt by ordinance a comprehensive plan, which shall constitute the master and general plan of the city. The comprehensive plan shall contain the city's policies for growth, development and aesthetics for the land within the corporate limits and the extraterritorial jurisdiction of the city, or for portions thereof, including neighborhood, community and, area-wide plans. The comprehensive plan shall include the following elements:

- (1) A future land-use element;
- (2) An annexation element;
- (3) A transportation element;
- (4) An economic development, element;
- (5) A public services and facilities element, which shall include a capital improvement program;
- (6) A conservation and environmental resources element; and
- (7) Any other element the city council may deem necessary or desirable in order to further the above objectives.

Each element of the comprehensive plan shall include policies for its implementation and shall be implemented, in part, by the adoption and enforcement of appropriate land development regulations and other ordinances, policies and programs.

After at least one public hearing, the planning commission shall forward the proposed comprehensive plan, or element or portion thereof, to the city manager, who shall submit such plan, or element or portion thereof, to the city council with his or her recommendations. The city council may adopt, or adopt with changes or amendments, the proposed comprehensive plan, or element or portion thereof, after at least one public hearing. The city council shall act on the plan, or element or portion thereof, within sixty days following its submission by the city manager. If the plan should be rejected by the council, it shall, with policy directions to the commission, return the plan to the planning commission which may reconsider the plan and forward it to the city manager for submission to the council in the same manner as originally provided. All amendments to the comprehensive plan recommended by the planning commission shall be forwarded to the city manager and shall be subject to review and adoption in the same manner as for the original adoption of the comprehensive plan as set forth in this section.

#### Sec. 5. - Legal effect of comprehensive plan.

All city improvements, ordinances and regulations, shall be consistent with the comprehensive plan. In the case of a proposed deviation to the adopted plan, or any element or portion thereof, the planning commission shall communicate its recommendations to the council which may approve or disapprove such deviation.

#### Sec. 6. - Platting property.

The city shall not pay for the property used for streets and alleys within any subdivision, but the same shall, when platted, be dedicated to such use and shall become the property of the city and shall be maintained as such. The city shall not grant any permit to construct or enlarge any house or structure within the city until a plat shall be approved and filed.

## ARTICLE VI. - BOARDS AND COMMISSIONS

### Sec. 1. - General.

Subject to the provisions of any law of the State of Texas to the contrary, the council may create, change or abolish, any board, commission or committee of the city whether established by Charter or ordinance. The city council shall adopt goals and objectives for any board, commission or committee it creates and such rules and regulations involving membership, rules of conduct, attendance at meetings or any other matter as it may deem necessary or advisable. No person may serve as a voting member of a board, commission, or committee of the city for a period longer than six years consecutively, unless such service is required by virtue the person's position or title as the result of employment or to complete an unexpired term.

### Sec. 2. - Appeals to city council.

Subject to state law, an appeal may be taken to the city council from any decision of any board, commission, committee, or other body. Such appeals shall be perfected by filing a sworn notice of appeal with the city secretary within thirty days from the rendition of the decision of the board, committee or other body. Prior to the institution of any appeal in a court of law by an aggrieved person from a decision of such board, commission, committee or other body, appeal must first be perfected to the city council.

## ARTICLE VII. - EMPLOYMENT REGULATIONS

### Sec. 1. - Classified service.

The policy of the city is the establishment of a personnel system based on merit and not on any other consideration. There shall be a classified service in which all appointments shall be made on the basis of qualifications and fitness, and promotions shall be made on the basis of merit. The classified service shall include all employees of the city except employees filling those positions designated by the council as exempt. All personnel actions shall be consistent, uniform and fair. Disciplinary actions shall not be based on unlawful or discriminatory reasons such as race, sex, religion, national origin, creed, disability, age, color or political beliefs.



## Sec. 2. - Civil service board.

There shall be a civil service board, which shall consist of three persons, citizens of Corpus Christi. No member of the board shall during his or her tenure be a candidate for or hold any city office or position, and no member of the board shall during his or her tenure hold any other public office, except notary public. The city council shall appoint the members of such board. The city council shall appoint two alternate members to serve for absent board members. The term of office of each member and alternate member of such board shall be for three years, or until a successor is appointed. The civil service board, subject to the approval of the council, shall adopt, amend and enforce a code of rules and regulations providing for appointment, employment or suspension in all positions in the classified service. The civil service board established herein shall promulgate rules and regulations that insure fair treatment of employees in hiring, promotions, grievances and disciplinary actions including suspensions, dismissals, or terminations in accordance with the policy stated herein.

(Ord. No. 030930, § 12, 11-8-2016)

## Sec. 3. - Nondiscrimination.

No employee, officer, or applicant for employment shall be in any way favored or discriminated against for any unlawful reason.

## Sec. 4. - Participation in political activity.

With the exception of members of council, no employee or officer of the city shall in any way participate in political activity of any nature while on duty, in uniform or using city resources. With the exception of members of the managerial group and employees of the city secretary's office, officers and employees of the city may participate in political activity; provided that, no coercion or retaliation concerning political activity shall be allowed. No members of the managerial group or employees of the city secretary's office shall at any time take part in any political activity on city-related issues except to provide factual information at the direction of the city manager, to express their own opinions privately, and to cast their votes.

## Sec. 5. - Officers and employees, candidacies.

- (a) A member of the city council may file as a candidate for nomination or election to any public office, including a position under this Charter. Upon the election or appointment to a non-city public office, such council member shall forfeit his or her office as a member of the council.
- (b) A member of a city board, commission or committee may file as a candidate for nomination or election to any non-city public office. Upon the election or appointment to a non-city public office or upon the filing as a candidate for any position under this Charter, such board, commission or committee member shall forfeit his or her position.

- (c) A city employee may file as candidates for nomination or election to any public office and may serve in such position if elected or appointed, so long as such activities do not interfere with his or her city employment contrary to ordinances and administrative regulations.

(Ord. No. 030930, § 13, 11-8-2016)

#### Sec. 6. - Removal.

Nothing elsewhere in this Charter contained shall be construed as authority for the council to remove any officer or employee in the classified service of the city.

### ARTICLE VIII. - TAXATION AND BONDS

#### Sec. 1. - Taxation.

- (a) The city council shall have power, and is hereby authorized annually, after the budget is adopted, to levy and collect taxes up to the maximum authorized by the Constitution of Texas based on the assessed value of all real and personal property in the city, not exempt by the Constitution and laws of Texas from taxation; provided that, except as provided in paragraph (b) and paragraph (c) below, the maximum tax rate for all purposes shall not exceed sixty-eight cents (\$0.68) per one hundred dollars (\$100.00) of assessed value. The maximum tax rate limitation shall remain in full force and effect until changed by Charter amendment or by ordinance duly adopted after a referendum election at which a majority of the registered voters voting at such election approved adoption of the ordinance.
- (b) The maximum tax rate the city council may levy in support of debt service for any tax-supported obligations which are authorized by the voters of the city at an election held after April 4, 1993, shall be limited to the tax rate limitation provided in the Texas Constitution. In the event any such voter-approved obligations are refunded by the issue of refunding obligations as authorized under Texas law, the debt service on such refunding obligations shall be subject to the maximum tax rate limitation in paragraph (a) above unless: (i) the refunding results in a net present value savings to the city as determined by the Texas Attorney General, or (ii) such refunding obligations are authorized by the voters of the city at an election held for such purpose.
- (c) A dedicated fund to be used solely for residential street reconstruction is established, and the city council is authorized each year to levy, assess and collect a property tax not to exceed six cents (\$0.06) per one hundred dollars (\$100.00) of assessed value for the purpose of residential street reconstruction to be deposited in such fund. Said taxes shall be used solely for the purpose of residential street reconstruction, including associated architectural, engineering and utility costs, and shall be implemented gradually at a rate not to exceed two cents (\$0.02) per one hundred dollars (\$100.00) of assessed value per year. For the purposes of this provision, the term

"reconstruction" is defined as removing all or a significant portion of the pavement material and replacing it with new or recycled materials. The dedicated fund established by this subsection (c) may not be used for payment of debt service.

- (d) If for any cause the city council shall fail or neglect to pass a tax ordinance for any year, levying taxes for that year, the tax ordinance last passed shall be considered in force and effect as the tax ordinance for the year for which the city council so failed to pass a tax ordinance, and the failure to pass such ordinance in any year shall not invalidate the collection of the tax for that year.
- (e) The city council may also prescribe the date when taxes shall become due and prescribe penalties for nonpayment before they become delinquent.
- (f) The city council may also levy, assess and collect any other types of taxes as provided by state law, provided that no such tax shall be greater than is authorized by such statute.

(Ord. No. 030930, § 8, 11-8-2016)

## Sec. 2. - Authority to issue bonds.

The city council shall have the power and authority to issue bonds in accordance with the general and special laws of the State of Texas, in effect from time to time and as applicable to the City.

(Ord. No. 030930, § 14, 11-8-2016)

## ARTICLE IX. - PUBLIC UTILITIES, FRANCHISES AND LEASES

### Sec. 1. - Inalienability of public property.

The control and use of the public streets, sidewalks, alleys, bridges, parks, public buildings and any other public property of the city is declared to be inalienable by the city, except by ordinances not in conflict with the provisions of this Charter; provided, however, the council may by ordinance grant, or authorize an officer or employee of the city to grant, sidetrack or switch privilege easements to common carriers, and daily, weekly, monthly, annual, multi-year leases, licenses or use privileges of public streets, sidewalks, alleys, bridges, parks, public buildings and any other public property, all upon such terms and with the imposition of such conditions and limitations in such easements and leases or use privileges as the council may elect. No act or omission by the council or any officer or agent of the city shall be construed to grant, renew, extend or amend by estoppel or indirection any right, franchise, lease, easement, license or use permit affecting said public streets, sidewalks, alleys, bridges, parks, public buildings and any other public property.

(Ord. No. 028733, § 7, 8-24-2010, approved by Ref. 11-2-2010)

### Sec. 2. - Power to grant franchise or lease.

- (a) The council shall have the power by ordinance to grant, renew, and extend all franchises of all public utilities of every character operating within the city and all leases of property of the city; and, with the consent of the franchise holder or the lessee, to amend the same; provided, however, that
- (1) No franchise shall be granted for a term of more than thirty years; and
  - (2) No lease covering any property of the city shall be granted for a term of more than sixty years;
  - (3) No lease covering any property of the city which lies under the waters of Corpus Christi Bay and was patented to the city by the State of Texas shall be granted for a term of more than five years unless approved by a majority of the qualified voters of the city, voting at an election duly called for such purpose, provided that leases for the construction on use of boat slips or docking facilities may be granted for not more than fifteen years without the necessity of an election required by this section.
- (b) No lease covering any property of the city which lies under the waters of Corpus Christi Bay and was patented to the city by the State of Texas shall grant to the lessee any right to erect or maintain any structure or building with the exception of yacht basins, restaurants, buildings for the housing of bay front concessions and uses permitted by the city zoning ordinance in a bay front use zoning district.

Sec. 3. - Ordinance granting franchise or lease of city property with term exceeding 5 years.

Every ordinance granting, renewing, extending or expanding a franchise or a lease of city property with a term exceeding 5 years shall be read at two regular meetings of the council, and shall not be finally acted upon until the twenty-eighth day after the first reading thereof. Within five days following each of the two readings of the ordinance, a description of the franchise or lease, including the names of the parties, the term, payments to the city and the purpose of the franchise or lease, shall be published one time in a newspaper of general circulation in the city, and the expense of such publication shall be borne by the prospective franchise holder or lessee. Copies of the full text of any such ordinance shall be made available to the public at no charge in the office of the city secretary. With the exception of any ordinance authorized by election provided herein, no ordinance granting, renewing, extending or expanding a lease or franchise of more than five years shall become effective until the expiration of sixty days following the date of its final adoption by the council, and every such ordinance shall be subject to referendum procedure provided by state law, V.T.C.A., Transportation Code § 311.073, as amended now or in the future.

(Ord. No. 030930, § 15, 11-8-2016)

Sec. 4. - Transfer of franchise or lease.

No franchise or lease of property of the city shall be transferred by the holder thereof except with the approval of the council expressed by ordinance, which approval shall not be unreasonably withheld. Council approval may be read at two consecutive regular council meetings of the council, or if an emergency is declared may be finally read and approved at one regular meeting of the council. Notwithstanding the foregoing, the city council may delegate to the city manager by ordinance the authority to approve routine transfers of franchises or leases and amendments designed to update existing franchises or leases to current city requirements.

#### Sec. 5. - Regulation of franchises and public utilities.

Except as limited by state or federal law, the city shall have the following rights to regulate franchisees and any public utilities operating in the city, whether under franchise or otherwise:

- (a) To forfeit any such franchise at any time for failure of the holder to comply with the terms of the franchise.
- (b) To adopt reasonable regulations concerning the use and restoration of the streets, easements and other public property, and to adopt reasonable regulations to insure safe, efficient and continuous service to the public.
- (c) To require the expansion of facilities as are necessary to provide adequate service to the public, taking into consideration the cost of the extension and the rates charged for the services.
- (d) To require every franchisee or public utility to furnish to the city, without cost to the city, full information regarding the location, character and extent of all facilities of such franchisee or public utility in, over, under or used upon the streets, alleys, easements and other public or private property in the city; and to regulate and control the location, relocation or removal of such facilities in public property without cost to the city.
- (e) To require every franchisee or public utility to allow other franchisees or public utilities to use its tracks, poles, bridges, tunnels and viaducts, provided that the use does not materially interfere with the owner's purposes nor materially impair the safety of said facilities.
- (f) To prescribe the form of accounts to be kept by any franchisee or public utility.
- (g) To examine and audit at any time during regular business hours, the accounts and other records of any franchisee or public utility.
- (h) To require annual and other reports, including reports on the local operations of the franchisee or public utility, which shall be in such form and contain such information taken from the books and records of the company as the city shall prescribe.
- (i) To require collection of any compensation or rental not now or hereafter prohibited by law.
- (j)

To require any franchisee or public utility who requests an increase in rates, charges or fares, to reimburse the city for fifty percent of reasonable expenses incurred in employing rate consultants to advise the city on such requested increase.

- (k) To regulate by ordinance the rates, charges and fares of every franchisee or public utility operating in the city to the extent allowed by law; provided that no such ordinance shall be passed as an emergency measure. Any public utility or franchisee requesting an increase in its rates, charges or fares shall have, at the hearing on such request, the burden of establishing by clear and convincing evidence the value of its property and the amount and character of its expenses and revenues. No franchisee or public utility shall institute any legal action to contest any rate, charge or fare fixed by the council until such public utility has filed a motion for rehearing with the council specifically setting out each ground of its complaint against the rate, charge or fare fixed by the council, and until the council shall have acted upon such motion, or had a period of sixty days within which to act upon such motion for rehearing.

#### Sec. 6. - Regulation of leases.

Every grant, renewal, extension or amendment of a lease of property of the city, whether so provided in the lease or not, shall be subject to the right of the city:

- (a) To terminate such lease at any time for failure of the lessee to comply with the terms of the lease or the terms of this section.
- (b) To impose reasonable regulations to insure proper care, maintenance and upkeep of the property of the city.
- (c) To prescribe the form of accounts to be kept by every lessee if the rental or the license fees payable to the city are determined in whole or in part by the volume of business done by the lessee.
- (d) To examine and audit at any time during regular business hours the accounts and other records of the lessee.
- (e) To require annual and other reports, including reports on the operations of the lessee, which shall be in such form and contain such information as the city shall prescribe.

#### Sec. 7. - Effect on existing contracts.

No revision of the Charter shall amend, enlarge or diminish any franchise or contract rights effective prior to such revision of the Charter, unless otherwise provided in the franchise or contract.

#### Sec. 8. - Leases of land or interests in land for oil, gas or minerals.

- (a) In the making of any oil, gas or mineral lease concerning any mineral interests belonging to the city, the city shall publish notice of its intention to lease the mineral interests, describing the same, in a newspaper having a general circulation in the city, once a week for a period of three consecutive weeks, designating the time and place after publication where the city will receive and consider bids for oil, gas or mineral leases thereon. In calling for bids for any lease or leases, the city may specify such terms and conditions as shall be required by it in any lease or leases and any particular methods the city will utilize in evaluating the bids.
- (b) On the date specified in the notice, the city shall receive and consider any and all bids submitted for the leasing of the mineral interests proposed to be leased. Upon review of all the bids, the council shall award the lease or leases based on the bid or bids determined to be most advantageous to the city. The council shall have the right to waive any defect, irregularity or informality in any bid or bidding procedure, and the council shall have the right to reject any or all bids submitted.
- (c) In no event shall any lease be awarded to any person, firm or corporation except on compliance with these procedures, and should any lease be awarded without such compliance the same shall be void and of no force or effect.

#### Sec. 9. - Power of eminent domain.

The city shall have the right and power to acquire any interest in a leasehold, a franchise or any public utility, or any portion thereof, under the power of eminent domain of the city as exercised pursuant to the procedures provided by state law or by ordinance.

#### Sec. 10. - Public utilities.

The city shall have power to own, maintain and operate, within or without the city limits, any public utility, and the city council shall adopt appropriate ordinances for the maintenance and operation thereof and fix the compensation to be charged therefor. The city shall have power to purchase electricity, gas, oil or any other article used by the public on such terms as the city may deem proper for sale and distribution to the inhabitants of the city and adjacent territory; provided, that no contract of purchase binding the city for a longer period than five years shall be valid unless authorized by a majority vote at an election called for such purpose.

#### Sec. 11. - Water supply contracts for sale of untreated water.

Notwithstanding any other provision of this Charter, the city may by ordinance, without voter approval, contract to provide untreated water for a definite period of time or in perpetuity. Every such contract shall contain a provision that the rate to be paid for the water furnished under such contract shall be the published rate at the time of taking or a provision that the rate shall be the average cost of water to the city

for each respective year of the contract as determined by the city. The city's obligations under any such contract shall be construed to entitle the purchaser to only that portion of the city supply equal to the ratio which the population of the area purchasing water bears to the total population of the area supplied through the city water system.

#### ARTICLE X. - GENERAL POWERS AND PROVISIONS

##### Sec. 1. - General powers.

- (a) The city shall have and may exercise, for any municipal purpose, all powers applicable to home rule cities in the Texas constitution, statutes and codes, and specifically including the governmental functions contained in V.T.C.A., Civil Practices and Remedies Code § 101.0215(a), as amended, including the power to establish fees for said functions, and the following powers, to the fullest extent it deems necessary, desirable, or convenient, except as clearly prohibited or limited by state law or this Charter:
- (1) To use a corporate seal.
  - (2) To sue in any court.
  - (3) To contract.
  - (4) To define and abate nuisances.
  - (5) To levy and collect taxes and fees.
  - (6) To borrow money by issue or sale of bonds, warrants, notes or other method.
  - (7) To appropriate and expend monies.
  - (8) To acquire and own property or any interest therein, within and without the corporate limits, by purchase, eminent domain, gift, devise, exaction, or any other means whatsoever.
  - (9) To sell, lease or otherwise convey city property, real or personal.
  - (10) To manage and control all city property.
  - (11) To establish, improve and maintain a comprehensive system of streets and public ways and all appurtenances related thereto, and to control and regulate any use thereof; provided, no street or alley may be closed except after notice by one publication in a newspaper of general circulation in the city and by mail to the last known address of all owners within four hundred fifty feet therefrom and hearing by the city council.
  - (12) To assess the cost of street, sidewalk and related improvements against abutting property owners and fix a lien against such abutting property in any manner authorized by state law or any city ordinance, which procedures are hereby adopted as alternatives which may be exercised.
  - (13)



To levy and collect assessments and fees against property benefitted by improvements, and fix liens thereto, according to procedures established by ordinance or law.

- (14) To assess property for costs incurred by the city in exercise of its governmental or regulatory powers, and to fix liens against such property, according to procedures established by ordinance or law.
- (15) To regulate land use and development.
- (16) To regulate construction and maintenance of buildings and structures.
- (17) To construct public works and improvements.
- (18) To own and operate airports.
- (19) To acquire any public utility upon approval by the qualified city voters, and a four-fifths vote of the city council.
- (20) To own and operate any public utility.
- (21) To require and grant franchises, licenses and permits.
- (22) To regulate public utilities and franchise holders, including their rates and charges.
- (23) To regulate the laying of gas, water, sewer, electrical, telephone, television and other pipes, lines and cables in the city's jurisdiction.
- (24) To promote health and sanitation, and prevent, suppress or relieve disease and epidemic.
- (25) To regulate the processing and dispensing of foodstuffs.
- (26) To take measures to prevent, avoid or relieve the effects of natural or made disasters.
- (27) To adopt regulations to promote fire safety.
- (28) To establish, provide, maintain or regulate any social or human service program or activity.
- (29) To regulate any activity, business, occupation, profession or trade.
- (30) To establish and maintain yacht basins, piers, docks, warehouses and any other water-related facilities.
- (31) To regulate all water areas, and all activities therein or connected therewith.
- (32) To operate a jail.
- (33) To promote economic prosperity in the community.
- (34) To advertise and provide public information.
- (35) To regulate animals.
- (36) To adopt regulations for drainage and flood control.
- (37) To provide and support libraries, museums, parks, arts, music, education, literature, recreational and cultural activities.
- (38) To establish criminal and civil penalties for ordinance violations.

- (39) To take all measures, including but not limited to the right to permit, prohibit, regulate or license, any activity in order to promote and protect the health, morals, comfort, safety, convenience and welfare of the city's inhabitants, and exercise all manner of governmental and regulatory power.
- (b) The enumeration of particular powers in this Charter is not exclusive. The city shall have and may exercise all powers which it would be competent for this Charter specifically to delegate, except as clearly prohibited or limited in this Charter.
- (c) The city is empowered to use all methods and do all things it deems necessary or convenient to carry out the powers in this section within the limits of the law.

(Ord. No. 030930, § 16, 11-8-2016)

## Sec. 2. - Contracts.

- (a) All contracts shall be authorized by the city council, except that the city manager may authorize contracts which do not require expenditures exceeding the limit at which competitive bids are required under the Texas Local Government Code, as amended, and may exceed that sum in the case of emergency which shall be reported to the council.
- (b) No contract shall be binding until it has been: (1) signed by the city manager or the manager's authorized representative, and (2) approved or objected to in writing by the city attorney, which objection shall be filed with the city secretary provided, however, that as to standard contracts for multiple transactions, the city attorney need only approve the standard form.
- (c) All purchases and contracts must comply with state law.
- (d) No contract shall ever be made which binds the city to pay for personal services to be rendered for any stated period of time; but all contracts for personal service shall be restricted to the doing of some particular act or thing, and upon its completion no further liability shall exist on the part of the city.

(Ord. No. 030930, § 17, 11-8-2016)

## Sec. 3. - Action by citizens.

Any taxpayer of the city may maintain an action in the proper court to restrain the execution of any illegal, unauthorized or fraudulent contract or agreement on behalf of the city, and to restrain, any disbursing officer of the city from paying any illegal, unauthorized or fraudulent bills, claims or demands against the city or any salaries or compensation to any person in the administrative service whose appointment has not been made pursuant to the provisions of law. In case any such illegal, unauthorized or fraudulent bills, claims or demands, or any such salary or compensation shall have been paid, a taxpayer may maintain an action in the name of the city against the officer making such payment and the party receiving the same, or either of them, to recover the amount so paid, and any recovery after deducting all

expenses of the action, shall be paid into the city treasury; provided, however, that the court shall require the taxpayer to give security to indemnify the city against costs of court, unless the court shall decide that there is reasonable cause for bringing the action. The right of any taxpayer of the city to bring an action to restrain the payment of compensation to any person holding any position or employment in violation of any of the provisions of this act, shall not be limited or denied by reason of the fact that said position or employment shall have been determined to be not subject to competitive examination; provided, however, that any judgment or injunction granted or made in any such action shall be prospective only, and shall not affect payments already made or due to such persons by the city. In case of any unsatisfied judgment or proper suit or process of law against the city, any five or more citizens who are taxpayers of the city shall upon petition, accompanied by affidavit that they believe that injustice will be done to said city in said suit or judgment, be permitted to intervene and inquire into the validity of said judgment, or defend said suit or action as finally and completely as the officers of said city would by law have the right to do.

Sec. 4. - Certain restrictions of vehicular access to the Gulf beach.

Vehicular access to and on the Gulf beach may not be restricted unless approved by a majority vote of qualified voters of the city, voting at an election duly called for such purpose. Thereafter, the city council may take appropriate action to restrict vehicular access to and on specific portions of the Gulf beach and comply with all other requirements necessary to implement the result of the election. The approval at election requirement shall not apply when vehicles are restricted from access to areas of the Gulf beach for public necessity. "Public necessity" shall be limited to environmental emergencies, public health and safety emergencies, and government functions whose importance justifies the restriction of vehicular access. The restriction of vehicular access for public necessity shall be limited to the smallest possible area and for the shortest possible duration.

(Ord. No. 027066, § 1, 12-1-2006)

Sec. 5. - Existing ordinances.

All ordinances of the city not inconsistent with the provisions of this Charter, shall remain in full force and effect until altered or repealed by the city council; provided, that the power to pass such ordinances under former charters has not been repealed expressly or implied by the terms of this act.

(Ord. No. 027066, § 2, 12-1-2006)

Sec. 6. - Printed ordinances as evidence.

All ordinances of the city published in book or pamphlet form and purporting to be published "By authority of the City Council of the City of Corpus Christi," shall be received by all the courts of the State of Texas as prima facie evidence of the due passage and publication of such ordinances as appear therein;

provided, that no person shall be precluded from showing by competent evidence, that any ordinance published "By authority of the City Council of the City of Corpus Christi," as aforesaid, is not a true copy of the original ordinance.

(Ord. No. 027066, § 3, 12-1-2006)

**Sec. 7. - City not required to give bond.**

It shall not be necessary in any action, suit or proceeding in which the city is a party for any bond, undertaking or security to be demanded or executed by or on behalf of said city in any of the state courts, but all such actions, suits, appeals or proceedings shall be conducted in the same manner as if such bond, undertaking or security had been given as required by law, and said city shall be just as liable as if security or bond had been duly executed.

(Ord. No. 027066, § 4, 12-1-2006)

**Sec. 8. - Public property exempt from execution sale.**

The property, real and personal, belonging to the city shall not be liable to be sold or appropriated under any writ of execution, nor shall the funds belonging to the city in the hands of any persons be liable to garnishment, but the city manager shall answer in a writ of garnishment for the city.

(Ord. No. 027066, § 5, 12-1-2006)

**Sec. 9. - City inhabitants, freeholders or taxpayers not disqualified.**

No person shall be an incompetent judge, justice, witness or juror by reason of his being an inhabitant or a freeholder, or a taxpayer of the city in any action or proceeding in which said city may be a party at interest.

(Ord. No. 027066, § 6, 12-1-2006)

**Sec. 10. - Notice of personal injuries required.**

Before the city shall be liable for damages for personal injuries of any kind, the person injured or someone in that person's behalf shall file with the city secretary in the manner prescribed by ordinance notice in writing of such injury within one hundred eighty days after the same has been sustained, reasonably describing the injury claimed and the time, manner and place of the injury. The failure to so notify the city within the time and manner specified herein shall exonerate, excuse and exempt the city from any liability whatsoever.

(Ord. No. 027066, § 7, 12-1-2006)

Sec. 11. - Assessment and improvement districts.

- (a) The city shall have the power to establish assessment districts, in the manner hereinafter provided, for the purpose of constructing public improvements within said districts and to provide that the cost of making any such improvements shall be paid by the property owners owning property specially benefited by reason of making the improvements. The city may levy a special assessment as a lien against any such property and issue certificates of obligation covering the cost of such improvements bearing interest not to exceed the maximum legal rate. No assessment district shall be created without first submitting the question to a vote of the qualified voters in the city who own real estate in the proposed district. If the returns of the election show that two-thirds or more of the qualified voters of the city who own real estate in the proposed assessment district voting in the election voted in favor of the proposition, the city council shall create the assessment district and establish its boundaries. All matters pertaining to any assessment lien for public improvements shall be made in substantial compliance with the laws pertaining to street improvements.
- (b) The city shall have power to establish improvement districts, in the manner hereinafter provided, in order to assist in the development of commerce, tourism, resort activity, and convention accommodation for the promotion of the welfare of the city. Within any such improvement district, the city council shall have the power to lease, sublease or provide for the installment sale of any city-owned improved or unimproved land, or any interest therein, for any governmental or private use, at its fair market value as determined by the city council without the necessity of voter approval. The term of any such transaction shall not exceed sixty years. An improvement district under this subsection shall be established by the council subject to approval by a majority vote of the qualified voters of the city voting at an election called for approval of the establishment of the district. The metes and bounds description of any such district, as approved by election, shall be kept on file in the office of the city secretary as part of the public records of the city, and any improvement district established by Charter amendment prior to the adoption of this provision shall be maintained in full force and effect and shall be subject to the provisions of this section.

(Ord. No. 027066, § 8, 12-1-2006)

Sec. 12. - Council action validated.

Acts of the city council previously enacted in granting franchises, assessing and collecting taxes, and the disbursement of same, the enforcement of its ordinances by criminal proceedings or otherwise, the collection of fines and the disbursement of same and any and all enforcement of the penal laws of this state, are hereby in all things validated and made as valid and binding as if passed by a legal city council.

(Ord. No. 027066, § 9, 12-1-2006)

Sec. 13. - Construction of Charter.

This Charter shall not be construed as a mere grant of enumerated powers, but shall be construed as a general grant of power and as a limitation of power on the government of the city in the same manner as the Constitution of Texas is construed as a limitation on the powers of the legislature. Except where expressly prohibited by this Charter, each and every power under Article XI, Section 5 of the Constitution of Texas, which it would be competent for the people of the city to expressly grant to the city, shall be construed to be granted to the city by this Charter.

(Ord. No. 027066, § 10, 12-1-2006)

Sec. 14. - Judicial notice.

This Charter shall be deemed a public act, may be read in evidence without pleading or proof, and judicial notice shall be taken thereof in all courts and places.

(Ord. No. 027066, § 11, 12-1-2006)

Sec. 15. - Separability clause.

If any section or part of a section of this Charter is held to be invalid or unconstitutional by a court of competent jurisdiction, the same shall not invalidate or impair the validity, force or effect of any other section or part of a section of this Charter.

(Ord. No. 027066, § 12, 12-1-2006)

Sec. 16. - Rearrangement and renumbering.

The council shall have the power, by ordinance, to renumber and rearrange all articles, sections and paragraphs of this Charter or any amendments thereto, as it shall deem appropriate, and upon the passage of any such ordinance a copy thereof, certified by the city secretary, shall be forwarded to the secretary of state for filing.

(Ord. No. 027066, § 1, 13-1-2006)

FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

**EVIDENCE OF COMPETENCY**

**EVIDENCE OF COMPETENCY**

The evidence of competency for this permit application meets the requirements of 30 TAC §330.59(f). The following sections address each subsection of the regulation.

**30 TAC §330.59(f)(1)**

This regulation requires that the owner or operator submit a list of all Texas solid waste sites that the owner or operator has owned or operated within the last 10 years. The site name, site type, permit or registration number, county, and dates of operation shall also be submitted.

*The Texas solid waste sites that have been owned or operated by City of Corpus Christi within the last 10 years are:*

**J.C. Elliott Landfill**

7001 Ayers Street  
Corpus Christi, Texas 78415  
Nueces County  
Type: Municipal Solid Waste Type I Landfill  
Permit Number: MSW-423B  
Issuance Date: May 23, 2008  
Expiration Date: None

**J.C. Elliott Transfer Station**

7001 Ayers Street  
Corpus Christi, Texas 78415  
Nueces County  
Type: Type V Solid Waste Collection and Transfer Station  
Registration Number: MSW-40228  
Issuance Date: October 09, 2007  
Expiration Date: None

**Cefe F. Valenzuela Landfill**

2397 County Road 20  
Petronila, Texas 78380  
Nueces County  
Type: Municipal Solid Waste Type I Landfill  
Permit Number: MSW-2269  
Issuance Date: March 19, 1999  
Expiration Date: None

**City of Corpus Christi Westside Landfill**

3702 Carbon Plant Road  
Corpus Christi, Texas 78410  
Nueces County  
Type: Municipal Solid Waste Type I Landfill  
Permit Number: MSW-424  
Issuance Date: March 31, 1975  
Expiration Date: November 4, 2005



30 TAC §330.59(f)(2)

This regulation requires that the owner or operator shall submit a list of all solid waste sites in all states, territories, or countries in which the applicant has a direct financial interest. The type of site shall be identified by location, operating dates, name, and address of the regulatory agency, and the name under which the site was operated.

*The City of Corpus Christi does not have a direct financial interest in any other solid waste site.*

30 TAC §330.59(f)(3)

This regulation requires that a licensed solid waste facility supervisor, as defined in Chapter 30 of this title (relating to Occupational Licenses and Permits), be employed before commencing site operation.

*Philip Aldridge, Assistant Director of Solid Waste Services*

*Mr. Philip Aldridge is the current Assistant Director of Solid Waste Services for the City of Corpus Christi. Mr. Aldridge holds a bachelor's degree in Water Resource Management with a major emphasis on Hydrogeology. He has over 15 years of experience in local, state and private sector waste management. Mr. Aldridge has worked for the City of Corpus Christi in the Solid Waste Services Department since 2019.*

30 TAC §330.59(f)(4)

This regulation requires the names of the principals and supervisors of the owner's or operator's organization, together with previous affiliations with other organizations engaged in solid waste activities.

*The following principals and supervisors of City of Corpus Christi have substantial experience in the waste services industry as indicated below:*

<u>Name</u>	<u>Office</u>
David Lehfeldt	Director of Solid Waste Services
Philip Aldridge	Assistant Director of Solid Waste Services

*David Lehfeldt, Director of Solid Waste Services*

*Mr. David Lehfeldt is the current Director of Solid Waste Services for the City of Corpus Christi. Mr. Lehfeldt holds a bachelor's degree in Geology with a major emphasis on structural geology. He has more than 30 years of local government experience in the solid waste business. He has worked for the City of Corpus Christi in the Solid Waste Services Department since 2018, holding various positions, including Deputy Director of Solid Waste Services and Interim Director of Solid Waste Services.*

30 TAC §330.59(f)(5) & (6)

These regulation citations are applicable to landfills and mobile liquid waste processing facilities only, not transfer stations.

*City of Corpus Christi has not had any final enforcement orders, court judgments, consent decrees, or criminal convictions of this state or the federal government within the last five years relating to compliance with applicable legal requirements relating to the handling of solid or liquid waste under the jurisdiction of the Commission or the United States Environmental Protection Agency.*

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PO BOX 13087 MC-178 ♦ AUSTIN TEXAS 78711-3087

Pursuant to authorization from the Executive Director of the Texas Commission on Environmental Quality, the Manager of the Operator Licensing Section of the Permitting and Registration Support Division has issued the enclosed MSW OPERATOR certificate and pocket

Can. J.

## RECEIPT OF PAYMENT

Fee Type: RENEWAL APPLICATION

Date Fee Paid: 05/11/2020

Amount Paid: \$ 111.00

TEST SCORE: N/A

### CONTACT INFORMATION

MUNICIPAL SOLID WASTE LICENSING

(512)239-6719

For general information about licensing visit:

[www.tceq.texas.gov/licensing](http://www.tceq.texas.gov/licensing)

Pursuant to 30 TAC 30.24(k), you are required to notify the TCEQ of any contact information changes within 10 days of the date the change occurs.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

DAVID S LEHFELDT

Is hereby licensed as a  
MSW OPERATOR

Class  
A

License Number  
SW0003334

Expires  
07/28/2023

SIGNATURE

EXECUTIVE DIRECTOR

TCEQ VIPP Form oce3 (09-07-06)

## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Be it known that*

**DAVID S LEHFELDT**

*has fulfilled the requirements in accordance with the  
laws of the State of Texas for*

**CLASS A MSW OPERATOR**

*License Number:* SW0003334

*Issue Date:* 05/12/2020

*Expiration Date:* 07/28/2023



*Executive Director*

*Texas Commission on Environmental Quality*

# TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PO BOX 13087 MC-178 ♦ AUSTIN TEXAS 78711-3087

Pursuant to authorization from the Executive Director of the Texas Commission on Environmental Quality, the Manager of the Operator Licensing Section of the Permitting and Registration Support Division has issued the enclosed MSW OPERATOR certificate and pocket card.

## RECEIPT OF PAYMENT

Fee Type: RENEWAL APPLICATION

Date Fee Paid: 10/05/2023

Amount Paid: \$ 111

TEST SCORE: 84

CONTACT INFORMATION  
MUNICIPAL SOLID WASTE LICENSING  
(512)239-0170

For general information about licensing visit:

[www.tceq.texas.gov/licensing](http://www.tceq.texas.gov/licensing)

Pursuant to 30 TAC 30.24(k), you are required to notify the TCEQ of any contact information changes within 10 days of the date the change occurs.

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

**PHILIP ALDRIDGE**

Is hereby licensed as a  
MSW OPERATOR

Class  
A

License Number  
SW0007168

Expires  
07/25/2027

  
SIGNATURE

  
EXECUTIVE DIRECTOR

TCEQ VIPP Form oca3 (09-07-06)

## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Be it known that*

**PHILIP ALDRIDGE**

*has fulfilled the requirements in accordance with the  
laws of the State of Texas for*

**CLASS A MSW OPERATOR**

License Number: SW0007168

Issue Date: 07/25/2024

Expiration Date: 07/25/2027



Executive Director  
Texas Commission on Environmental Quality



FOR PERMITTING PURPOSES ONLY

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## APPOINTMENT



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## MEMORANDUM

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**TO:** Rebecca Huerta, City Secretary  
**FROM:** Peter Zanoni, City Manager  
**RE:** Delegation of Signature Authority  
**DATE:** September 25, 2024

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I authorize those holding the positions shown in the attached chart and delegate to the persons holding those positions the authority to sign the contracts and other documents identified therein, as long as funds to fully cover expenditures pursuant to said documents are identified and clearly documented by the signing person as fully appropriated.

Peter Zanoni  
City Manager

**ATTACHMENT:** *Chart of Delegation of Signature Authority & Parameters For Signing Contracts & Documents v. 09/2024*

**CC:** Michael Rodriguez, Deputy City Manager  
Heather Hurlbert, Assistant City Manager  
Sony Peronel, Assistant City Manager  
Neiman Young, Assistant City Manager  
Drew Molley, Chief Operations Officer  
Department Directors

# CHART OF DELEGATION OF SIGNATURE AUTHORITY & PARAMETERS FOR SIGNING DOCUMENTS

(CM may sign any document listed below; ACM may always sign for CM if acting as CM; the term ACM includes the DCM and COO)

ASSET MANAGEMENT DOCUMENTS	Delegated To	Parameters of Authority Delegated
Emergency Contract	DD	Exempt from competitive bidding requirements; over \$50,000 requires CM approval of Emergency Declaration Memo
Grant Applications, Agreements & associated docs	DD	Council approval may be required
Interlocal Cooperation Agreements	DD	after Council approval
Task Orders Authorized Under a Council-approved Master Agreement (SPMP, IDIQ, FMAC, JOC)	DD	Council approval required for FMAC and JOC Task Orders over \$500,000
AVIATION DOCUMENTS	Delegated To	Parameters of Authority Delegated
Contracts, Renewals, Amendments & Extensions (non-construction)	DD	Council approval required over \$50,000
Federal Aviation Administration Grant Award Acceptance	ACM	with Standing Council Resolution c2009
Federal Aviation Administration Grant Application Submission	DD	with Standing Council Resolution c2009
Federal Memorandum of Agreements	ACM	after Council approval
Grant Applications, Agreements & associated docs - State or General	ACM	Council approval may be required
Lease Agreements, Renewals & Extensions	ACM	after Council approval; See Charter rqts
Transportation Security Administration Award Modification	DD	original agreement approved by Council
COMMUNICATIONS DOCUMENTS	Delegated To	Parameters of Authority Delegated
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Interlocal Cooperation Agreements	DD	after Council approval
DEVELOPMENT SERVICES DOCUMENTS	Delegated To	Parameters of Authority Delegated
Deferment Agreements	DD	
Developer Participation Agreement	DD	after Council approval
Easements, Dedication & Other Property Instruments, CITY IS GRANTEE	DD	after Planning Commission recommendation
Licenses	DD	Council approval may be required
Outside City Limits Water Contracts	DD	Council approval may be required
Plat Maps	DD	after Planning Commission approval
Regulatory Case Documents	DD	after Planning Commission recommendation and City Council approval
Trust Fund Agreement	DD	after Council approval
ENGINEERING SERVICES DOCUMENTS	Delegated To	Parameters of Authority Delegated
Authority to Implement "the Rules" and Execute Related Documents	DD	must follow the adopted Resolution & "the Rules" regarding construction contracting & alternative delivery procedures
Construction-related Contracts, Amendments, Renewals & Extensions	DD if <\$25K ACM if >\$25K	Up to \$25,000 DD; Over \$25,000 ACM; Council approval required over \$50,000; DD may sign over \$50,000
Construction Change Orders	DD if <\$50K ACM if >\$50K	Up to \$50,000 DD; Over \$50,000 ACM; Council approval required over \$100,000; DD may sign over \$100,000
Contribution-in-Aid-of-Construction Agreement with AEP	DD	Council approval required over \$50,000
Emergency Construction	DD	Exempt from competitive bidding requirements; over \$50,000 requires CM approval of Emergency Declaration Memo
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by Grant
Interlocal Cooperation Agreements	DD	after Council approval
Leases, Licenses & Permits, CITY IS GRANTEE	DD	Council approval required over \$50,000
Leases & Licenses, CITY IS GRANTOR	DD	after Council approval; See Charter Art IX
Lease of Property of City that lies Under Waters of Corpus Christi Bay and Patented by State of Texas-CITY IS GRANTOR	DD	after Council approval; See Charter Art. IX, Sec. 2; coordinate with Parks Director
Lease of City Land or Interest in Land for Oil, Gas, Minerals-CITY IS GRANTOR	DD	after Council approval; must comply w/Charter
Notice of Intent - Large Construction 5 acres or more - TCEQ	DD	only if delegation to DD filed with TCEQ using form doc
Real Estate Sales Contract & Closing Documents, Property Instruments, CITY IS GRANTEE	DD	Council approval required over \$50,000
Real Estate Sales Contract & Closing Documents, Property Instruments, CITY IS GRANTOR	DD	after Council approval; See Charter Art. IX
Specifications (design plans & specs for construction)	DD	approved prior to advertising per City Charter; may be delegated to professional engineers in Engineering Svcs. Dept.
Task Orders authorized under a Council-approved Master Agreement (FMAC, IDIQ, MSA, etc.)	DD	Council approval required for FMAC Task Orders over \$500,000

Texas Department of Transportation (TXDOT) Applications, Agreements, Amendments, Permits	DD	Council approval required over \$50,000
United States Army Corps of Engineer (USACE) Applications, Agreements, Amendments, Permits, Documents	DD	Council approval required over \$50,000

FINANCE DOCUMENTS	Delegated To	Parameters of Authority Delegated
Assignment of Sales Tax Refund for gas sales (ARR)	AD or DD	
Acknowledgement of Court Ordered Refund from NC Tax Assessor-Collector's Office	DD	
Bond, IRS and Payroll-related documents	DD	
Contracts, Amendments, Renewals & Extensions (non- construction-related)	AD	Council approval required over \$50,000
Contracts for Merchant Processing	DD or CT	after Council approval
Emergency Contract (non-construction-related)	AD	exempt from competitive bidding requirements; over \$50,000 requires CM approval of Emergency Declaration Memo
Industrial District/Economic Development Agreements	ACM	Council approval may be required
Interlocal Cooperation Agreements	DD	after Council approval
Management & Consulting Agreements	DD	after Council approval
TIRZ Agreements	ACM	

FIRE DOCUMENTS	Delegated To	Parameters of Authority Delegated
Emergency Management documents	DD	Council approval required over \$50,000
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Interlocal Cooperation Agreements	DD	after Council approval
Reports to TX Fire Commission & TX Dept of State Health Services	DD	

GAS DOCUMENTS	Delegated To	Parameters of Authority Delegated
Authorization for Payment/Invoice for Purchase of Natural Gas	DD	
CNG Tax Filings, State and Federal	DD	
Federal Reporting Dealing with Natural Gas, e.g., U.S. Energy Information Administration Form # EIA-176	DD	
Public Gas Adjustment Price (monthly basis)	DD	per Code Chapter 55, Art. IV, Sec. 55-61
Supply Agreement for purchase of natural gas, CITY IS BUYER	DD	after Council approval
Texas Railroad Commission Plans and Reports	DD	

HEALTH DISTRICT DOCUMENTS	Delegated To	Parameters of Authority Delegated
Designation of Local Health Authority	CM	after Council approval
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Interlocal Cooperation Agreements	ACM	after Council approval
Non-Contract Awards	ACM	after Council approval
Permits	DD	

HUMAN RESOURCES DOCUMENTS	Delegated To	Parameters of Authority Delegated
Acting In Charge, Special Assignment & Temporary Substitution Pay	DCM	experience justification approved by Human Resources and employee meets minimum qualifications
Advancement of Sick Leave and/or Vacation Leave	DCM	
Drag-up Pay Requests	DCM	
Employment of Relatives	DD	
Funeral Benefit for Death While on Duty Due to On the Job Injuries (Up to \$8,000 for documented funeral expenses)	DCM	
HR Policies	DCM	
Involuntary Termination Lump Sum Not to Exceed the Equivalent of 6 Months of Salary	DCM	
Lateral Transfer (CSB Rules, Article VI, Section 3, 07/13/99): Within same Department or from one Department to another	DCM	both department directors and employee must concur; or in case of conflict by decision of CM
Memoranda of Understanding	DD	Del Mar College, U of Phoenix, Health Department, various training, no or minimal financial impact; reciprocating
Outstanding Employment Requests	DD	
Pay Adjustment Due to Reclassification - up to 10% with exceptional experience, training or labor market conditions justification	DD	exceptional experience, training or labor market conditions justification justification approved by Human Resources
Pay Adjustment Due to Reclassification - more than 10%, with exceptional experience, training or labor market conditions justification	DCM	experience justification approved by Human Resources
Personnel Actions regarding the City Manager's Direct Reports	CM	

Prior Service Credit Approval	DCM	
Request for New Hire Starting Pay - up to 10% over base pay	DD	experience justification approved by Human Resources
Request for New Hire Starting Pay - more than 10% over base pay	DCM	experience justification approved by Human Resources
Special Leaves of Absence for Personal Reasons (not medical or FMLA related) up to a combined total of 30 days in a 12 month period	DCM	
Special Leaves of Absence w/ or w/out Pay Deemed Beneficial to the City	DCM	
Staffing Firm Agreements	DCM	Council approval may be required
<b>IT DOCUMENTS</b>		
Emergency Contracts	DD	Exempt from Competitive Bidding Requirement; Over \$50,000 requires CM Approval of Emergency Declaration Memo
<b>LEGAL DEPARTMENT DOCUMENTS</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Contracts for Non-attorney Litigation Services	DD	Council approval required over \$50,000
Settlements up to \$35,000	RM or DD	RM must sign in consultation with Litigation Chief
Settlements \$35,001 to \$55,000	RM and DD	per City Code section 17-18
Settlements \$55,001 to \$75,000	CM and DD	per City Code section 17-18
<b>LIBRARY DOCUMENTS</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
<b>MUNICIPAL COURT ADMINISTRATION DOCUMENTS</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Interlocal Cooperation Agreements	ACM	after Council approval
<b>PARKS AND RECREATION DOCUMENTS</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Hotel Occupancy Tax Revenue Recipient Agreement	DD	Council approval required over \$50,000
Hurricane Emergency Plan	DD	
Interlocal Cooperation Agreements	DD	after Council approval
Leases - CITY IS GRANTEE	DD	Council approval required over \$50,000
Leases & Licenses - CITY IS GRANTOR	DD	after Council approval
Memoranda of Understanding	ACM	
Rental Agreements - Park Facilities	DD	per City Code section 36-2
<b>PLANNING &amp; COMMUNITY DEVELOPMENT</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Capital Fund Environmental Release as Responsible Entity for outside organizations (e.g. CCHA, RTA)	DD as Cert Official	
City Support for Non-Profit Projects/Applications	DD	Council approval may be required
Agreement for CDBG/HOME/ESG/TDHCA	DD	after Council approval
Agreement Amendments for CDBG/HOME/ESG/TDHCA	DD	See Citizen Participation Plan for when Council approval
Funding Reimbursement Requests	DD	
Grant Applications, Agreements & associated documents	DD	Council approval may be required
HUD / City of CC Funding Agreement per FY	CM	after Council approval
HUD Environmental Certification for Environmental Clearance of CDBG/Home/ESG Projects	DD as Cert Official	
HUD documents for Release of Funds for grants	DD as Cert Official	
Interlocal Cooperation Agreements	DD	after Council approval
<b>POLICE DOCUMENTS</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Interlocal Cooperation Agreements	DD	after Council approval
<b>PUBLIC WORKS DOCUMENTS</b>		
	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Emergency Contract	DD	Exempt from Competitive Bidding Requirements; Over \$50,000 requires CM Approval of Emergency Declaration Memo
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Permits, Licenses, Rights of Entry, CITY IS GRANTEE	DD	
Rights of Way Licenses and Permits	TE	
Rights of Way Management Agreements (includes AEP Agreements)	DD	Council approval required over \$50,000
Task Orders Authorized Under a Council-approved Master Agreement (SPMP, IDIQ)	DD	



<b>SOLID WASTE DOCUMENTS</b>	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Emergency Contract	DD	Exempt from Competitive Bidding Requirements; Over \$50,000 requires CM Approval of Emergency Declaration Memo
TCEQ Permit Applications & Modifications	DD	DD on behalf of CM
TCEQ Reports related to Solid Waste Services & Facilities	DD	

<b>WATER &amp; WASTEWATER DOCUMENTS</b>	<b>Delegated To</b>	<b>Parameters of Authority Delegated</b>
Contract for Monitoring, Metering or Surveying Water Sources	COO	Council approval required over \$50,000
Contracts for Purchase of Water	COO	Council approval required over \$50,000
Contracts for Sale of Untreated Water	COO	after Council approval; See City Code Ch 55; See Charter Art. IX, Sec. 11
Contracts for Sale of Treated Water	COO	Council approval may be required
Easements, Temporary Licenses and MOUs pursuant to authorized Water Contracts	COO	Council approval may be required
Effluent/Recycled Water Agreements	COO	per Recycled Water ORD Code Chapter 55, Art. XIX & Sec. 55-569; consistent w/annual budget
Emergency Contract	DD	Exempt from competitive bidding requirements; over \$50,000 requires CM approval of Emergency Declaration Memo
Grant Applications, Agreements & associated docs	DD	Council approval may be required; CM if required by grant
Nueces River Authority Annual Work Plan and Budget	COO	per Resolution 026340 and Interlocal Agreement with NRA
Revocable Agreements for Reservation of Water	COO	Council approval required over \$50,000
TCEQ Agreed Orders	COO	
TCEQ Permit Applications	COO	ACM on behalf of CM

#### ABBREVIATED TERMS

**Assistant Director**  
**Assistant City Manager in charge of dept. seeking approval**  
**City Manager**  
**Chief Operations Officer**  
**Department Director**  
**Deputy City Manager**  
**City is purchasing or receiving property rights from another**  
**City owns property and is granting property rights to another**  
**Risk Manager**  
**Traffic Engineer**  
**City Treasurer**

**AD**  
**ACM** DCM & COO have ACM signing authority  
**CM**  
**COO**  
**DD**  
**DCM**  
**CITY IS GRANTEE**  
**CITY IS GRANTOR**  
**RM**  
**TE**  
**CT**

#### TERMS USED / MISC. NOTES

<b>Administrative Authority for Contracts</b>	<b>\$50,000</b>	Texas Loc. Gov't Code § 252.021, Art. X, § 2 of City Charter
<b>Administrative Authority for Public Works' Change Orders</b>	<b>\$100,000</b>	Texas Loc. Gov't Code § 252.048(c-1), Part II, Council Policies,
<b>Administrative Authority for JOC/FMAC Task Order Contracts</b>	<b>\$500,000</b>	Texas Gov't Code § 2269.403(c)

v.9/2024

FOR PERMITTING PURPOSES ONLY

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Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

**PROPERTY OWNER AFFIDAVIT**

## PROPERTY OWNER AFFIDAVIT

"I, David Lehfeldt, as authorized signatory for City of Corpus Christi, the property owner, acknowledge that the State of Texas may hold the property owner either jointly or severally responsible for the operation, maintenance, and closure of the Type V municipal solid waste transfer station facility. I further acknowledge that the property owner and the operator of the facility and the State of Texas shall have access to the property during the active life and the closure of the facility."

  
(Property Owner Signature)

11-8-24  
(Date)

FOR PERMITTING PURPOSES ONLY

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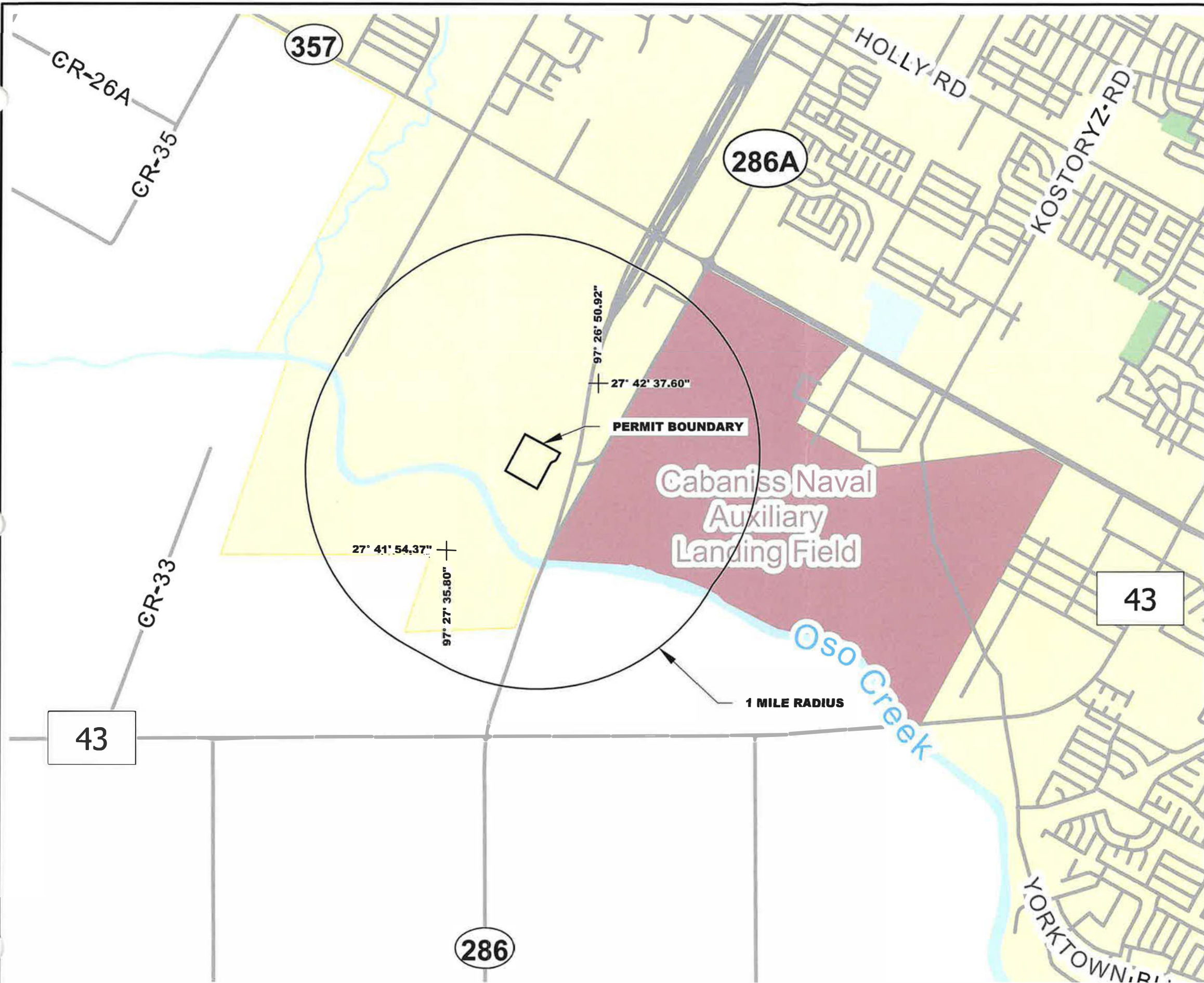
Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## FIGURES

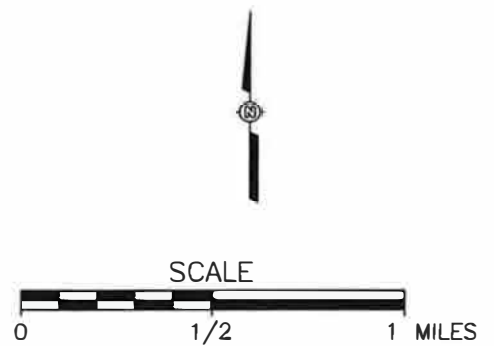


























**SOURCE:**



-  Unincorporated Community
-  County Seat
-  Border Crossing
-  Cemetery
-  Cemetery (Inside City)
-  Deep Draft Port
-  Shallow Draft Port
-  Railroad
-  Dam
-  River or Stream
-  TXDOT District
-  Lakes
-  Education
-  Military
-  Airport Runway
-  Airport
-  Prison
-  Parks and Other Public Land

[illegible]

**CITY OF CORPUS CHRISTI  
J.C. ELLIOTT TRANSFER STATION  
CORPUS CHRISTI, NUECES COUNTY, TEXAS**

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
12651 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077  
PH (281) 293-8494 FAX NO. (281) 293-7878

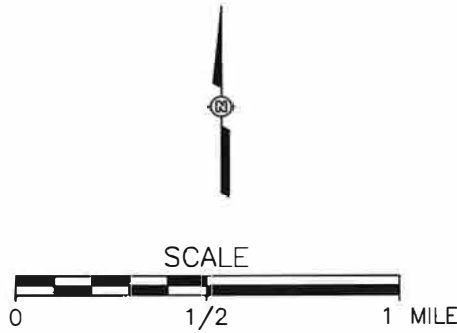
PROJ. NO.	1522104RS.00	DATE	RJE	D/A	KW	BT
DATE	RJE	CHK.	CF	APP.	BT	JKR

CADD FILE:	FIGURE L.P.-2 SITE LOCATION MAP
DATE:	11/2024
SCALE:	AS SHOWN
FIGURE NO.	

1/11-2

**INTENDED FOR PERMITTING PURPOSES ONLY**





LEGEND

- PERMIT BOUNDARY
- ONE MILE RADIUS

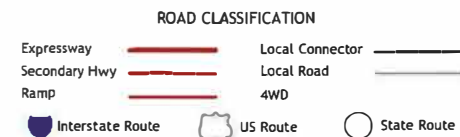
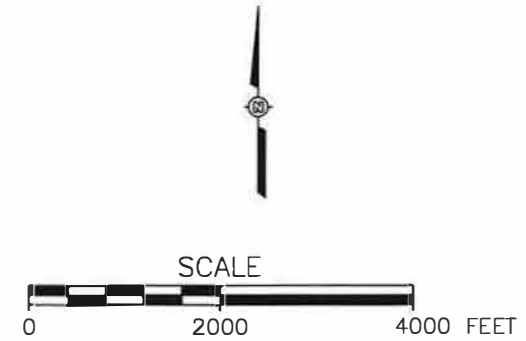
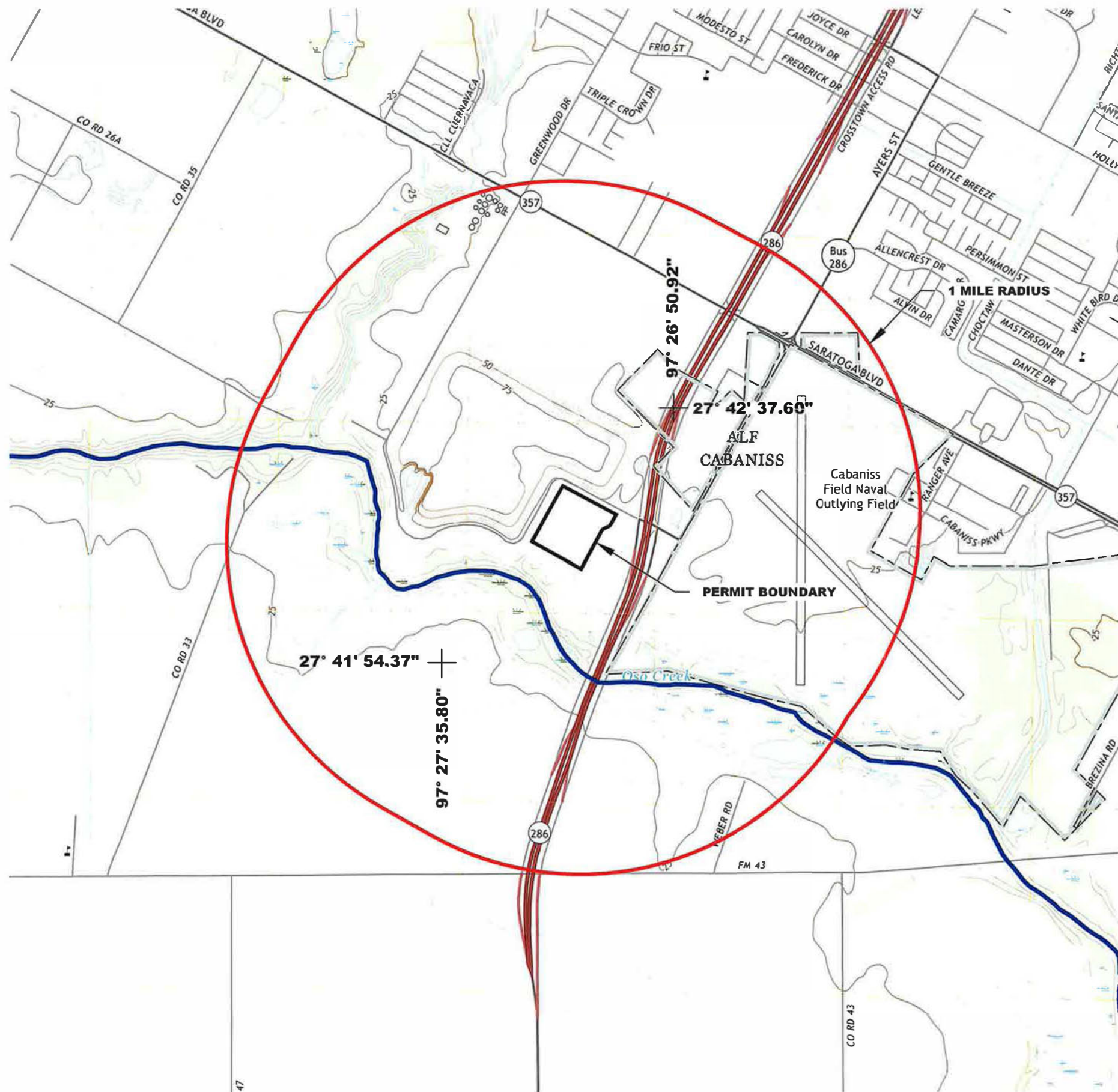


SOURCE:  
AERIAL IMAGE PROVIDED BY GOOGLE EARTH, JUNE 6, 2024.

INTENDED FOR PERMITTING PURPOSES ONLY

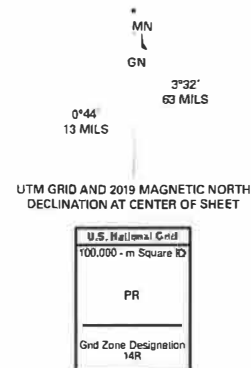
DRAWING TITLE <b>AERIAL PHOTOGRAPH</b>		REV. DATE DESCRIPTION	
PROJECT TITLE <b>TYPE V PERMIT APPLICATION</b>			
CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS			
SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 12851 BRIDAR FOREST, SUITE 205, HOUSTON, TX 77077 PH (281) 293-9494 FAX NO. (281) 293-7676		DATE 11/2/2024	SCALE AS SHOWN
FIGURE NO. <b>I/11-3</b>		FIGURE NO.	





Produced by the United States Geological Survey

Imagery.....	NALIP, September 2016	December 2016
Roads.....	U.S. Census Bureau,	2015
Names.....	GNIS,	1979
Hydrography.....	National Hydrography Dataset,	2008
Contours.....	National Elevation Dataset,	2009
Boundaries.....	Multiple sources; see metadata file	2016
Wetlands.....	FWS National Wetlands Inventory	2004



**NOTES:**



11-8-2024

## GENERAL TOPOGRAPHIC MAP

## TYPE V PERMIT APPLICATION

CITY OF CORPUS CHRISTI  
J.C. ELLIOTT TRANSFER STATION  
CORPUS CHRISTI, NUECES COUNTY, TEXAS

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS

ADD FILE:  
 FILE 1.11-4 GENERAL TOPOGRAPHIC

DATE: 11/2024

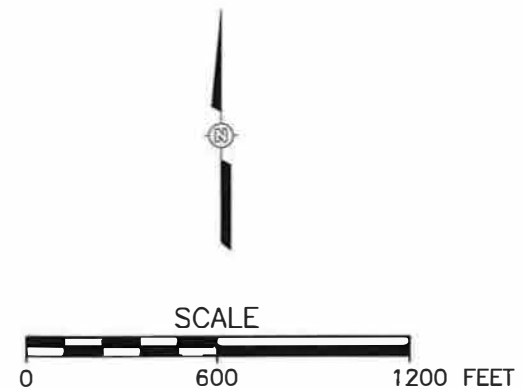
SALE:  
AS SHOWN

FIGURE NO.

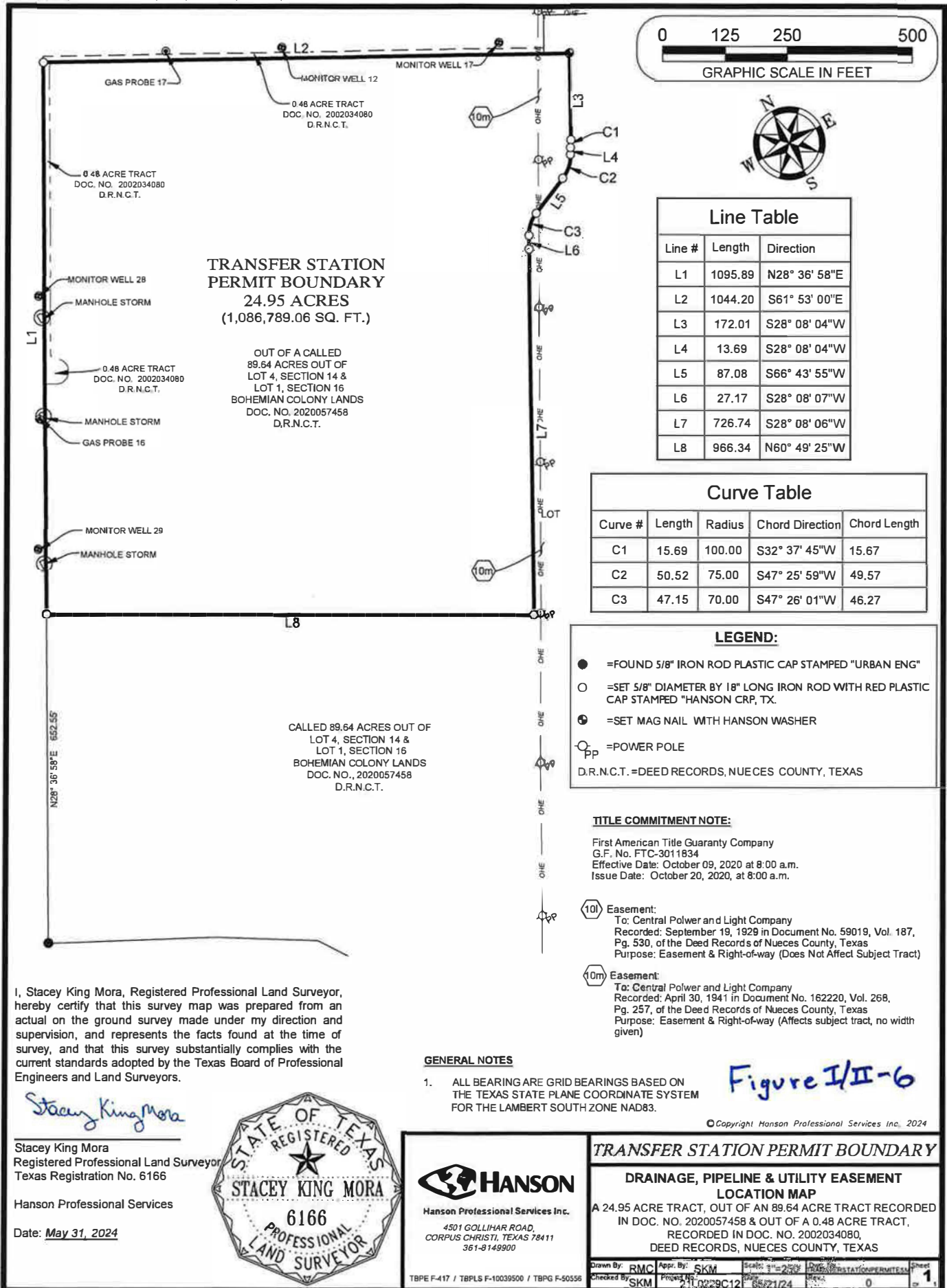
11-4

**INTENDED FOR PERMITTING PURPOSES ONLY**



[illegible]

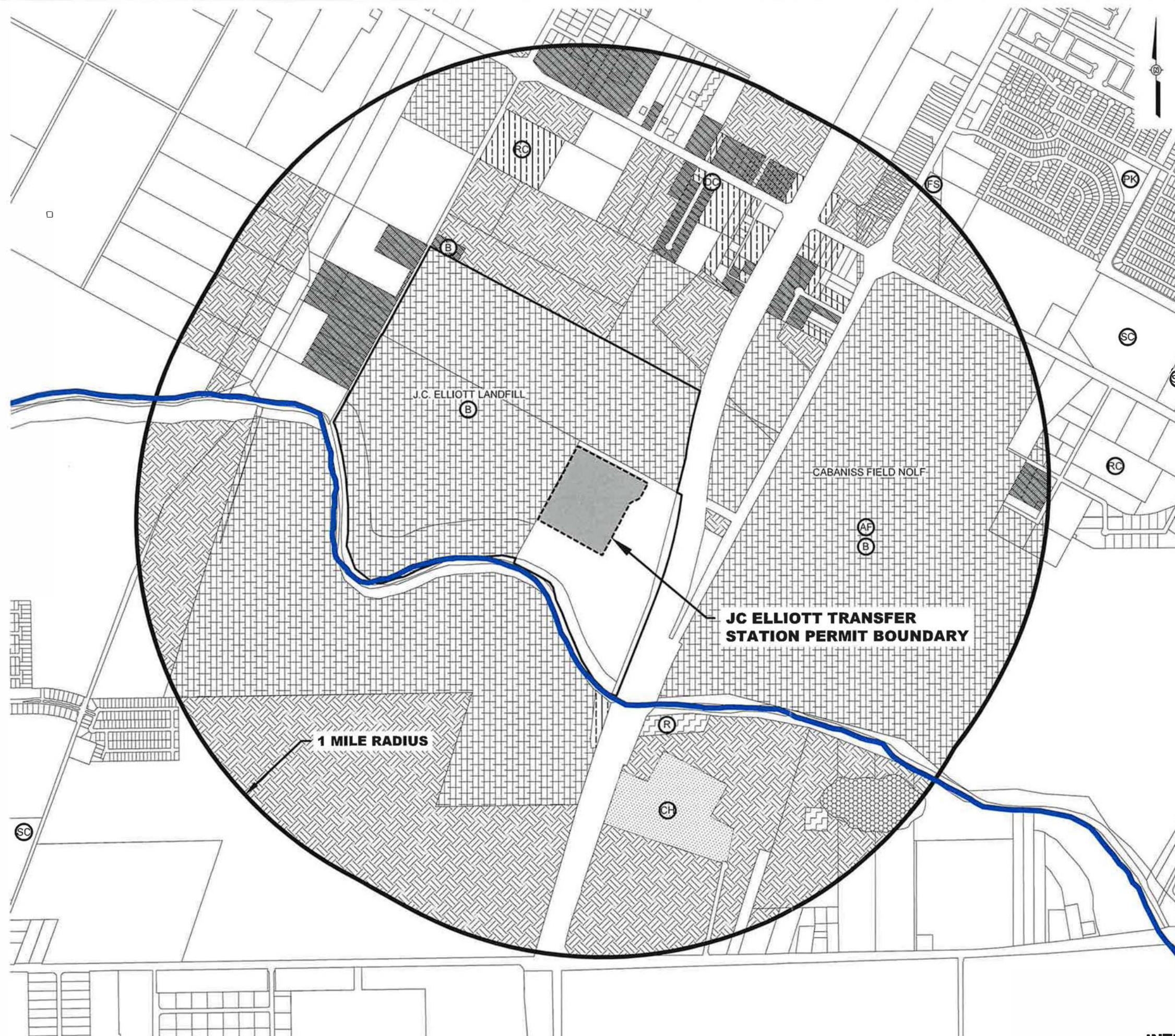
**INTENDED FOR PERMITTING PURPOSES ONLY**











- JC ELLIOTT TRANSFER STATION**

	<b>RESIDENTIAL</b>		<b>PUBLIC WORKS</b>
	<b>COMMERCIAL</b>		<b>INDUSTRIAL</b>
	<b>AGRICULTURAL</b>		<b>INSTITUTIONAL</b>
	<b>OPEN - INCLUDES UNDEVELOPED LAND, ROADS, AND RIGHTS OF WAY</b>		
	<b>POND / WATER BODIES</b>		

<b>(R)</b>	<b>NEAREST RESIDENCE -</b>	<b>7422 SH286</b>
<b>(B)</b>	<b>NEAREST BUSINESSES -</b>	<b>JC ELLIOTT LANDFILL VOSS ENGINEERING CABANISS FIELD NOLF</b>

<b>(SC)</b>	<b>SCHOOL</b>	<b>(PK)</b>	<b>PARK</b>
<b>(DC)</b>	<b>DAYCARE</b>	<b>(RC)</b>	<b>RECREATION AREA</b>
<b>(CH)</b>	<b>CHURCH</b>	<b>(AF)</b>	<b>AIR FIELD</b>
<b>(CE)</b>	<b>CEMETERY</b>	<b>(FS)</b>	<b>FIRE STATION</b>

**CREEK/STREAM**

1. THERE ARE NO KNOWN SCHOOLS, CEMETERIES, HOSPITALS, ARCHEOLOGICAL OR HISTORICAL SITES, OR SITES WITH EXCEPTIONAL AESTHETIC QUALITIES WITHIN 1 MILE OF THE FACILITY.
2. DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATIONS ARE SHOWN ON PARTS I/II, FIGURE I/II-6.
3. ACCESS ROADS SERVING THE SITE ARE SHOWN ON PARTS I/II, FIGURE I/II-10.
4. NO SPRINGS WERE IDENTIFIED WITHIN ONE MILE OF THE FACILITY (REF. TWDB, REPORT 109, 1970 AND 189, 1975).



**HANSON**  
Hanson Professional Services Inc.  
4501 GOLLHAR ROAD,  
CORPUS CHRISTI, TEXAS 78411

CADD FILE:  
FIGURE 11-B LAND USE  
MAP 11-13-24

DATE:  
11/2024

SCALE:  
AS SHOWN

FIGURE NO.

**I/II-8**

LAND USE MAP

DRAWING TITLE

CITY OF CORPUS CHRISTI  
J.C. ELLIOTT TRANSFER STATION  
CORPUS CHRISTI, NUECES COUNTY, TEXAS

TYPE V PERMIT APPLICATION

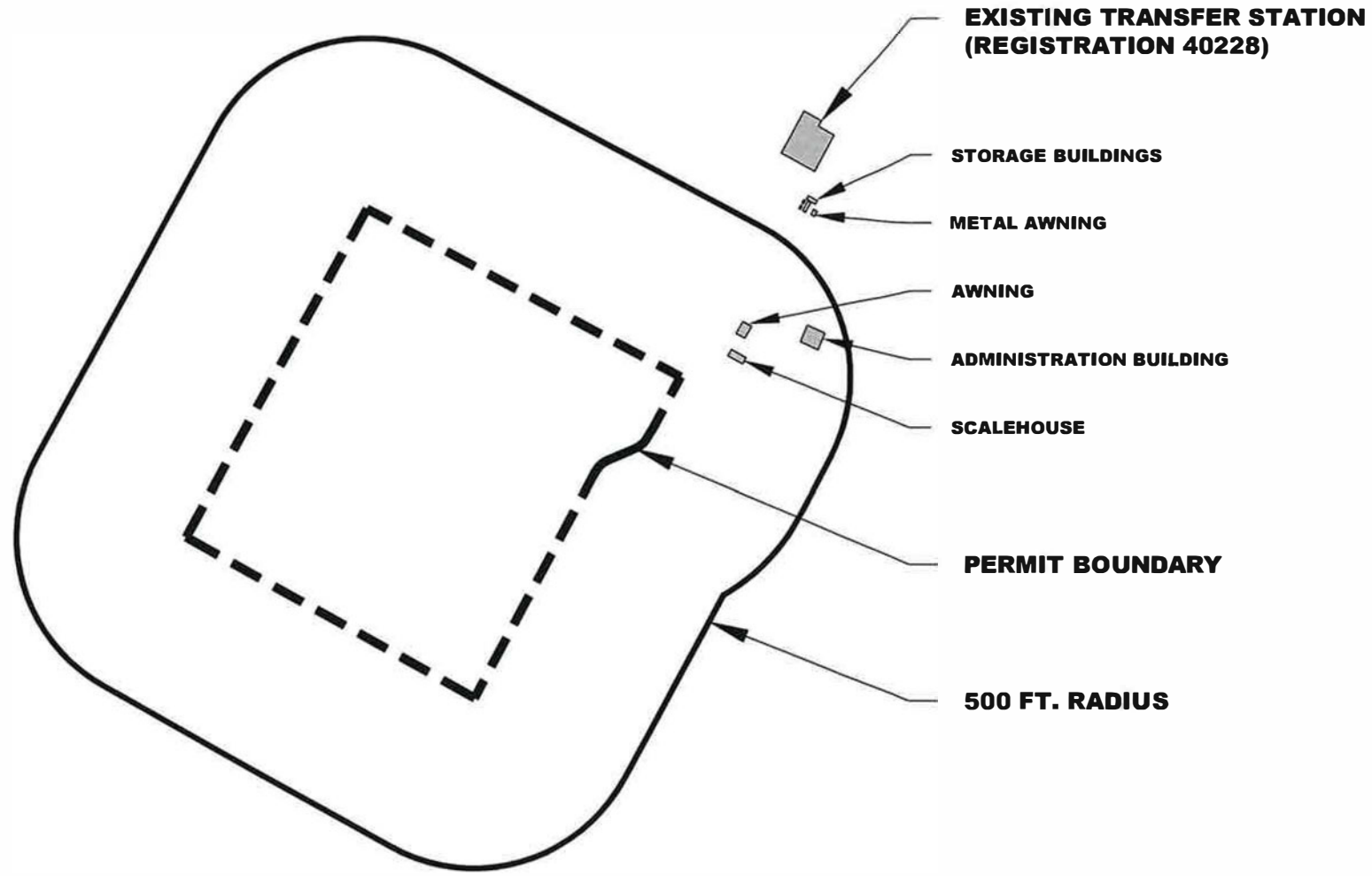
TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407

**INTENDED FOR PERMITTING PURPOSES ONLY**



97° 27' 35.80"  
27° 41' 54.37"

97° 26' 50.92" + 27° 42' 37.60"






SCALE

0 500 1000 FEET



## LEGEND

-  PERMIT BOUNDARY  
 500 FOOT RADIUS  
 STRUCTURE OR INHABITABLE BUILDING



<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 13651 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077 PH (281) 293-6064 FAX NO. (281) 293-7070	CADD FILE: FIGURE 1, 2 → STRUCTURES LOCATION MAP		PROJECT NO.: 162221088.00		DATE: 11/27/2024		D/W: 11/27/2024		C/A: 11/27/2024		R/E: 11/27/2024		C/E: 11/27/2024		APP: 11/27/2024		JKR: 11/27/2024	
	DATE: 11/27/2024		SCALE: AS SHOWN		FIGURE NO. 1/11-9		DRAWING TITLE: STRUCTURES LOCATION MAP		PROJECT TITLE: TYPE V PERMIT APPLICATION		REV: 1		DATE: 11/27/2024		BY:		TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407	

**INTENDED FOR PERMITTING PURPOSES ONLY**

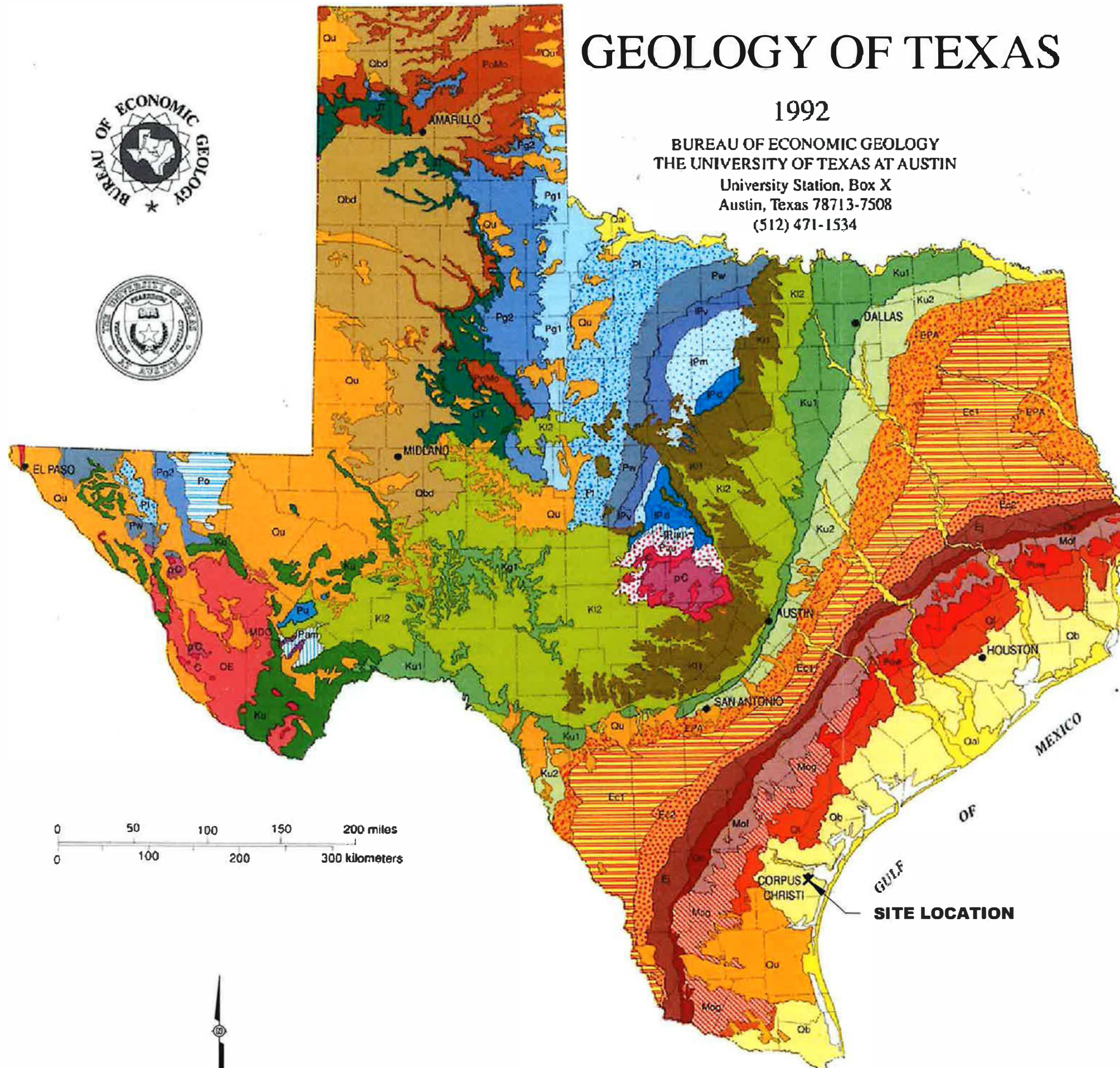
**I/II-9**







**BUREAU OF ECONOMIC GEOLOGY  
THE UNIVERSITY OF TEXAS AT AUSTIN**  
University Station, Box X  
Austin, Texas 78713-7508  
(512) 471-1534



CENOZOIC		MESOZOIC		PALEOZOIC		Pre-cambrian		
CENOZOIC	Quaternary	Pleistocene		Alluvium (Qal)				
				Quaternary undivided (Qu)				
				Beaumont Formation (Qb)				
					Lissie Formation (Ql)			
		2 m.y.		Blackwater Draw Formation (Qbd)				
	Tertiary	Pliocene	5 m.y.	Willis Formation (Pow)				
				Ogallala Formation (PoMo)				
		Miocene	24 m.y.	Goliad Formation (Mog)				
				Fleming and Oakville Formations (Mof)				
		Oligocene	38 m.y.	Catahoula Formation (Oc)				
	Oligocene and Eocene undivided (OE) (volcanic rocks and conglomerates in Trans-Pecos Texas)							
Eocene		Jackson Group (Whitsell, Manning, Wellborn, Caddell, Yazoo, and Moodys Branch Fms.) (Ej)						
		Claiborne Group (Yegua Formation) (Ec2)						
		Claiborne Group (Cook Mountain, Sparta, Weches, Queen City, and Reklaw) (Ec1)						
	58 m.y.							
Paleocene		Wilcox and Midway Groups (EPA)						
	66 m.y.	Navarro and Taylor Groups (Ku2)						
	Cretaceous		Austin, Eagle Ford, Woodbine, and U. Washita Groups (Ku1)					
			Fredericksburg and L. Washita Groups (Kl2)					
			Trinity Group (Kl1)					
	144 m.y.	Cretaceous undivided (Ku)						
Jurassic Triassic	245 m.y.	Jurassic Triassic undivided (JT)						
MESOZOIC	Permian		Ochoan Series (Po)					
			Guadalupe Series (Whitehorse and Quatermaster Formations) (Pg2)					
			Guadalupe Series (Blaine and San Angelo Formations) (Pg1)					
			Leonardian Series (Pl)					
			Wolfcampian Series (Pw)					
		286 m.y.	Permian undivided (Pu)					
	Pennsylvanian		Virgilian Series (IPv)					
			Missourian Series (IPm)					
			Des Moines Series (IPd)					
		320 m.y.	Atokan and Morrowan Series (IPam)					
505 m.y.		Mississippian, Devonian, and Ordovician undivided (MDO)						
Cambrian		Cambrian (C)						
	570 m.y.	Paleozoic undivided (Pau)						
Pre-cambrian	1200 m.y.							
	2000 m.y.	Precambrian undivided (p-C)						



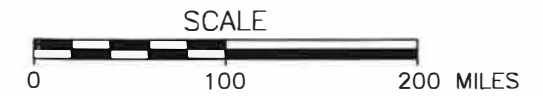
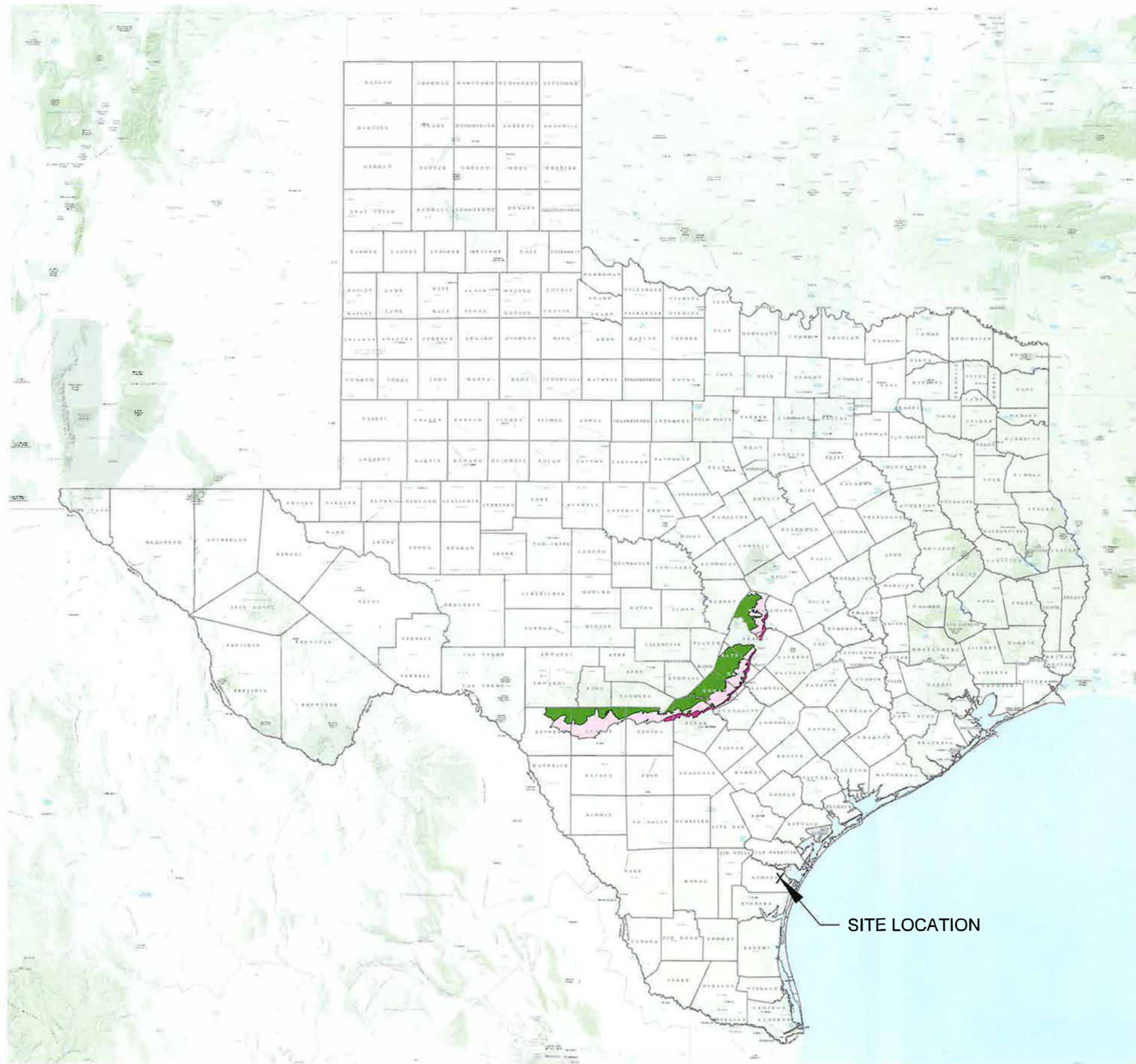
## SITE LOCATION

<b>SCS ENGINEERS</b> STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 1110 BELAIR FOREST SUITE 205, HOUSTON, TX 77077 PH (281) 293-4404 FAX NO. (281) 293-7878	CADD FILE: FIGURE L-11 GEOLOGIC MAP		DATE: 11/2024		SCALE: AS SHOWN		FIGURE NO.		<b>I/I-11</b>
	PROJ. NO. 18-22-10885.00	DATE 11/2024	DATE 11/2024	DATE 11/2024	DATE 11/2024	DATE 11/2024	DATE 11/2024	DATE 11/2024	
CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS									
DRAWING TITLE GEOLOGIC MAP									
PROJECT TITLE TYPE V PERMIT APPLICATION									
TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407									





**INTENDED FOR PERMITTING PURPOSES ONLY**

**I/II-11**





## LEGEND

-  Recharge Zone  
 Transition Zone  
 Contributing Zone  
 Contributing Zone within the Transition Zone

**NOTE**

1. THE SITE IS NOT LOCATED IN THE EDWARDS AQUIFER RECHARGE ZONE.



## SITE LOCATION

**SOURCE:**

TCEQ: [WWW.TCEQ.TEXAS.GOV/GIS/EDWARDS-VIEWER.HTML](http://WWW.TCEQ.TEXAS.GOV/GIS/EDWARDS-VIEWER.HTML)

**EDWARDS AQUIFER RECHARGE ZONE**

TYPE V PERMIT APPLICATION

CITY OF CORPUS CHRISTI  
J.C. ELLIOTT TRANSFER STATION  
CORPUS CHRISTI, NUECES COUNTY, TEXAS

**SCS ENGINEERS**  
STEARNS, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
12651 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077  
PH (281) 293-8694 FAX NO. (281) 293-7878

ADD FILE:  
JUNE 18-12 EDWARDS ADULTER  
CHARGE 2048

ATE: 11/2024

SALE:  
AS SHOWN

FIGURE NO. \_\_\_\_\_

**I/II-12**

**INTENDED FOR PERMITTING PURPOSES ONLY**

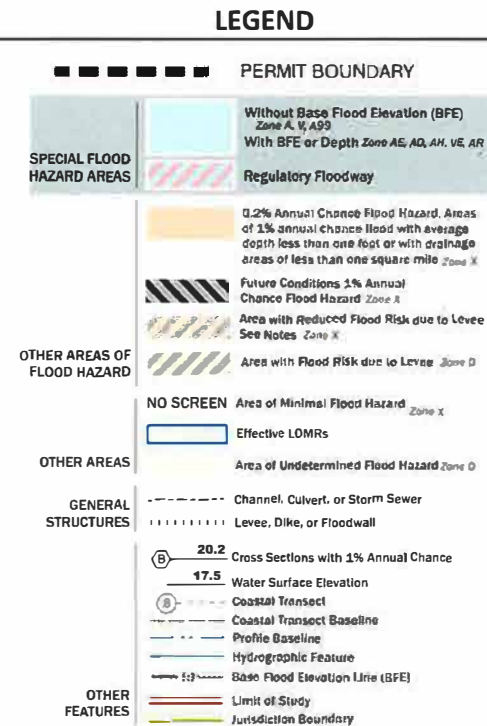
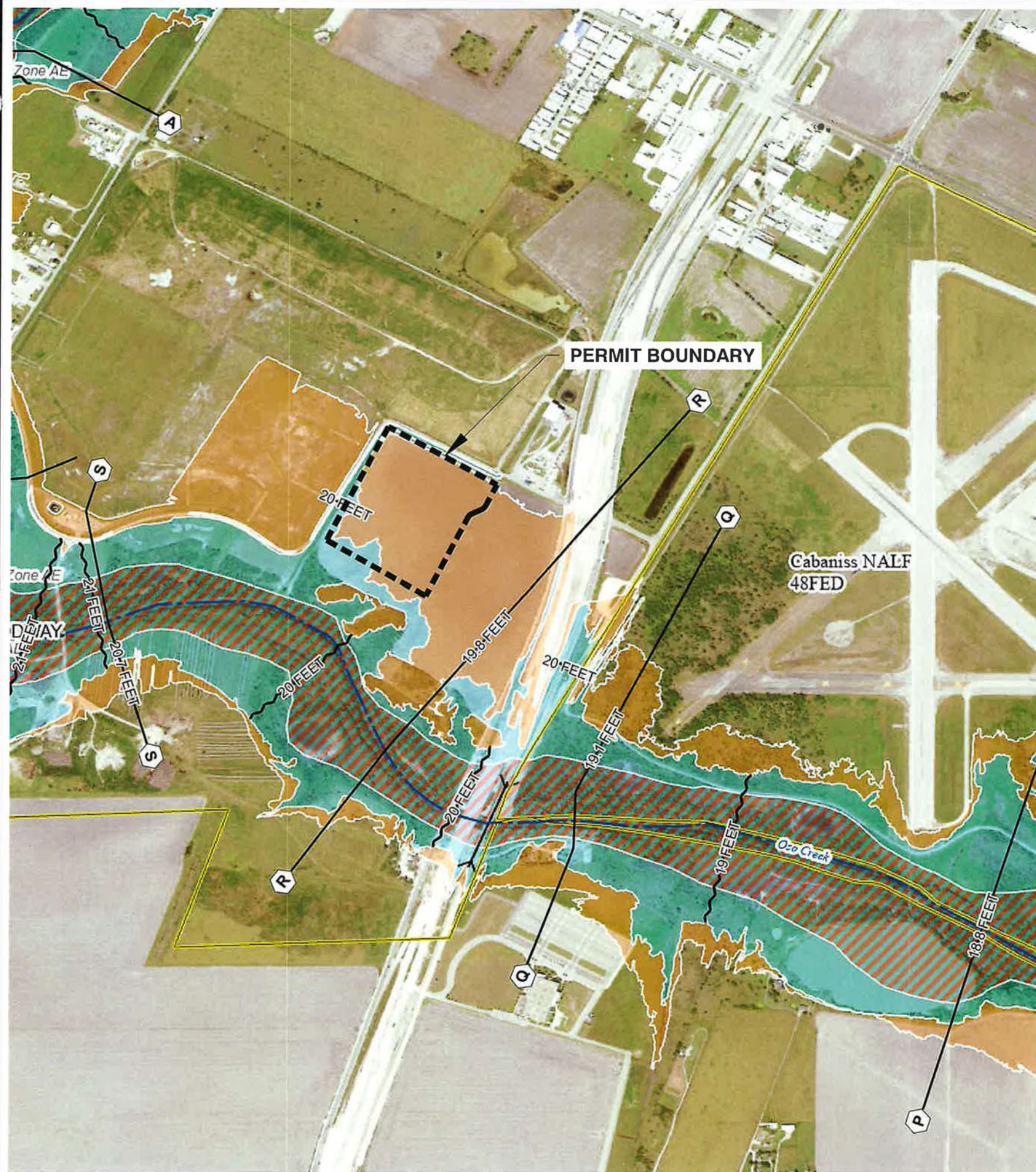












SCALE

0 1,000 2,000 FEET

**National Flood Insurance Program**

[illegible]

**INTENDED FOR PERMITTING PURPOSES ONLY**



**APPENDIX I/II-A**  
**PERMIT RELATED CORRESPONDENCE**

**FOR PERMITTING PURPOSES ONLY**

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Parts I & II  
Type V Permit Application  
JC Elliott Transfer Station

**APPENDIX I/II-A.1**

**COASTAL BEND COUNCIL OF GOVERNMENTS CORRESPONDENCE**

November 8, 2024

Mr. John P. Buckner  
Executive Director  
Coastal Bend Council of Governments  
2910 Leopard Street  
Corpus Christi, Texas 78408

Subject: Compliance with the Regional Solid Waste Management Plan  
Municipal Solid Waste Type V Permit Application  
J.C. Elliott Transfer Station  
Corpus Christi, Nueces County, Texas

Dear Mr. Buckner:

SCS Engineers (SCS), on behalf of the City of Corpus Christi (City), plans to submit a Type V MSW Facility Permit Application to the Texas Commission on Environmental Quality (TCEQ) Solid Waste Permits Division for the J.C. Elliott Transfer Station ("Type V Facility"). The proposed Type V Facility is located within Nueces County, Texas approximately 0.8 miles southwest of the intersection of State Highway 286 and State Highway 357. The proposed Type V Facility is located within an approximate 20.95-acre permit boundary within an approximate 89.64-acre parcel owned by the City. A General Location Map is attached as Figure I/II-1 in the enclosed Parts I/II of the application.

The new Type V Facility will have a waste intake, at its peak, projected at approximately 2,500 tons/day.

Under Title 30 of the Texas Administrative Code (30 TAC), Section 330.61(p), the applicant shall submit documentation that Parts I and II of the application for review to the applicable Council of Governments for compliance with regional solid waste plans. Please find attached a copy of Parts I and II of the above referenced permit application.

If further information or documentation is required by your department to aid in your review, please feel free to contact Chad at (281) 293-8494.

Sincerely,



Chad Ellinger, P.E.  
Project Director  
**SCS ENGINEERS**



Jeffrey K. Reed, P.E.  
Vice President  
**SCS ENGINEERS**

CE/JKR

Encl. Parts I/II of TCEQ Permit Application



FOR PERMITTING PURPOSES ONLY

---

Parts I & II  
Type V Permit Application  
JC Elliott Transfer Station

**APPENDIX I/II-A.2**

**ARCHAEOLOGICAL / HISTORICAL REVIEW CORRESPONDENCE**

November 8, 2024

Mr. Edward Lengel  
Executive Director  
Texas Historical Commission  
P.O. Box 12276  
Austin, TX 78711-2276

Subject: Request for Review / Code Compliance  
Municipal Solid Waste Type V Permit Application  
J.C. Elliott Transfer Station  
Corpus Christi, Nueces County, Texas  
N 27° 42' 16" / W 97° 27' 11"

Dear Mr. Lengel:

On behalf of the City of Corpus Christi (City), SCS Engineers (SCS) submits this letter as notification of a proposed Permit Application for a new Type V Municipal Solid Waste Facility. The proposed Type V Facility is located within Nueces County, Texas approximately 0.8 miles southwest of the intersection of State Highway 286 and State Highway 357. Coordinates of the approximate center of the site are provided in the Reference section above.

The proposed Type V MSW facility is located on approximately 24.95 acres. A proposed site layout of the facility is shown on the attached Figure I/II-7. A General Location Map for the facility is attached as well.

This letter is submitted in accordance with the Texas Commission on Environmental Quality (TCEQ) Municipal Solid Waste Regulation 30 TAC 330.61(o) which states:

**“(o) Texas Historical Review. The owner or operator shall submit a review letter from the Texas Historic Commission documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code.”**

SCS requests written acknowledgement that the proposed J.C. Elliott Transfer Station facility will be in compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code. If you have any questions, comments, or require additional information, please feel free to contact Chad at (281) 293-8494.

Sincerely,



Chad Ellinger, P.E.  
Project Director  
**SCS ENGINEERS**



Jeffrey K. Reed, P.E.  
Vice President  
**SCS ENGINEERS**

CE/JKR

Encl. Figure I/II-1, General Location Map  
Figure I/II-7, Site Layout Plan









FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Permit Application  
JC Elliott Transfer Station

**APPENDIX I/II-A.3**

**TXDOT AND OTHER TRANSPORTATION RELATED  
CORRESPONDENCE**



November 8, 2024

Mr. Mike Walsh, P.E.  
District Engineer, Corpus Christi District  
Texas Department of Transportation  
1701 S. Padre Island Drive  
Corpus Christi, Texas 78416

Subject: Traffic Review Request  
Type V MSW Facility Permit Application  
J.C. Elliott Transfer Station  
Corpus Christi, Nueces County, Texas

Dear Mr. Walsh:

SCS Engineers (SCS), on behalf of the City of Corpus Christi (City), plans to submit a Type V MSW Facility Permit Application to the Texas Commission on Environmental Quality (TCEQ) Solid Waste Permits Division for the J.C. Elliott Transfer Station ("Type V Facility"). The proposed Type V Facility is located within Nueces County, Texas approximately 0.8 miles southwest of the intersection of State Highway 286 and State Highway 357. The approximate coordinates of the center of the property are N 27° 42' 16" latitude and W 97° 27' 11" longitude.

The proposed entrance and exit for the Type V Facility will be located off the service road of SH 286 approximately 0.8 miles south of SH 357. The existing City transfer station also currently uses this intersection as its entrance and exit. Once the new transfer station becomes operational, the existing transfer station traffic will be directed to the new building. Additionally, a new driveway onto the property off the service road approximately 1,200 feet south of the entrance will be used for access and egress of waste transfer and other City or facility support vehicles (not public access). Projected facility generated traffic volumes were calculated through 2040 based on projected incoming waste rates and assumptions regarding the vehicles used for waste transport in and out of the facility. **The maximum total volume of traffic generated by the facility is expected to be approximately 2,500 vehicles per day in about 20 years.** Public access to the facility will be provided by the same entrance and exit, as shown on the attached Figure I/II-7.

Under Title 30 of the Texas Administrative Code (30 TAC), Section 330.61(i)(4), the applicant is required to **"submit documentation of coordination of all designs of proposed public roadway improvements such as turning lanes, storage lanes, etc., associated with site entrances with the agency exercising maintenance responsibility of the public roadway involved. In addition, the owner or operator shall submit documentation of coordination with the Texas Department of Transportation for traffic and location restrictions."** Therefore, on behalf of the City we are requesting a review of the traffic component of the permit application for compliance with the referenced paragraph of 30 TAC.

Based on the findings of this traffic study, there are no existing or future restrictions on the main access roadways within one mile of the facility that would prevent safe and efficient operations for both the facility generated traffic as well as the other vehicles in the area.

Mr. Mike Walsh, P.E.  
November 8, 2024  
Page 2

If further information or documentation is required by your department to aid in your review, please feel free to contact Jon at (361) 414-6493.

Sincerely,

HANSON PROFESSIONAL SERVICES INC.

A handwritten signature in blue ink, appearing to read "J. M. Reinhard".

Jon M. Reinhard, P.E.  
Senior Project Manager

Encl. Traffic Study Excerpt from J.C. Elliott Transfer Station Permit Application  
Figure I/II-1, General Location Map  
Figure I/II-7, Site Layout Plan  
Figure I/II-10, Transportation Map

## **Traffic Study Excerpt from J.C. Elliott Transfer Station Permit Application**

### **Transportation Analysis**

The transportation analysis includes data on the availability and adequacy of roads that the owner or operator will use to access the facility; data on the volume of vehicular traffic on access roads within one mile of the facility, both existing and expected, during the expected life of the facility; projected volume of traffic expected to be generated by the facility on the access roads within one mile of the facility; documentation of coordination of all designs associated with the site entrance with the agency exercising maintenance responsibility of the public roadway involved; and documentation of coordination with the Texas Department of Transportation (TxDOT) for traffic and location restrictions.

### **Site Access**

Public access to the facility will be provided by an existing entrance road located on the west side of State Highway 286 about 4000 feet south of Saratoga Boulevard (State Highway 357). The existing entrance previously served the JC Elliott Landfill (MSW-423A) and currently serves the existing transfer station (Registration Number 40228) located within the J.C. Elliott Landfill permit boundary. City solid waste transport vehicles will utilize the existing entrance. Empty transfer trailers returning from Cefe F. Valenzuela Landfill may access the site by traveling on Greenwood Avenue to the back entrance to the J.C. Elliott Landfill and then internal J.C. Elliott Landfill paved roadways.

The existing site entrance/exit is a 60-foot-wide paved driveway. The driveway intersects the southbound frontage road of SH 286 at a three-way stop with no sight restrictions or conflicts that impair the turning of the vehicles or the view of drivers on SH 286. Vehicles that turn into the site entrance driveway (see Part I/II, Figure I/II-7 – Site Layout Plan) will have approximately 600 feet of staging room before they reach the gatehouse. This will prevent any traffic congestion on SH 286 due to vehicles waiting to access the facility. The existing driveway exit is controlled by a stop sign but may be modified in the future as recommended by TxDOT, the entity responsible for SH 286.

State Highway 286, Saratoga Boulevard, Greenwood Drive, and J.C. Elliott internal roadways consist of asphalt paving underlain by flexible base material. Access to the transfer station will be controlled by a gate and perimeter fencing as shown on Figure I/II-7 – Site Layout Plan. Based on the information above, the roadways that provide access to the facility are adequate in capacity and structure to continue to serve the needs of the owner or operator and the general public. The three main roadways, SH 286, SH 357, and Greenwood Drive are asphalt paved with 80,000 pound vehicle weight limits.

### **Traffic Volumes**

Citizen traffic will access the facility via the entrance off SH 286. Waste transfer and other City or facility support vehicles may use the SH 286 entrance or enter the facility from Greenwood Drive through the J.C. Elliott Landfill. The 2023 TxDOT daily traffic volumes in the vicinity of the facility were obtained which represent the average two-way traffic passing a specific location in a 24-hour period. Future traffic is projected through the year 2040 based on the use of the Traffic Data Pocket Guide ([https://www.fhwa.dot.gov/policyinformation/pubs/pl18027\\_traffic\\_dat\\_pocket\\_guide.pdf](https://www.fhwa.dot.gov/policyinformation/pubs/pl18027_traffic_dat_pocket_guide.pdf)). The actual site operating life for the facility may vary due to various future factors. The existing traffic volumes for roadways within one mile of the facility are shown on Figure I/II-10 and in the Table I/II-3.3.

**Table I/II-3.3 Existing and Future Traffic Volumes for Roadways within One Mile of the Facility**

<b>Roadway</b>	<b>Segment</b>	<b>2023 Volumes<sup>1,2</sup></b>	<b>2040 Volumes<sup>2,3</sup></b>
SH 286	North of Facility Entrance	24,241	64,319
	South of Facility Entrance, South of Oso Creek	24,633	65,359
	South of Facility Entrance, South of FM 43	12,430	32,980
Saratoga Blvd	North of Facility Entrance, East of SH 286	13,000	19,317
FM 43	South of Facility Entrance, West of SH 286	3,663	23,546

1. Source: TxDOT Statewide Traffic Count Map
2. Traffic volumes are in units of vehicles per day.
3. Future volumes calculated using the FHWA [https://www.fhwa.dot.gov/policyinformation/pubs/pl18027\\_traffic\\_dat\\_pocket\\_guide.pdf](https://www.fhwa.dot.gov/policyinformation/pubs/pl18027_traffic_dat_pocket_guide.pdf).

#### **Facility Generated Traffic Volumes**

The current volume of traffic using the existing J.C. Elliott Transfer station is estimated to be about 580 vehicles per day, including public and private haulers, citizen vehicles and employee vehicles. This is expected to remain the same upon opening of the new transfer station but will gradually increase over time with population growth and as the greater efficiency and larger capacity of the new facility is taken advantage of. The maximum total volume of traffic generated by the facility is expected to be approximately 2,500 vehicles per day in about 2040. These would consist of short-haul and long-haul garbage trucks, citizen vehicles, and employee vehicles.

Comparison of the traffic to be generated at the facility with the traffic data on Table I/II-3.3 shows that the volume of the traffic generated by the facility represents a relatively small percentage of the existing and projected volumes on the access roads within one mile of the facility. Based on the findings of this traffic study, there are no existing or future restrictions on the main access roadways within one mile of the facility that would prevent safe and efficient operations for both the facility-generated traffic as well as the other vehicles in the area.

**END OF TRAFFIC STUDY EXCERPT**













**APPENDIX I/II-B**  
**LOCATION RESTRICTIONS SUMMARY**

### **LOCATION RESTRICTIONS SUMMARY**

A list of location restrictions as established by Subchapter M of Chapter 330 of the TCEQ Regulations and a discussion of their applicability to the J.C. Elliott Transfer Station are presented below.

#### **§330.543. Easements and Buffer Zones**

**(a) Easement protection:** No solid waste unloading, storage or processing operations will occur within any easement, buffer zone, or right-of-way that crosses the facility. There will not be solid waste disposal at the facility. As applicable, all pipeline and utility easements will be clearly marked with green colored posts that extend at least six feet above ground level, spaced at intervals of no greater than 300 feet.

The easements at the facility are identified on Part I/II, Figure I/II-6 and a detailed discussion is provided in Part I/II, Section 1.4.

**(b) Buffer zones:** A minimum separating distance of 50 feet is maintained from the solid waste processing and storage area to the facility permit boundary, as shown on Part I/II, Figure I/II-7.

#### **§330.545. Airport Safety**

Not applicable to a transfer station permit.

#### **§330.547. Floodplains**

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the site area (Nueces County, Texas and Incorporated Areas: Map No. 48355C0505G, Effective Date October 13, 2022) was reviewed and is included as Figure I/II-15. According to the published FEMA map, no portion of the facility property is located within the 100-year floodway. However, a portion of the transfer station road system and building will be located within the 100-year floodplain. Although these facilities are located on a small portion of the floodplain, the roads and building will be elevated to at least 1 foot above the floodplain elevations shown on Figure I/II-15, therefore there will not be washout of solid waste in the event of a flood.

The City's Floodplain Management Division (FMD) manages development within FEMA-designated floodplains located in the City of Corpus Christi. The FMD will issue a floodplain development permit for non-residential construction provided the lowest floor is elevated to at least 1 foot above the base flood elevation. As mentioned above, the roads and building elevations will be at least 1 foot above the base flood elevation.

There are approximately 2.25 acres within the transfer station permit boundary that are designated as floodplain. There is a total of approximately 51 acres of floodplain located on the north side of Oso Creek between Greenwood Drive and SH 286 on property owned by the City, including the transfer station property. There will be about 0.6 acres of roadway located in the floodplain and 0.11 acres of the southwest corner of the transfer station building located in the floodplain. The small portion of the floodplain in which construction of the transfer station roads and building will be located should not significantly restrict the flow of a 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain.



**§330.549. Groundwater**

The J.C. Elliott Transfer Station is not located over the recharge zone of the Edwards Aquifer as shown on Part I/II, Figure I/II-12. Additionally, the facility is a Type V facility and will not manage Class 1 industrial waste.

**§330.551. Endangered or Threatened Species**

CEI performed a threatened and endangered species assessment for the property. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings in accordance with the requirements of 30 TAC §330.61(n). Through field efforts and searches for electronic records of RTE species on or near the property resulted in only one observation from the property (a Wood Stork flying high along Oso Creek) and three from the near vicinity of the property (two White-tailed Hawk sightings at the adjacent landfill and a Texas tortoise across the highway). CEI concluded the project is not likely to adversely affect threatened and endangered species. The CEI report is included in Appendix I/II-B.2.

The United States Fish and Wildlife Service (USFWS) was contacted in accordance with 30 TAC 330.61(n)(2). A request for verification of threatened and endangered species assessment was submitted to the Texas Parks and Wildlife Department (TPWD) by CEI. Supporting documentation provided by TPWD and a copy of the threatened and endangered species assessment conducted by CEI and coordination with the USFWS is included in Part I/II, Appendix I/II-B.2.

**§330.553. Wetlands**

Coastal Environments, Inc. (CEI) performed a wetlands study for the property. The purpose of the study was to determine the approximate sizes and locations of wetlands and other areas that could potentially be classified as "Jurisdictional Waters of the United States" and to identify wetlands on the facility according to the Texas Water Code (TWC) §11.502. CEI identified no jurisdictional waters of the U.S. or wetlands within the Type V permit boundary.

A copy of CEI's study report and correspondence with the USACE are included in Appendix I/II-B.1.

**§330.555. Fault Areas**

Not applicable to a transfer station permit.

**§330.557. Seismic Impact Zones**

Not applicable to a transfer station permit.

**§330.559. Unstable Areas**

Not applicable to a transfer station permit.



FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Permit Application  
JC Elliott Transfer Station

**APPENDIX I/II-B.1**  
**WETLANDS DETERMINATION**



**DEPARTMENT OF THE ARMY**  
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT  
5151 FLYNN PARKWAY, SUITE 306  
CORPUS CHRISTI, TEXAS 78411-4318

August 29, 2024

Corpus Christi Field Office

SUBJECT: SWG-2024-00484; Approved Jurisdictional Determination and Permit Determination

City of Corpus Christi  
ATTN: Philip Aldridge  
7001 Ayers Street  
Corpus Christi, Texas 78415

Dear Mr. Aldridge:

This is in reference to the approved jurisdictional determination (AJD) request and/or permit determination request received on July 15, 2024, submitted on your behalf by Coastal Environments, Inc., to determine if the subject review area is subject to Corps of Engineers Jurisdiction and/or a Department of the Army (DA) permit is required for the expansion of an existing waste transfer facility. The approximate 66.5-acre Review Area sits within a larger tract of land located at 7001 Ayers Street, Corpus Christi, Nueces County, Texas.

Based on the review of the submitted information, resources available/used, and subsequent desk review, the Corps has determined that the proposed 66.5-acre Review Area depicted on the attached maps in three sheets, does not exhibit waters of the United States (US), subject to jurisdiction pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) or Section 404 of the Clean Water Act (Section 404). Specifically, the Corps determined that the Review Area as depicted on the attached plan sheets consists of dry land.

The Corps of Engineers regulates the placement of structures and/or work performed in/or affecting navigable waters of the U.S. (i.e., bulkheads, piers, etc.) under Section 10. The Corps also regulates the discharge of dredged and/or fill material into waters of the US, including navigable waters, under Section 404. Therefore, the placement of structures and/or the discharge of dredged or fill material within the review area does not require a DA permit.

The enclosed approved jurisdictional determination (AJD), dated August 5, 2024, is valid for 5 years from the date of this letter unless new information warrants a revision of the determination prior to the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331.5. Also enclosed is a combined Notification of Administrative Appeal Options and Process (NAP) and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA to the Southwestern Division Office at the following address:

Mr. Jamie Hyslop  
Administrative Appeals Review Officer  
Southwestern Division USACE (CESWD-PD-O)  
U.S. Army Corps of Engineers  
1100 Commerce Street, Suite 831  
Dallas, Texas 75242-1317  
Telephone: 469-216-8324  
Email: [REDACTED]

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete; that it meets the criteria for appeal under 33 CFR Part 331.5, and that it has been received by the Division Office within **60 days** of the date of the NAP, noting the letter date is considered day 1. It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.

If you have any questions regarding this determination, please contact me by telephone at 361-814-5847 ext. 1004 or by e-mail at [REDACTED] To assist us in improving our service to you, please complete the survey found at <https://regulatory.ops.usace.army.mil/customer-service-survey/>.

Sincerely,



Mark Pattillo  
Project Manager  
Corpus Christi Regulatory Field Office

cc w/Encls:

Coastal Environments, Inc., Attn: Ms. Cassandra Hart, 525 South Carancahua Street,  
Corpus Christi, Texas 78401-3437



DEPARTMENT OF THE ARMY  
U.S. ARMY CORPS OF ENGINEERS, GALVESTON DISTRICT  
5151 FLYNN PARKWAY, SUITE 306  
CORPUS CHRISTI, TEXAS 78411-4318

CESWG-RDR

29 August 2024

MEMORANDUM FOR RECORD

SUBJECT: US Army Corps of Engineers (Corps) Pre-2015 Regulatory Regime  
Approved Jurisdictional Determination in Light of *Sackett v. EPA*, 143 S. Ct. 1322  
(2023),<sup>1</sup> SWG-2024-00484, MFR 1 of 1<sup>2</sup>

BACKGROUND. An Approved Jurisdictional Determination (AJD) is a Corps document stating the presence or absence of waters of the United States on a parcel or a written statement and map identifying the limits of waters of the United States on a parcel. AJDs are clearly designated appealable actions and will include a basis of JD with the document.<sup>3</sup> AJDs are case-specific and are typically made in response to a request. AJDs are valid for a period of five years unless new information warrants revision of the determination before the expiration date or a District Engineer has identified, after public notice and comment, that specific geographic areas with rapidly changing environmental conditions merit re-verification on a more frequent basis.<sup>4</sup> For the purposes of this AJD, we have relied on section 10 of the Rivers and Harbors Act of 1899 (RHA),<sup>5</sup> the Clean Water Act (CWA) implementing regulations published by the Department of the Army in 1986 and amended in 1993 (references 2.a. and 2.b. respectively), the 2008 *Rapanos-Carabell* guidance (reference 2.c.), and other applicable guidance, relevant case law and longstanding practice, (collectively the pre-2015 regulatory regime), and the *Sackett* decision (reference 2.d.) in evaluating jurisdiction.

This Memorandum for Record (MFR) constitutes the basis of jurisdiction for a Corps AJD as defined in 33 CFR §331.2. The features addressed in this AJD were evaluated consistent with the definition of "waters of the United States" found in the pre-2015 regulatory regime and consistent with the Supreme Court's decision in *Sackett*. This AJD did not rely on the 2023 "Revised Definition of 'Waters of the United States,'" as

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<sup>1</sup> While the Supreme Court's decision in *Sackett* had no effect on some categories of waters covered under the CWA, and no effect on any waters covered under RHA, all categories are included in this Memorandum for Record for efficiency.

<sup>2</sup> When documenting aquatic resources within the review area that are jurisdictional under the Clean Water Act (CWA), use an additional MFR and group the aquatic resources on each MFR based on the TNW, interstate water, or territorial seas that they are connected to. Be sure to provide an identifier to indicate when there are multiple MFRs associated with a single AJD request (i.e., number them 1, 2, 3, etc.).

<sup>3</sup> 33 CFR 331.2.

<sup>4</sup> Regulatory Guidance Letter 05-02.

<sup>5</sup> USACE has authority under both Section 9 and Section 10 of the Rivers and Harbors Act of 1899 but for convenience, in this MFR, jurisdiction under RHA will be referred to as Section 10.

amended on 8 September 2023 (Amended 2023 Rule) because, as of the date of this decision, the Amended 2023 Rule is not applicable in this state due to litigation.

## 1. SUMMARY OF CONCLUSIONS.

- a. Provide a list of each individual feature within the review area and the jurisdictional status of each one (i.e., identify whether each feature is/is not a water of the United States and/or a navigable water of the United States).
  - i. The 66.5-acre Review Area consists entirely of dry land.

## 2. REFERENCES.

- a. Final Rule for Regulatory Programs of the Corps of Engineers, 51 FR 41206 (November 13, 1986).
- b. Clean Water Act Regulatory Programs, 58 FR 45008 (August 25, 1993).
- c. U.S. EPA & U.S. Army Corps of Engineers, Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States* (December 2, 2008)
- d. *Sackett v. EPA*, 598 U.S. \_\_\_, 143 S. Ct. 1322 (2023)

3. REVIEW AREA. The 66.5-acre Review Area within an 89.64-acre tract of land located at 7001 Ayers Street, Corpus Christi, Nueces County, Texas.

Coordinates (LAT/LONG): 27.12155° N, 99.39697° W

4. NEAREST TRADITIONAL NAVIGABLE WATER (TNW), INTERSTATE WATER, OR THE TERRITORIAL SEAS TO WHICH THE AQUATIC RESOURCE IS CONNECTED. N/A<sup>6</sup>

5. FLOWPATH FROM THE SUBJECT AQUATIC RESOURCES TO A TNW, INTERSTATE WATER, OR THE TERRITORIAL SEAS. N/A

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<sup>6</sup> This MFR should not be used to complete a new stand-alone TNW determination. A stand-alone TNW determination for a water that is not subject to Section 9 or 10 of the Rivers and Harbors Act of 1899 (RHA) is completed independently of a request for an AJD. A stand-alone TNW determination is conducted for a specific segment of river or stream or other type of waterbody, such as a lake, where upstream or downstream limits or lake borders are established.



6. SECTION 10 JURISDICTIONAL WATERS<sup>7</sup>: Describe aquatic resources or other features within the review area determined to be jurisdictional in accordance with Section 10 of the Rivers and Harbors Act of 1899. Include the size of each aquatic resource or other feature within the review area and how it was determined to be jurisdictional in accordance with Section 10.<sup>8</sup> N/A
7. SECTION 404 JURISDICTIONAL WATERS: Describe the aquatic resources within the review area that were found to meet the definition of waters of the United States in accordance with the pre-2015 regulatory regime and consistent with the Supreme Court's decision in *Sackett*. List each aquatic resource separately, by name, consistent with the naming convention used in section 1, above. Include a rationale for each aquatic resource, supporting that the aquatic resource meets the relevant category of "waters of the United States" in the pre-2015 regulatory regime. The rationale should also include a written description of, or reference to a map in the administrative record that shows, the lateral limits of jurisdiction for each aquatic resource, including how that limit was determined, and incorporate relevant references used. Include the size of each aquatic resource in acres or linear feet and attach and reference related figures as needed.
  - a. TNWs (a)(1): N/A
  - b. Interstate Waters (a)(2): N/A
  - c. Other Waters (a)(3): N/A
  - d. Impoundments (a)(4): N/A
  - e. Tributaries (a)(5): N/A
  - f. The territorial seas (a)(6): N/A
  - g. Adjacent wetlands (a)(7): N/A

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<sup>7</sup> 33 CFR 329.9(a) A waterbody which was navigable in its natural or improved state, or which was susceptible of reasonable improvement (as discussed in § 329.8(b) of this part) retains its character as "navigable in law" even though it is not presently used for commerce, or is presently incapable of such use because of changed conditions or the presence of obstructions.

<sup>8</sup> This MFR is not to be used to make a report of findings to support a determination that the water is a navigable water of the United States. The district must follow the procedures outlined in 33 CFR part 329.14 to make a determination that water is a navigable water of the United States subject to Section 10 of the RHA.

## 8. NON-JURISDICTIONAL AQUATIC RESOURCES AND FEATURES

- a. Describe aquatic resources and other features within the review area identified as “generally non-jurisdictional” in the preamble to the 1986 regulations (referred to as “preamble waters”).<sup>9</sup> Include size of the aquatic resource or feature within the review area and describe how it was determined to be non-jurisdictional under the CWA as a preamble water.  
N/A
- b. Describe aquatic resources and features within the review area identified as “generally not jurisdictional” in the *Rapanos* guidance. Include size of the aquatic resource or feature within the review area and describe how it was determined to be non-jurisdictional under the CWA based on the criteria listed in the guidance.  
N/A
- c. Describe aquatic resources and features identified within the review area as waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA. Include the size of the waste treatment system within the review area and describe how it was determined to be a waste treatment system. N/A
- d. Describe aquatic resources and features within the review area determined to be prior converted cropland in accordance with the 1993 regulations (reference 2.b.). Include the size of the aquatic resource or feature within the review area and describe how it was determined to be prior converted cropland. N/A
- e. Describe aquatic resources (i.e. lakes and ponds) within the review area, which do not have a nexus to interstate or foreign commerce, and prior to the January 2001 Supreme Court decision in “*SWANCC*,” would have been jurisdictional based solely on the “Migratory Bird Rule.” Include the size of the aquatic resource or feature, and how it was determined to be an “isolated water” in accordance with *SWANCC*. N/A
- f. Describe aquatic resources and features within the review area that were determined to be non-jurisdictional because they do not meet one or more categories of waters of the United States under the pre-2015 regulatory regime consistent with the Supreme Court’s decision in *Sackett* (e.g., tributaries that are non-relatively permanent waters; non-tidal wetlands that do not have a continuous surface connection to a jurisdictional water).  
N/A

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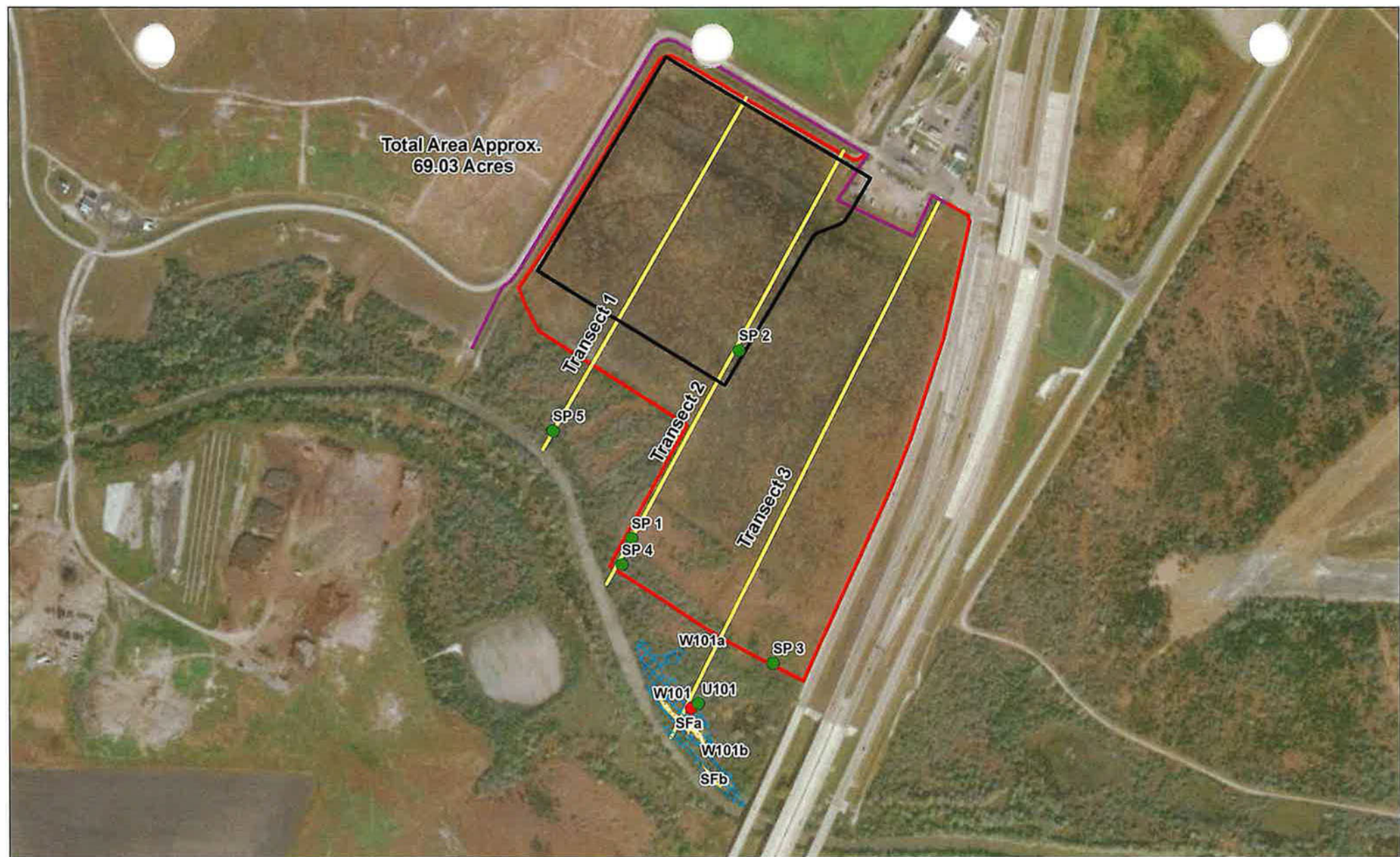
<sup>9</sup> 51 FR 41217, November 13, 1986.

9. DATA SOURCES. List sources of data/information used in making determination. Include titles and dates of sources used and ensure that information referenced is available in the administrative record.

- a. Facilities Layout Map, prepared by Coastal Environments, Inc., received 15 June 2024, with adjustments made and provided 7 August 2024.
- b. Aerials (2004, 2024; source: Google Earth)
- c. USGS Topographic Maps 1:24,000 Oso Creek NW, Texas (2019)
- d. USGS National Elevation Dataset (2015).
- e. Web Soil Survey Hydric Rating Map for Nueces County, Texas (NRCS website accessed 13 August 2024)
- f. National Wetland Inventory (NWI) (USFWS website accessed 23 August 2024)
- g. National Hydrologic Dataset (NHD) – 12110202 South Corpus Christi Bay
- h. ORM2 Database: No prior determination has been made on the review area.

9. OTHER SUPPORTING INFORMATION. N/A

10. NOTE: The structure and format of this MFR were developed in coordination with the EPA and Department of the Army. The MFR's structure and format may be subject to future modification or may be rescinded as needed to implement additional guidance from the agencies; however, the approved jurisdictional determination described herein is a final agency action.



Total Area Approx.  
69.03 Acres

Transect 1

Transect 2

Transect 3

SP 5

SP 2

SP 1

SP 4

W101a

SP 3

W101

U101

SFa

W101b

SFb



- Upland
- Wetland
- Fence Line
- Transects
- Transfer Station
- Project Area
- Sand Flat (0.20 ac)
- Wetland (1.57 ac)
- 66.5 acres

## WETLAND DELINEATION NUECES COUNTY, TEXAS

LOCATION:  
COUNTY: NUECES  
APPLICATION BY:  
MAP DATE: AUGUST 7, 2023

SWG-

FIGURE 3

SOURCE: CEI FIELD SURVEY JULY 12, 13, 14, & 17, 2023  
BASE: WORLD IMAGERY, ESRI  
DATUM: NAD 83









Esri, NASA, NOAA, USGS, FEMA, Esri Community Works Foundation, U.S. Parks & Wildlife, OpenStreetMap, Microsoft, CONANP, Esri, TomTom, Garmin, Fourquare, SalsGraph, GeoTechnologies, Inc, METI, NASA, USGS, EPA, NPS, US Census Bureau, USDA, USEWS



0 500 1,000 1,500 2,000

Feet



## NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL

Applicant: City of Corpus Christi		File Number: SWG-2024-00484	Date: 29 Aug 2024
Attached is:			See Section below
	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)	A	
	PROFFERED PERMIT (Standard Permit or Letter of permission)	B	
	PERMIT DENIAL WITHOUT PREJUDICE	C	
	PERMIT DENIAL WITH PREJUDICE	D	
X	APPROVED JURISDICTIONAL DETERMINATION	E	
	PRELIMINARY JURISDICTIONAL DETERMINATION	F	

### SECTION I

The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at <https://www.usace.army.mil/Missions/Civil-Works/Regulatory-Program-and-Permits/appeals/> or Corps regulations at 33 CFR Part 331.

**A: INITIAL PROFFERED PERMIT:** You may accept or object to the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **OBJECT:** If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

**B: PROFFERED PERMIT:** You may accept or appeal the permit

- **ACCEPT:** If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- **APPEAL:** If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**C. PERMIT DENIAL WITHOUT PREJUDICE: Not appealable**

You received a permit denial without prejudice because a required Federal, state, and/or local authorization and/or certification has been denied for activities which also require a Department of the Army permit before final action has been taken on the Army permit application. The permit denial without prejudice is not appealable. There is no prejudice to the right of the applicant to reinstate processing of the Army permit application if subsequent approval is received from the appropriate Federal, state, and/or local agency on a previously denied authorization and/or certification.

**D: PERMIT DENIAL WITH PREJUDICE: You may appeal the permit denial**

You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**E: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information for reconsideration**

- **ACCEPT:** You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice means that you accept the approved JD in its entirety and waive all rights to appeal the approved JD.
- **APPEAL:** If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

**RECONSIDERATION:** You may request that the district engineer reconsider the approved JD by submitting new information or data to the district engineer within 60 days of the date of this notice. The district will determine whether the information submitted qualifies as new information or data that justifies reconsideration of the approved JD. A reconsideration request does not initiate the appeal process. You may submit a request for appeal to the division engineer to preserve your appeal rights while the district is determining whether the submitted information qualifies for a reconsideration.

**F: PRELIMINARY JURISDICTIONAL DETERMINATION: Not appealable**

You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also, you may provide new information for further consideration by the Corps to reevaluate the JD.

**POINT OF CONTACT FOR QUESTIONS OR INFORMATION:**

If you have questions regarding this decision you may contact:

Mark Pattillo

Project Manager (CESWG-RDR)

U.S. Army Corps of Engineers

5151 Flynn Parkway, Suite 306

Corpus Christi, Texas 78411-4318

61-814-5847 ext. 1004

If you have questions regarding the appeal process, or to submit your request for appeal, you may contact:

Mr. Jamie Hyslop

Administrative Appeals Review Officer

Southwestern Division (CESWD-PD-O)

U.S. Army Corps of Engineers

1100 Commerce Street, Suite 831

Dallas, Texas 75242-1317

Phone: 469-216-8324

Email: [REDACTED]

## SECTION II – REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. Use additional pages as necessary. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15-day notice of any site investigation and will have the opportunity to participate in all site investigations.

\_\_\_\_\_  
Signature of appellant or agent.

Date:

Email address of appellant and/or agent:

Telephone number:

**WETLAND DELINEATION**

**89.64-ACRE TRACT  
CHAPMAN RANCH ROAD (RD) /STATE HIGHWAY (SH) 286  
CORPUS CHRISTI, NUECES COUNTY, TEXAS**

*Prepared by  
Heather Perez  
Walker Wilson, M.S.  
Sandi Hart, M.S.*

*Coastal Environments, Inc.  
525 S. Carancahua, Corpus Christi, TX 78401*

*Prepared for  
Hanson Professional Services, Inc.  
4501 Gollihar Road  
Corpus Christi, Texas 78411*

*December 14, 2023*



## **WETLAND DELINEATION**

### **89.64-ACRE TRACT CHAPMAN RANCH RD / SH 286 CORPUS CHRISTI, NUECES COUNTY, TEXAS**

#### **INTRODUCTION**

Coastal Environments, Inc. (CEI) was sub-contracted by Hanson Professional Services Inc. for the City of Corpus Christi, to perform a wetland delineation of an 89.64-acre tract of land located at the northwestern corner of the intersection of Crosstown Expressway/SH286 and Oso Creek in Corpus Christi, Nueces County, Texas. The property is platted as an 89.64 Acre Tract of Land, situated in the Enriquez Villareal Survey, Abstract 1, comprising portions of Lot 4, Section 14 and Lot 1, Section 16, Bohemian Colony Land, as recorded in Volume A, Page 48, of the Map Records of Nueces County, Texas, also being a portion of a 130 Acre Tract, as described in a Warranty Deed from C.B. Land and Annie May Land to S.A. Simcik, recorded in Volume 161, Pages 526-528, recording in the Deed Records of Nueces County, Texas according to the survey map and legal description in Appendix A. It is bordered to the north and the west by the J.C. Elliott Landfill, to the east by Texas Highway 286, and to the south by Oso Creek. Approximate UTM NAD 83 (meters) coordinates for this site are Northing 3065484.68, Easting 652895.94.

Based on historic aerial imagery, most of the property has been primarily used for agriculture, which was last planted two years ago. Additionally, a portion of the property south of the farmed area appears to have been used as a dump or staging area for cars, boats, camper trailers and other debris, with at least three buildings on the site. Between 2012 and 2014, much of this debris was being hauled off, concluding with the removal of the last of the buildings between 2017 and 2020. However, site visits revealed trash and debris, including remnants of old motor vehicles, is still present in this part of the property today. Additionally, in 2020, industrial activity is visible in this location. What appears to be evidence of either the removal or installation of small diameter pipe, which can be seen laid out on the property. Deep trenches visible on both sides of Texas Highway 286 seem consistent with the use of a horizontal directional drill (HDD) rig.

On July 12-14, and 17-18, 2023, CEI performed a wetland delineation of the 89.64± acre project site (Appendix B, Vicinity Map). This investigation was conducted to provide support for the City of Corpus Christi's proposed expansion of municipal and solid waste services.

To perform the determination/delineation, CEI used the "Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0)" (U.S. Army Corps of Engineers, 2010) as well as the "Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual" (Environmental Laboratory 1987). Wetlands are defined as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support,

and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (40 CFR 230.3). The three diagnostic characteristics of wetlands are hydric soils, a prevalence of hydrophytic vegetation, and evidence of wetland hydrology. The results of this investigation indicate that there are wetlands within the project site which may be potentially jurisdictional.

Though findings included in this report were acquired using approved methodology and best professional judgement, it is understood that the USACE has the final authority to determine the presence and extent of jurisdictional wetlands in the project area.

## **WETLAND REGULATIONS**

The objective of the Clean Water Act (CWA) is to maintain and restore the chemical, physical, and biological integrity of the "Waters of the United States". Section 404 of the CWA authorized the Secretary of the Army, acting through the Chief of Engineers, to issue permits for the discharge of dredged or fill material into "Waters of the United States". "Waters of the United States" is a broad term that includes waters that are used or could be used for interstate commerce. This includes wetlands, ponds, lakes, territorial seas, rivers, tributary streams (including any definable intermittent waterways), and some ditches below the "Ordinary High Water Mark". Also included are man-made waterbodies such as quarries and ponds, which are no longer being actively mined or constructed, that bear a surface water connection, or are adjacent to other "Waters of the United States". Ephemeral pools, bogs, sedge meadows, seeps, coral reefs, sanctuaries, refuges, and other unique aquatic areas may be considered special aquatic sites and may require more rigorous regulatory permitting requirements. A specific detailed definition of "Waters of the United States" can be found in the Federal Register (33 CFR 328.3) and is further defined by the U.S. Supreme Court ruling: SWANCC vs. U.S. Army Corps of Engineers No. 99-1178 (January 9, 2001). The U.S. Army Corps of Engineers (USACE) has the authority to make decisions regarding the jurisdictional status of a wetland.

In 2006, the Supreme Court addressed the jurisdictional scope of Section 404 of the CWA, specifically the term "Waters of the United States", in *Rapanos v. U.S.* and in *Carabell v. U.S.* The decision provided two new analytical standards for determining whether waterbodies and their adjacent wetlands, which are not traditional navigable waters (TNW), are subject to CWA jurisdiction. The first standard defines a relatively permanent waterbody or any wetland adjacent to a relatively permanent waterbody as jurisdictional. The second standard defines a waterbody and all wetlands adjacent to that waterbody as considered jurisdictional if there is a significant nexus with a TNW. All determinations for non-navigable, isolated waters must be elevated for USACE and Environmental Protection Agency (EPA) headquarters review, prior to the district making a final decision on the jurisdictional determination. Currently, jurisdictional status of wetlands is questionable at best due to recent Supreme Court actions.

## METHODOLOGY

A wetland delineation was performed from July 12-14, and 17-18, 2023 by Walker Wilson, M.S. and Heather Perez, B.A. of CEI, who both hold certificates of training in wetland delineation according to USACE criteria using the parameters described in the “Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (Version 2.0)” (U.S. Army Corps of Engineers, 2010) as well as the “Field Guide for Wetland Delineation: 1987 Corps of Engineers Manual” (Wetland Training Institute, Inc., 2013). They were accompanied by field technician Jenna Sierra, B.A., to aid in the delineation efforts.

Prior to site visits, preliminary information for the project area was obtained from sources including the Natural Resources Conservation Services (NRCS) Web Soil Survey, the United States Fish and Wildlife Service (FWS) National Wetlands Inventory (NWI), the United States Geological Survey (USGS) Topographical Maps, and Google Earth Imagery (Accessed August 4, 2023). These sources of information were used to aid in the identification of potential wetlands in the project area during subsequent field investigations.

Field investigations were conducted using a pedestrian survey along transects across the property as outlined in the 1987 Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory 1987), and the Atlantic and Gulf Coastal Plain Regional Supplement (U.S. Army Corps of Engineers [USACE] 2010). The routine method for plots greater than five acres in size was employed. CEI established a baseline of 0.44 miles in length, running northwest to southeast paralleling Oso Creek, in setting up three (3) transects. Transects were as equally spaced as possible. Areas of the property were designated as wet or non-wet based on the presence or absence of: 1) wetland hydrology; 2) hydrophytic vegetation; and 3) hydric soils. Areas containing all three criteria under normal circumstances (not altered in the last 5 years) were considered wet. Alternatively, areas not containing all three criteria under normal circumstances were considered non-wet. Where significant disturbance exists, the conditions likely to have been present in the absence of disturbance must be considered.

Sample plots were established on the property to determine if the three wetland criteria were present at each location. Each sample plot was mapped with a Trimble Geo 7X Global Positioning System (GPS) capable of sub-meter accuracy and real-time data correction. Additionally, plots were marked with flagging tape containing identifying information. Data on the characteristics of hydrology, vegetation and soils in each plot were recorded on a wetland determination data form specific to the Atlantic and Gulf Coastal Plain Region (Appendix D). Vegetation was identified to species when possible; percent coverage was estimated for each vegetative stratum; and representative vegetation was photographed (Appendix H). Soil profiles were collected using a sharpshooter shovel, and the surface of the profile was flaked away with a trowel to expose a relatively undisturbed soil profile. These soil profiles were described with the aid of Munsell Soil-Color Charts (2009) and photographed (Appendix H). Sample plots were classified as wet or non-wet based on conditions observed in the plot at the time field investigations were performed.

Plots determined to fall within the boundaries of a wetland were labeled with a “W” followed by a three-digit number denoting the individual wetland area in which it was located (e.g., W101). Upland reference points were labeled with a “U”, followed by the number of the associated, referenced wetland plot (e.g., U101). Boundaries between wet and non-wet habitats were mapped with the GPS, and these locations were marked with pink “Wetland Delineation” flagging tape containing the feature identification and flag number. When flagging lobes of a wetland separated by a thin ridge, a lower-case letter was added to the labeling on the flagging tape to distinguish the wetland portions (e.g., W101a, W101b, W101c, etc.).

Some wet areas were mapped as sand flats, due to the lack of any vegetation. These areas typically were in the lowest elevations of the wetlands and surrounded by wetlands containing halophytic vegetation, indicating marine influence, possibly from storm events and extreme tides sending salt water up Oso Creek. Flags were marked with “SF” followed by a lower-case letter to differentiate the individual sand flat, followed by the flag number (e.g., SFa-1, SFa-2, SFa-3, etc.).

Transects were labeled as “T”, then a number from 1-3. Other features such as property corners and fence lines were mapped as well. Appendix C contains maps showing the locations of the GPS points, wetland boundaries and other mapped features. An SOP table in Appendix G depicts the GPS data points, geographical coordinates of each point and comments on the data point, where relevant, as well as GPS points from wetland boundaries delineated during field efforts.

The wetlands on the property are identified as Riverine R5UBH, (Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded), R1UBV (Riverine, Tidal, Unconsolidated Bottom, Permanently Flooded-Tidal), Freshwater Pond PUSR (Palustrine, Unconsolidated Shore, Seasonally Flooded-Tidal), and Freshwater Emergent PEMIC (Palustrine, Emergent, Persistent, and Seasonally Flooded) according to the NWI mapper (Appendix E).

However, field investigations revealed that the wetlands on the property differed from the NWI mapper. While parts of W101a and SFa did contain Riverine R5UBH habitats adjacent to the creek, further eastward vegetation and soils were more consistent with PEM1S habitat rather than Freshwater Pond -PUSR habitat. While R5UBH was present within W101a, parts of W101a and SFa vegetation and soils were more consistent with Freshwater Emergent PEM1S (Palustrine, Emergent, Persistent, Seasonally Flooded, Tidal) rather than PUSR habitat.

## **HYDROLOGY**

Hydrology often is observed as the effect water has on an area, but clues also can be gained from observations of the relative positions of landforms. Hydrology is influenced by a variety of factors including patterns of precipitation, water tables, drainage systems, water bodies, vegetation, land use practices, soil types, geomorphic position and the habits of local flora and fauna. Elevations on the site are approximately one to twenty-three feet above the North American Datum 1983 (NAD83) for mean sea level. Wetland hydrology was present onsite and confined to the wetland areas within the project boundaries. The wetland areas are tidal and therefore are subject to the

ebb and flow of the tide. Surface water was not present within the wetlands onsite.

For an area to have wetland hydrology, it must have at least one primary hydrological indicator or two secondary hydrological indicators. Primary indicators of wetland hydrology observed on any part of the property included Surface soil cracks (B6), Crayfish Burrows (C8), and FAC-Nuetral Test (D5).

## VEGETATION

CEI identified plant communities during field investigations to ascertain the degree of dominance of hydrophytic vegetation. Some areas are subject to flooding or saturation for periods of time long enough to push out species unable to survive with those conditions. Hydrophytic vegetation becomes prevalent in these areas because they are adapted to life in soils that are permanently or periodically saturated (Environmental Laboratory 1987). Wetland indicator status of plant species found in plots was obtained using the USACE Western Gulf Coast 2020 Subregional Wetland Plant List and the USGS Plants Database (Accessed July 20, 2023). Wetland Data Forms including information on vegetated communities found on the property are included in Appendix D. Photographs taken of representative vegetation in different habitats located on the property can be found in Appendix H of this report.

The northern 2/3 of the property was actively farmed as recently as two years ago, and sorghum (*Sorghum bicolor*) is still present in small numbers. Except for the boundary with scrub-shrub habitats to the southwest, a wide strip around the perimeter of the former agricultural area is periodically mowed. This has encouraged vegetation resistant to regular disturbance to become more dominant in these areas. Dominant species noted in these locations included Bermudagrass (*Cynodon dactylon*), windmill grass (*Chloris sp.*) and yellow bluestem (*Bothriochloa ischaemum*) with small numbers of opportunistic annual sunflower (*Helianthus annuus*), silverleaf nightshade (*Solanum elaeagnifolium*), tropical puff (*Neptunia pubescens*) and huisache (*Vachellia farnesiana*).

In adjacent fallow agricultural fields dominant species include annual sunflower, Santa Maria feverfew (*Parthenium hysterophorus*), white panicle aster (*Symphyotrichum lanciolatum*), Bermudagrass and yellow bluestem. These species were highly dominant and were often the only species present in some areas. Other species found to be locally abundant included turkey tangle frogfruit (*Phyla nodiflora*), pyramidflower (*Melochia pyramidalata*), Rooseveltweed (*Baccharis neglecta*), California loosestrife (*Lythrum californicum*) and Virginia pepperweed (*Lepidium virginianum*).

Southwest of the fallow agricultural field contains relatively undisturbed areas where there have been less invasive anthropogenic activities in the past. Where these activities were heaviest, fields almost exclusively dominated by yellow bluestem occur. Some scrub-shrub species have begun to colonize these grassy areas, including honey mesquite (*Prosopis glandulosa*) and white leadtree (*Leucaena leucocephala*). Scrub-shrub habitats also were observed in this area, often associated



with erosional features. These areas contained honey mesquite, lime pricklyash (*Zanthoxylum fagara*), Texas swamp privet (*Forestiera angustifolia*), huisache (*Vachellia farnesiana*), blackbrush acacia (*V. rigidula*), saffron plum (*Sideroxylon celastrinum*), retama (*Parkinsonia aculeata*) and spiny hackberry (*Celtis ehrenbergiana*). Some areas contain small trees including sugarberry (*Celtis laevigata*) and Chinaberry (*Melia azedarach*), but these appear to have been planted based on their proximity to past anthropogenic activity and clustered distribution. One small area on the east side of the property just south of the fallow agricultural field contains a depression containing distinct vegetation. This depression contains an overstory of retama over a dense understory of longtom (*Paspalum denticulatum*) with scattered individuals of ravenfoot sedge (*Rhynchospora crus-corvi*) and pond flatsedge (*Cyperus ochraceus*).

Closer to Oso Creek, some areas include larger honey mesquite and Mexican ash (*Fraxinus berlandieriana*) forming an open understory with switchgrass (*Panicum virgatum*) growing underneath. Significant monospecific stands of giant reed (*Arundo donax*) close to the creek bank also were observed in some areas. Finally, some areas in the southeast corner of the property appear to be possible remnants of old side channels of Oso Creek. These depressional areas included unvegetated sand flats, surrounded by wetlands dominated with halophytic vegetation, including saltgrass (*Distichlis spicata*), turtleweed (*Batis maritima*), dwarf glasswort (*Salicornia bigelovii*), shoregrass (*Monanthochloe littoralis*), seaside oxeye daisy (*Borrchia frutescens*) and gulf cordgrass (*Spartina spartinae*). A more complete list of plant species observed on the subject property can be found in Table 1.

## SOILS

CEI collected soil samples at each sample point to approximately 16 inches below ground surface using a sharpshooter shovel (See Appendix H). The depth of the sample was sufficient to determine changes in upper horizons and to observe field indicators of hydric soil. Each soil sample was described and compared to descriptions from the Natural Resources Conservation Service (NRCS) database (See Appendix F).

The NRCS Web Soil Survey for Aransas County shows the project area is composed of VcA, - Victoria clay 0 to 1 percent slopes, VcB - Victoria clay 1 to 3 percent slopes, Gv – Gullied land, saline, and Ta – Tidal flats, occasionally ponded soils.(Appendix F). 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 soil profiles include clay from 0 to 80 inches. 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. Gv soils are composed of gullied land and have a typical soil profile that includes clay from 0 to 80 inches. Ta soils are comprised of flat features, have a 0 to 1 percent slope and are composed of loamy fluviomarine deposits. This soil is very poorly drained with negligible

runoff and occasional frequency of flooding. Typical soil profiles include fine sand from 0 to 5 inches and loamy fine sand from 5 to 60 inches.

Hydric soils on the property typically showed indicators of a Depleted matrix (F3). Soil hue, value and chroma were described with the aid of Munsell Soil Color Charts (2009).

## **FINDINGS**

The conditions on the project site and data observed indicate that there are wetlands within the ±89.64-acre project site (Transfer Station tract) which may be potentially jurisdictional. The wetlands are primarily freshwater emergent and riverine and could be temporarily inundated by the rise of Oso Creek in severe weather events, with vegetation comprised primarily of *Borrichia frutescens*, *Distichlis spicata*, *Panicum virgatum*, and *Prosopis glandulosa*.

Field reconnaissance revealed hydrophytic vegetation was present throughout much of the property. However, signs of wetland hydrology and hydric soils were restricted to the sand flat and surrounding depressional areas located in the southeastern corner of the property near Oso Creek. In summary, using vegetation, hydrology and soil characteristics observed on the property, wetlands are present in the project area, but they are restricted to the sand flats and depressional areas which encompass them (See Appendix C, Figures 2-5). Although this wetland delineation was performed using approved federal guidelines and procedures, final authority for verifying wetlands on the project site resides with the U. S. Army Corps of Engineers, Galveston District and this delineation will not become final until verified.

**Table 1. Species of vegetation commonly observed on the subject property.**

<b>Scientific Name</b>	<b>Common Name</b>	<b>Wetland</b>
<i>Arundo donax</i>	Giant reed	FAC
<i>Baccharis neglecta</i>	Rooseveltweed	FAC
<i>Batis maritima</i>	Turtleweed	OBL
<i>Borrchia frutescens</i>	Seaside oxeye daisy	OBL
<i>Bothriochloa ischaemum</i>	Yellow bluestem	NI
<i>Cardiospermum halicacabum</i>	Balloon vine	FAC
<i>Carex crus-corvi</i>	Ravenfoot sedge	OBL
<i>Celtis ehrenbergiana</i>	Spiny hackberry	NI
<i>Celtis laevigata</i>	Sugarberry	FACW
<i>Chamaesyce prostrata</i>	Prostrate sandmat	FACU
<i>Chloracantha spinosa</i>	Spiny chloracantha	FACW
<i>Chloris sp.</i>	Windmill grass	NI
<i>Cissus trifoliata</i>	Sorrelvine	UPL
<i>Conoclinium betonicifolium</i>	betanyleaf thoroughwort	FACW
<i>Cucumis melo</i>	Cantaloupe	NI
<i>Cynodon dactylon</i>	Bermudagrass	FACU
<i>Cyperus ochraceus</i>	Pond flatsedge	FACW
<i>Digitaria texana</i>	Texas crabgrass	NI
<i>Distichlis spicata</i>	Saltgrass	OBL
<i>Erigeron procumbens</i>	Corpus Christi fleabane	FAC
<i>Erythrina herbacea</i>	Redcardinal	NI
<i>Forestiera angustifolia</i>	Texas swampprivet	NI
<i>Fraxinus berlandieriana</i>	Mexican ash	FAC
<i>Glandularia pulchella</i>	South American mock vervain	NI
<i>Helianthus annuus</i>	Common sunflower	FAC
<i>Lepidium virginicum</i>	Virginia pepperweed	UPL
<i>Leucaena leucocephala</i>	White leadtree	NI
<i>Lycium carolinianum</i>	Carolina desert-thorn	FACW
<i>Lythrum californicum</i>	California loosestrife	OBL
<i>Mahonia haematocarpa</i>	Red barberry	NI
<i>Melia azedarach</i>	Chinaberry	UPL
<i>Melochia pyramidata</i>	Pyramidflower	FAC
<i>Monanthochloe litteralis</i>	Shoregrass	OBL
<i>Neptunia pubescens</i>	Tropical puff	FAC
<i>Oenothera longiflora</i>	Longflower beeblossom	NI
<i>Panicum virgatum</i>	Switchgrass	FAC
<i>Parkinsonia aculeata</i>	Jerusalem thorn	FAC
<i>Parthenium hysterophorus</i>	Santa Maria feverfew	FAC
<i>Paspalum denticulatum</i>	Longtom	OBL
<i>Phoradendron tomentosum</i>	Christmas mistletoe	NI
<i>Phyla nodiflora</i>	Turkey tangle fogfruit	FAC

<b>Scientific Name</b>	<b>Common Name</b>	<b>Wetland</b>
<i>Populus deltoides</i>	Eastern Cottonwood	FAC
<i>Proboscidea louisianica</i>	Ram's horn	FACU
<i>Prosopis glandulosa</i>	Honey mesquite	UPL
<i>Rhynchosia minima</i>	Least snoutbean	NI
<i>Rubus trivialis</i>	Southern dewberry	FACU
<i>Ruellia yucatan</i>	Yucatan wild Petunia	NI
<i>Salicornia bigleovii</i>	Dwarf saltwort	OBL
<i>Sideroxylon celastrinum</i>	Saffron plum	FAC
<i>Solanum elaeagnifolium</i>	Silverleaf nightshade	NI
<i>Solidago odora</i>	Anisescented goldenrod	NI
<i>Sorghum bicolor</i>	Sorghum	FACU
<i>Spartina spartinae</i>	Gulf cordgrass	OBL
<i>Symphyotrichum lanceolatum</i>	White panicle aster	FACW
<i>Teucrium canadense</i>	Canada germander	FACW
<i>Tillandsia recurvata</i>	Small ballmoss	NI
<i>Urochloa reptans</i>	Reclining signalgrass	UPL
<i>Vachellia farnesiana</i>	Huisache	FACU
<i>Vachellia rigidula</i>	Blackbrush acacia	NI
<i>Verbena halei</i>	Texas vervain	NI
<i>Xanthium strumarium</i>	Rough cocklebur	FAC
<i>Zanthoxylum fagara</i>	Lime pricklyash	FACU

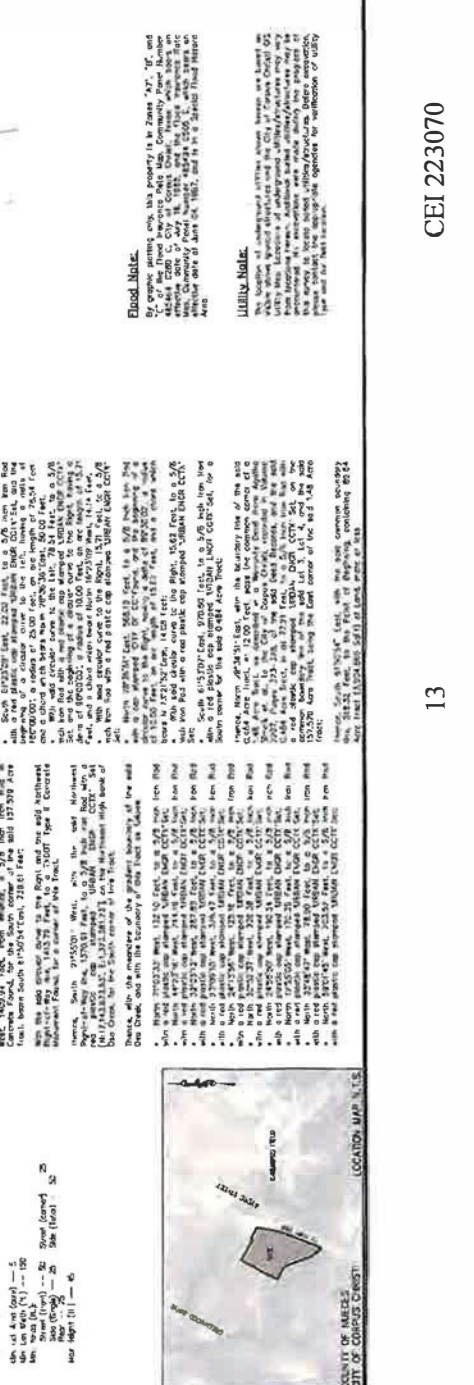
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**Appendix A**

**Survey Map, Legal Description, and Topo Map**



U. of T. #18-3611834  
Effective Date: October 09, 2020, at 8:00 a.m.  
Issued Date: October 20, 2020, at 8:00 a.m.

106 Old, Toys and Mineral Lenses, and all Lenses, Reparatious Region, furnished, NOVEMBER DOCUMENT NO. 106593, VOLUME 33, PAGE 30 AND GAS records of Alameda County, Yarn Lenses S.A. SIMON AND WIFE, MARY ANN SIMON Lenses R.R. JAMES

Time to take and inform was not been investigated. In the sale of the above instrument, the instrument was sold to the State of California.

RECORDED MAY 15, 1981 IN DOCUMENT  
VOLUME 346 PAGE 102, of Vol. DL  
AND GAS RECORDS, 2d Nevada County,  
VICTOR F. SHOOK, ET AL.  
Lessee, vs. HUGHES TOOL-  
TIME in and interest has not been investigated  
to the date of the aforesaid instrument (in  
objects to) & B. Section 16, Not a Survey

Essement:  
To: CENTRAL POWER AND LIGHT COMPANY

(S) **RE: CENTRAL POWER AND LIGHT COMPANY**  
**Request: APRIL 3, 1941 in DOCUMENT**  
**VOLUME 268, PAGE 257, of the DETO**  
**records of MERCURY County, Texas**  
**Re: CENTRAL POWER AND LIGHT COMPANY**  
**subject tract, ambiguous and non-petitable.**

**Summary's Certificate:**

The Ordinal Boundary shown on this map is in accordance with the Ordinal Boundary Commission's report on December 14, 2010, by the "First General Land Office and is true and correct."

Witness my hand and seal of office this 14th day of December, 2010.

\_\_\_\_\_  
 State Land Commissioner

\_\_\_\_\_  
 State Land Commissioner

**Survivor's Certificate.**

SEAL (b) (7) (C)	11A.W.	11C.C.
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CATEGORY  
LAND TITLE

Let A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

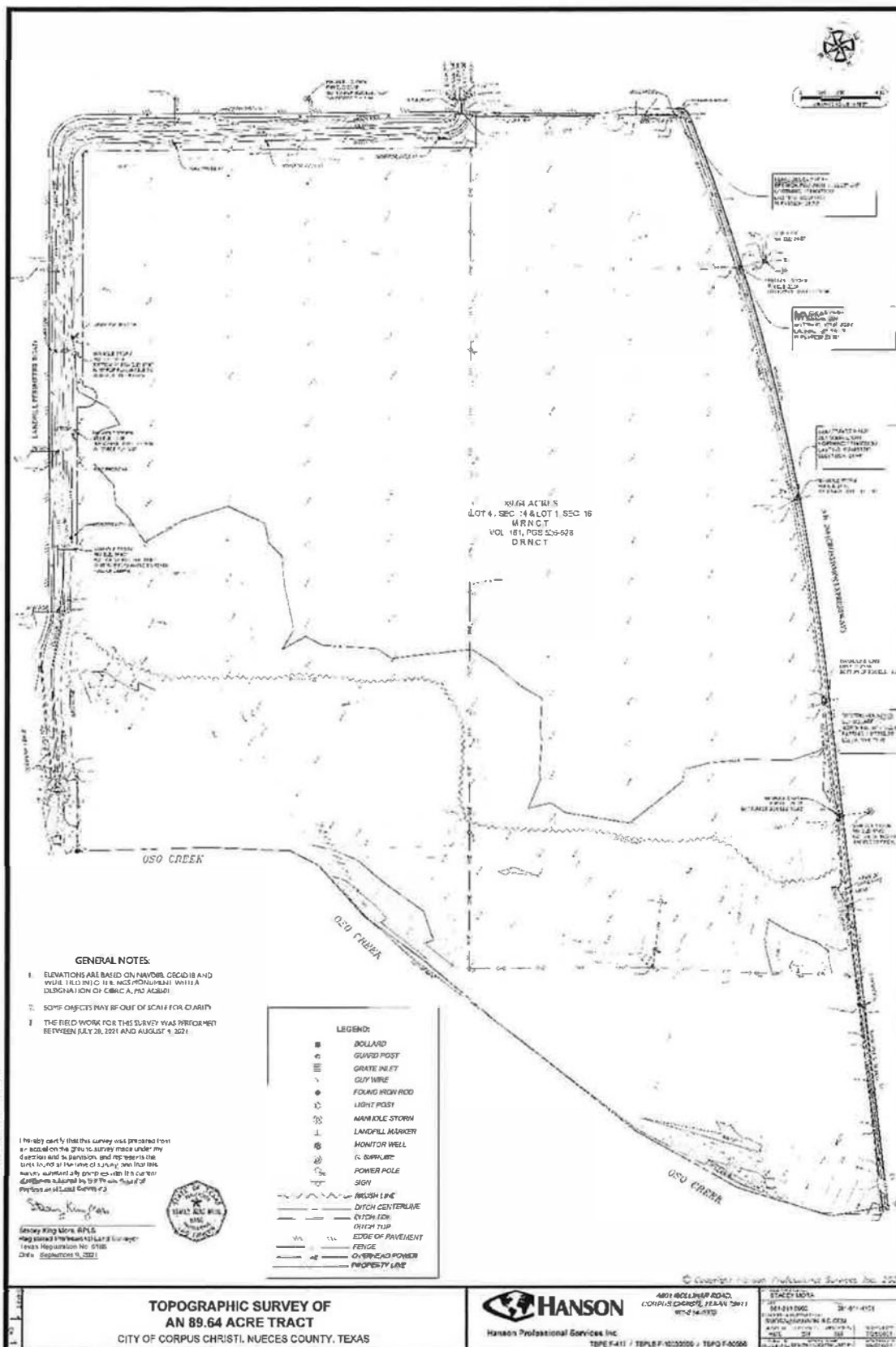
1.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 2.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 3.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 4.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 5.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 6.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 7.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 8.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 9.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$   
 10.  $\text{H}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{H}_3\text{O}^+ + \text{OH}^-$

**Curve Table:**

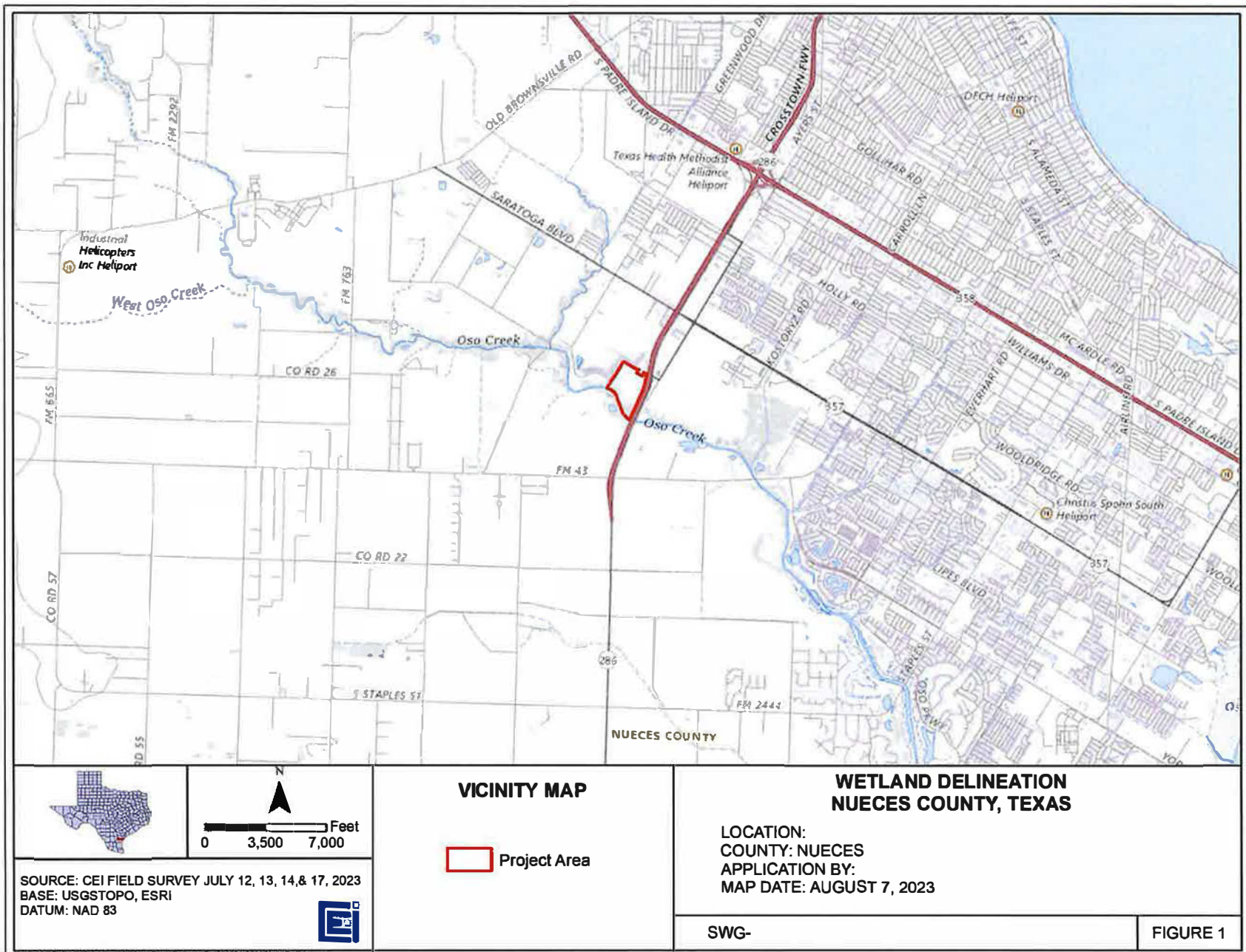
- 1.) Old English and German names were referred to the Texas Composite System of 1933. Some South Zone 4125, and were listed in the North American below at 1885(211) Ecom 2010.00.
- 2.) Some features shown on this Survey may be out of scale for clarity.
- 3.) The Survey was prepared from field data obtained on November

It is not wished to be submitted to the Town General Land Office.

[illegible][illegible]

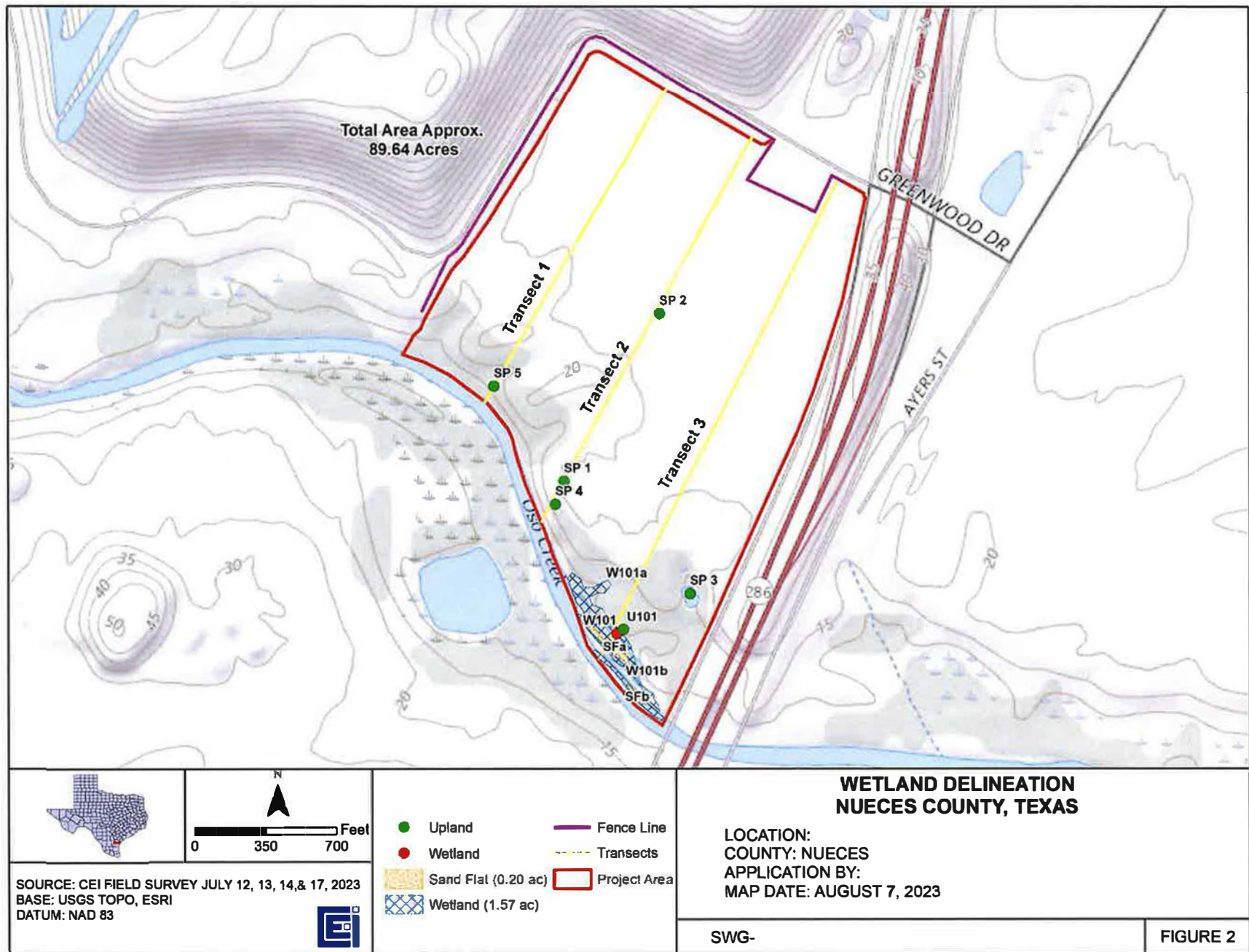


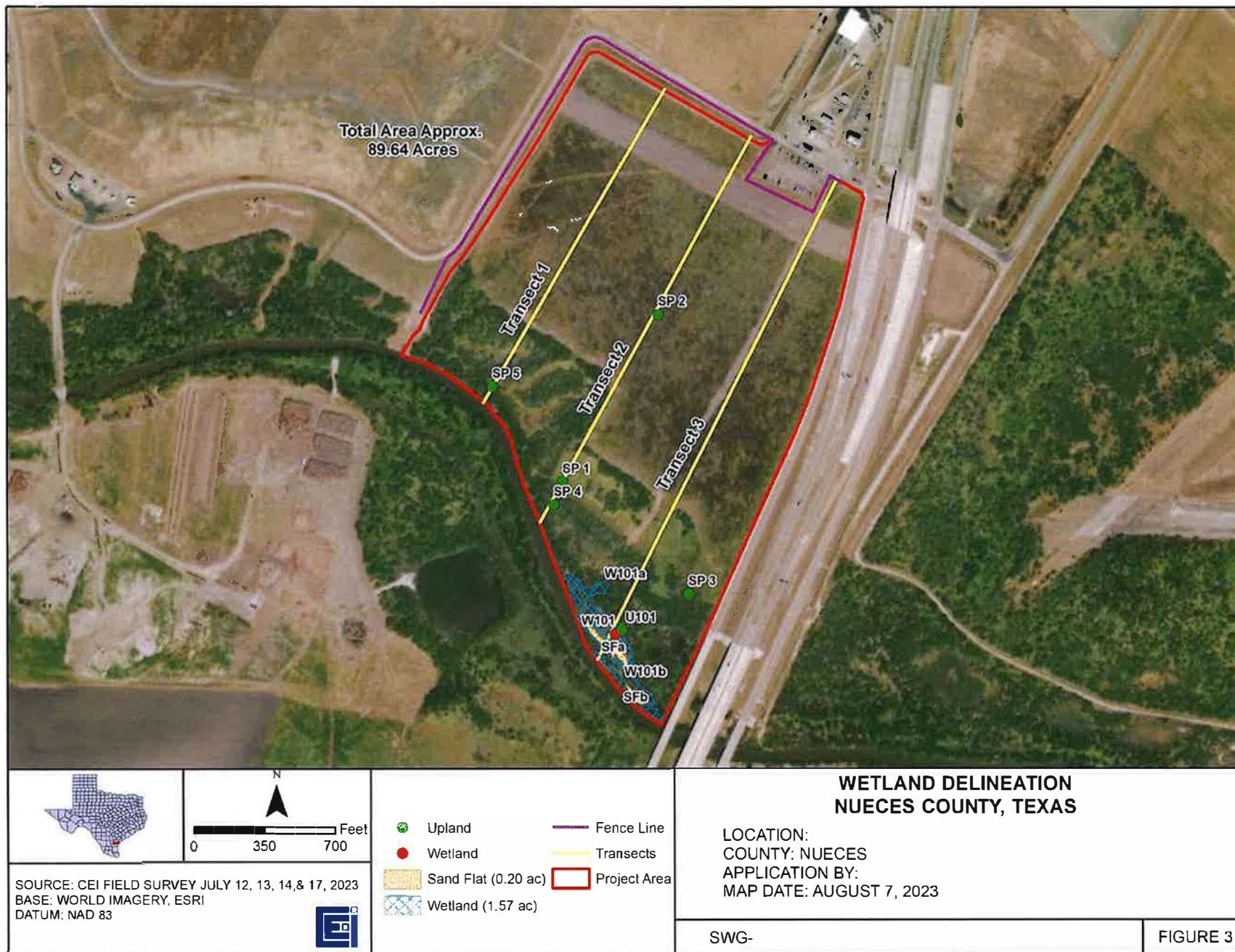
**Appendix B**  
**Vicinity Map**



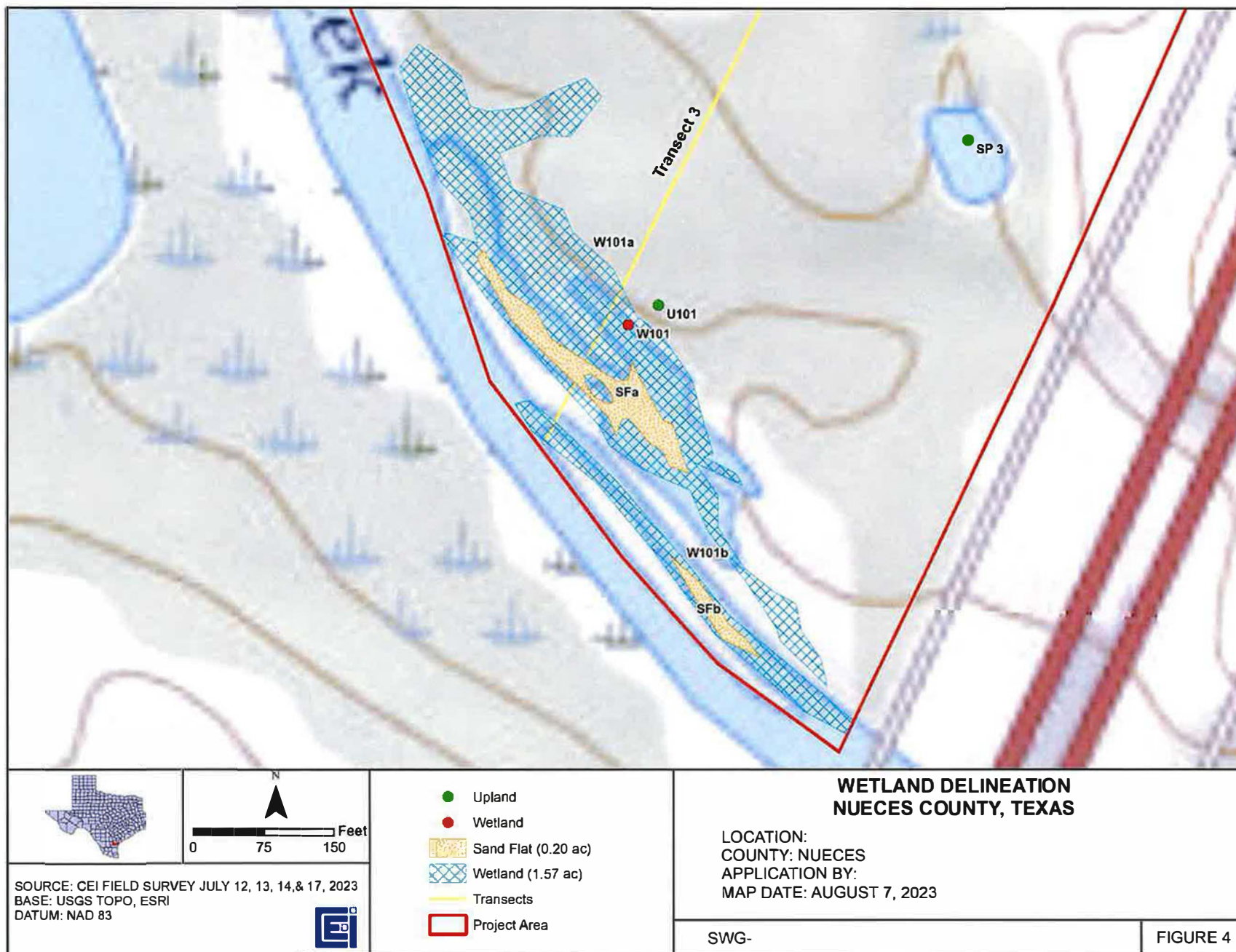


**Appendix C**  
**Wetland Delineation Maps**

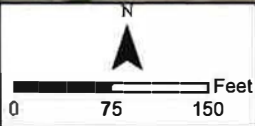












SOURCE: CEI FIELD SURVEY JULY 12, 13, 14, & 17, 2023  
 BASE: WORLD IMAGERY, ESRI  
 DATUM: NAD 83



- Upland
- Wetland
- Sand Flat (0.20 ac)
- Wetland (1.57 ac)
- Transects
- Project Area

## WETLAND DELINEATION NUECES COUNTY, TEXAS

LOCATION:  
 COUNTY: NUECES  
 APPLICATION BY:  
 MAP DATE: AUGUST 7, 2023

SWG-

FIGURE 5

Document Path: S:\Shared With Mark Drive\Projects\1A\223070\223070\_WD\_Fig 5.mxd



## **Appendix D**

### **USACE Wetland Data Forms And Request for Corps Jurisdictional Determination (Field Survey July 12-14 and 17-18, 2023)**

# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/12/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: W101  
 Investigator(s): W.Wilson, J.Sierra Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T:150B Lat: 27.698920° Long: -97.452799° Datum: NAD83  
 Soil Map Unit Name: Gv-Gullied land, Saline NWI classification: PUSR

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Wetland Hydrology Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>			
Remarks:					

## **HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION (Four Strata)** – Use scientific names of plants.

 Sampling Point: W101

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: _____
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <i>Prosopis glandulosa</i>	45	Y	NI	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>22.5</u> 20% of total cover: <u>9</u>
<b>Herb Stratum</b> (Plot size: _____)				<b>Remarks:</b> (If observed, list morphological adaptations below).
1. <i>Borrchia frutescens</i>	30	Y	OBL	
2. <i>Panicum virgatum</i>	10	N	FAC	
3. <i>Distichlis spicata</i>	20	Y	OBL	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>30</u> 20% of total cover: <u>12</u>
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: _____ 20% of total cover: _____

## SOIL

Sampling Point: W101

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-2	10YR5/2	94	10YR7/2	4	D	M	Clay loam	
			7.5YR4/6	2	C	PL	Clay loam	
2-9	10YR2/2	98	7.5YR4/6	2	C	PL	Clay loam	
9-15+	10YR3/2	88	10YR5/1	10	D	M	Clay loam	
			7.5YR3/4	2	C	PL	Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☒ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
 (MLRA 153B)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☒ No ☐

Remarks:

# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/12/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: U101  
 Investigator(s): W. Wilson, J. Sierra Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T;150B Lat: 27.698981° Long: -97.452703° Datum: NAD83  
 Soil Map Unit Name: Gv-Gullied land, Saline NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

## **HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			



**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: U101

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
50% of total cover: <u>0</u> 20% of total cover: _____ _____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
<b>Sapling/Shrub Stratum</b> (Plot size: _____) 1. <i>Prosopis glandulosa</i> 50 Y NI 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 50 = Total Cover 50% of total cover: <u>25</u> 20% of total cover: <u>10</u>				
<b>Herb Stratum</b> (Plot size: _____) 1. <i>Panicum virgatum</i> 90 Y FAC 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 90 = Total Cover 50% of total cover: <u>45</u> 20% of total cover: <u>18</u>				<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
<b>Woody Vine Stratum</b> (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 0 = Total Cover 50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).   				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

**SOIL**

 Sampling Point: U101

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)							
Depth (inches)	Matrix		Redox Features			Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>		
0-5	10YR2/2	100				Clay loam	
5-14+	10YR5/2	100				Clay loam	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.
<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils <sup>3</sup> :
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Polyvalue Below Surface (S8) (LRR S, T, U)	<input type="checkbox"/> 1 cm Muck (A9) (LRR O)
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Thin Dark Surface (S9) (LRR S, T, U)	<input type="checkbox"/> 2 cm Muck (A10) (LRR S)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1) (LRR O)	<input type="checkbox"/> Reduced Vertic (F18) (outside MLRA 150A, B)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (LRR P, S, T)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20)
<input type="checkbox"/> Organic Bodies (A6) (LRR P, T, U)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> (MLRA 153B)
<input type="checkbox"/> 5 cm Mucky Mineral (A7) (LRR P, T, U)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Muck Presence (A8) (LRR U)	<input type="checkbox"/> Redox Depressions (F8)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)
<input type="checkbox"/> 1 cm Muck (A9) (LRR P, T)	<input type="checkbox"/> Marl (F10) (LRR U)	<input type="checkbox"/> Other (Explain in Remarks)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Ochric (F11) (MLRA 151)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR O, P, T)	
<input type="checkbox"/> Coast Prairie Redox (A16) (MLRA 150A)	<input type="checkbox"/> Umbric Surface (F13) (LRR P, T, U)	
<input type="checkbox"/> Sandy Mucky Mineral (S1) (LRR O, S)	<input type="checkbox"/> Delta Ochric (F17) (MLRA 151)	
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Reduced Vertic (F18) (MLRA 150A, 150B)	
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Piedmont Floodplain Soils (F19) (MLRA 149A)	
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)	
<input type="checkbox"/> Dark Surface (S7) (LRR P, S, T, U)		

**Restrictive Layer (if observed):**  
 Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present?   Yes ☐   No ☒

**Remarks:**

# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/17/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: SP1  
 Investigator(s): W. Wilson, H. Perez Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T:150B Lat: 27.700955° Long: -97.453684° Datum: NAD83  
 Soil Map Unit Name: Gv-Gullied land, Saline NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

## **HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: SP1

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				0 = Total Cover
50% of total cover: 0				20% of total cover: _____
<b>Sapling/Shrub Stratum</b> (Plot size: _____)				
1. <i>Prosopis glandulosa</i>	2	N	NI	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
				2 = Total Cover
50% of total cover: _____				20% of total cover: _____
<b>Herb Stratum</b> (Plot size: _____)				
1. <i>Bothriochloa ischaemum</i>	100	Y	NI	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
				100 = Total Cover
50% of total cover: 50				20% of total cover: 20
<b>Woody Vine Stratum</b> (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
				0 = Total Cover
50% of total cover: _____				20% of total cover: _____
<b>Remarks:</b> (If observed, list morphological adaptations below).				

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A)

Total Number of Dominant Species Across All Strata: \_\_\_\_\_ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: \_\_\_\_\_ (A/B)

**Prevalence Index worksheet:**

Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_

OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_

FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_

FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_

FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_

UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_

Column Totals: 0 (A) 0 (B)

Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**

☐ 1 - Rapid Test for Hydrophytic Vegetation

☐ 2 - Dominance Test is >50%

☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>

☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

<sup>1</sup>Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Definitions of Four Vegetation Strata:**

**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☐ No ☒

## SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features		Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
	Color (moist)	%	Color (moist)	%				
0-15+	10YR2/1	100					Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
 (MLRA 153B)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:



# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/17/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: SP2  
 Investigator(s): W.Wilson, H. Perez Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T;150B Lat: 27.703279° Long: -97.452317° Datum: NAD83  
 Soil Map Unit Name: VcA-Victoria clay 0 to 1 percent slopes NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks:

Agricultural field that was planted as recently as 2 years ago, but has been fallow since.

## **HYDROLOGY**

### **Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- |  |  |
|--|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input type="checkbox"/> Aquatic Fauna (B13)                           |
| <input type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Marl Deposits (B15) (LRR U)                   |
| <input type="checkbox"/> Saturation (A3)                           | <input type="checkbox"/> Hydrogen Sulfide Odor (C1)                    |
| <input type="checkbox"/> Water Marks (B1)                          | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) |
| <input type="checkbox"/> Sediment Deposits (B2)                    | <input type="checkbox"/> Presence of Reduced Iron (C4)                 |
| <input type="checkbox"/> Drift Deposits (B3)                       | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)    |
| <input type="checkbox"/> Algal Mat or Crust (B4)                   | <input type="checkbox"/> Thin Muck Surface (C7)                        |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Other (Explain in Remarks)                    |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) |  |
| <input type="checkbox"/> Water-Stained Leaves (B9)                 |  |

### **Secondary Indicators (minimum of two required)**

- |  |
|--|
| <input checked="" type="checkbox"/> Surface Soil Cracks (B6)       |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   |
| <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input type="checkbox"/> Moss Trim Lines (B16)                     |
| <input type="checkbox"/> Dry-Season Water Table (C2)               |
| <input type="checkbox"/> Crayfish Burrows (C8)                     |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2)                  |
| <input type="checkbox"/> Shallow Aquitard (D3)                     |
| <input type="checkbox"/> FAC-Neutral Test (D5)                     |
| <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)             |

### **Field Observations:**

Surface Water Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Water Table Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____
Saturation Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soils appear to be vertisols here.

**VEGETATION (Four Strata)** – Use scientific names of plants.

Sampling Point: SP2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B)  Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
50% of total cover: <u>0</u> 20% of total cover: _____ _____ = Total Cover				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.  <b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
<b>Sapling/Shrub Stratum</b> (Plot size: _____) 1. <u>Baccharis neglecta</u> <u>5</u> Y FAC 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 50% of total cover: <u>2.5</u> 20% of total cover: <u>1</u> _____ = Total Cover				
<b>Herb Stratum</b> (Plot size: _____) 1. <u>Helianthus annuus</u> <u>25</u> Y FAC 2. <u>Solidago odora</u> <u>10</u> Y NI 3. <u>Symphytotrichum lanceolatum</u> <u>5</u> N NI 4. <u>Bothriochloa ischaemum</u> <u>1</u> N NI 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____ 11. _____ 12. _____ 50% of total cover: <u>20.5</u> 20% of total cover: <u>8.2</u> _____ = Total Cover				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>Woody Vine Stratum</b> (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 50% of total cover: _____ 20% of total cover: _____ _____ = Total Cover				
Remarks: (If observed, list morphological adaptations below).  <b>The Symphyotrichum was not developed enough to have diagnostic characteristics yet. This was in an agricultural field that was last planted 2 years ago.</b>				

## SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-15+	10YR3/1	100					Clay	5% caliche in profile

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A, B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
 (MLRA 153B)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Vertic, deeply cracked soils. This area was in an agriculture as recently as two years ago. Between plowing and the vertic properties, the soil surface is mixed and homogenous.

# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/18/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: SP3  
 Investigator(s): W. Wilson, J. Sierra Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T; 150B Lat: 27.699493° Long: -97.451706° Datum: NAD83  
 Soil Map Unit Name: Gv-Gullied land, saline NWI classification: PEM1C  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks: Depression - possibly relic stream channel.					

## **HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: SP3

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: _____				
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. <u>Parkinsonia aculeata</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
10 = Total Cover				
50% of total cover: <u>5</u> 20% of total cover: <u>2</u>				
<b>Herb Stratum (Plot size: _____)</b>				
1. <u>Paspalum denticulatum</u>	<u>95</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Chloracantha spinosa</u>	<u>3</u>	<u>N</u>	<u>FACW</u>	
3. <u>Carex crus-corvi</u>	<u>5</u>	<u>N</u>	<u>OBL</u>	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
103 = Total Cover				
50% of total cover: <u>51.5</u> 20% of total cover: <u>20.6</u>				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
Remarks: (If observed, list morphological adaptations below).				

**Prevalence Index worksheet:**  
 Total % Cover of: \_\_\_\_\_ Multiply by: \_\_\_\_\_  
 OBL species \_\_\_\_\_ x 1 = \_\_\_\_\_  
 FACW species \_\_\_\_\_ x 2 = \_\_\_\_\_  
 FAC species \_\_\_\_\_ x 3 = \_\_\_\_\_  
 FACU species \_\_\_\_\_ x 4 = \_\_\_\_\_  
 UPL species \_\_\_\_\_ x 5 = \_\_\_\_\_  
 Column Totals: 0 (A) 0 (B)  
 Prevalence Index = B/A = \_\_\_\_\_

**Hydrophytic Vegetation Indicators:**  
☐ 1 - Rapid Test for Hydrophytic Vegetation  
☒ 2 - Dominance Test is >50%  
☐ 3 - Prevalence Index is ≤3.0<sup>1</sup>  
☐ Problematic Hydrophytic Vegetation<sup>1</sup> (Explain)

**Definitions of Four Vegetation Strata:**  
**Tree** – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  
**Sapling/Shrub** – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  
**Herb** – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  
**Woody vine** – All woody vines greater than 3.28 ft in height.

**Hydrophytic Vegetation Present?** Yes ☒ No ☐



## SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-2	10YR2/2	100					Clay	
2-12	10YR3/2	100					Clay	
12-15+	10YR4/1	97	10YR6/1	3	D	M	Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
 (MLRA 153B)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/18/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: SP4  
 Investigator(s): W. Wilson, J. Sierra Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T;150B Lat: 27.700635° Long: -97.453807° Datum: NAD83  
 Soil Map Unit Name: Gv-Gullied land, saline NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			

Remarks:

## **HYDROLOGY**

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Marl Deposits (B15) (LRR U)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Moss Trim Lines (B16)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)		<input type="checkbox"/> Shallow Aquitard (D3)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> FAC-Neutral Test (D5)
		<input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)

<b>Field Observations:</b>		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Surface Water Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Water Table Present?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

**VEGETATION (Four Strata) – Use scientific names of plants.**

 Sampling Point: SP4

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
0 = Total Cover				
50% of total cover: <u>0</u> 20% of total cover: _____				
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				
1. <i>Prosopis glandulosa</i>	5	N	UPL	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
2. <i>Zanthoxylum fagara</i>	10	N	FACU	
3. <i>Celtis ehrenbergiana</i>	40	Y	NI	
4. <i>Mahonia haematocarpa</i>	3	N	NI	
5. <i>Forestiera angustifolia</i>	45	Y	NI	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
103 = Total Cover				
50% of total cover: <u>51.5</u> 20% of total cover: <u>20.6</u>				
<b>Herb Stratum (Plot size: _____)</b>				
1. <i>Panicum virgatum</i>	30	Y	FAC	<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
30 = Total Cover				
50% of total cover: <u>15</u> 20% of total cover: <u>6</u>				
<b>Woody Vine Stratum (Plot size: _____)</b>				
1. _____	_____	_____	_____	<b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
0 = Total Cover				
50% of total cover: _____ 20% of total cover: _____				
<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: (If observed, list morphological adaptations below).				

## SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of Indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR2/1	100					Clay	5% caliche
6-13	10YR3/1	100					Clay	
13-15+	10YR5/1	100					Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
 (MLRA 153B)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: \_\_\_\_\_  
 Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

# **WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region**

Project/Site: 89.64 acre tract City/County: Corpus Christi, Nueces Sampling Date: 7/18/2023  
 Applicant/Owner: City of Corpus Christi State: TX Sampling Point: SP5  
 Investigator(s): W.Wilson, J.Sierra Section, Township, Range: \_\_\_\_\_  
 Landform (hillslope, terrace, etc.): \_\_\_\_\_ Local relief (concave, convex, none): \_\_\_\_\_ Slope (%): \_\_\_\_\_  
 Subregion (LRR or MLRA): T;150B Lat: 27.702217° Long: -97.454804° Datum: NAD83  
 Soil Map Unit Name: Gv-Gullied land, saline NWI classification: \_\_\_\_\_  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐  
 Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

## **SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.**

Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Is the Sampled Area within a Wetland?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Hydric Soil Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Wetland Hydrology Present?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>			
Remarks:					

## **HYDROLOGY**

<b>Wetland Hydrology Indicators:</b> <u>Primary Indicators (minimum of one is required; check all that apply)</u>		<u>Secondary Indicators (minimum of two required)</u>	
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Marl Deposits (B15) (LRR U) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Sphagnum moss (D8) (LRR T, U)	
<b>Field Observations:</b> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)		Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			



**VEGETATION (Four Strata) – Use scientific names of plants.**

Sampling Point: SP5

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
4. _____	_____	_____	_____	<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: <u>0</u> (A) <u>0</u> (B) Prevalence Index = B/A = _____
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>0</u> 20% of total cover: _____
<b>Sapling/Shrub Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Indicators:</b> <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <input type="checkbox"/> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
1. <i>Prosopis glandulosa</i>	<u>15</u>	<u>Y</u>	<u>UPL</u>	
2. <i>Vachellia rigidula</i>	<u>30</u>	<u>Y</u>	<u>NI</u>	
3. <i>Forestiera angustifolia</i>	<u>25</u>	<u>Y</u>	<u>NI</u>	
4. _____	_____	_____	_____	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. <b>Definitions of Four Vegetation Strata:</b>  <b>Tree</b> – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.  <b>Sapling/Shrub</b> – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.  <b>Herb</b> – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.  <b>Woody vine</b> – All woody vines greater than 3.28 ft in height.
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>35</u> 20% of total cover: <u>14</u>
<b>Herb Stratum (Plot size: _____)</b>				<b>Hydrophytic Vegetation Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
1. <i>Bothriochloa ischaemum</i>	<u>65</u>	<u>Y</u>	<u>NI</u>	
2. <i>Conoclinium betonicifolium</i>	<u>3</u>	<u>N</u>	<u>FACW</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	<b>Remarks:</b> (If observed, list morphological adaptations below).
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	<b>Woody Vine Stratum (Plot size: _____)</b>
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	_____ = Total Cover 50% of total cover: <u>34</u> 20% of total cover: <u>13.6</u>

## SOIL

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the Indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-3	10YR4/1	100					Clay	
3-8	10YR6/2	100					Clay	
8-13+	10YR7/1	100					Clay	

<sup>1</sup>Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)  
☐ Histic Epipedon (A2)  
☐ Black Histic (A3)  
☐ Hydrogen Sulfide (A4)  
☐ Stratified Layers (A5)  
☐ Organic Bodies (A6) (LRR P, T, U)  
☐ 5 cm Mucky Mineral (A7) (LRR P, T, U)  
☐ Muck Presence (A8) (LRR U)  
☐ 1 cm Muck (A9) (LRR P, T)  
☐ Depleted Below Dark Surface (A11)  
☐ Thick Dark Surface (A12)  
☐ Coast Prairie Redox (A16) (MLRA 150A)  
☐ Sandy Mucky Mineral (S1) (LRR O, S)  
☐ Sandy Gleyed Matrix (S4)  
☐ Sandy Redox (S5)  
☐ Stripped Matrix (S6)  
☐ Dark Surface (S7) (LRR P, S, T, U)

- ☐ Polyvalue Below Surface (S8) (LRR S, T, U)  
☐ Thin Dark Surface (S9) (LRR S, T, U)  
☐ Loamy Mucky Mineral (F1) (LRR O)  
☐ Loamy Gleyed Matrix (F2)  
☐ Depleted Matrix (F3)  
☐ Redox Dark Surface (F6)  
☐ Depleted Dark Surface (F7)  
☐ Redox Depressions (F8)  
☐ Marl (F10) (LRR U)  
☐ Depleted Ochric (F11) (MLRA 151)  
☐ Iron-Manganese Masses (F12) (LRR O, P, T)  
☐ Umbric Surface (F13) (LRR P, T, U)  
☐ Delta Ochric (F17) (MLRA 151)  
☐ Reduced Vertic (F18) (MLRA 150A, 150B)  
☐ Piedmont Floodplain Soils (F19) (MLRA 149A)  
☐ Anomalous Bright Loamy Soils (F20) (MLRA 149A, 153C, 153D)

Indicators for Problematic Hydric Soils<sup>3</sup>:

- ☐ 1 cm Muck (A9) (LRR O)  
☐ 2 cm Muck (A10) (LRR S)  
☐ Reduced Vertic (F18) (outside MLRA 150A,B)  
☐ Piedmont Floodplain Soils (F19) (LRR P, S, T)  
☐ Anomalous Bright Loamy Soils (F20)  
 (MLRA 153B)  
☐ Red Parent Material (TF2)  
☐ Very Shallow Dark Surface (TF12)  
☐ Other (Explain in Remarks)

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: \_\_\_\_\_

Depth (inches): \_\_\_\_\_

Hydric Soil Present? Yes ☐ No ☒

Remarks:

### Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: Chapman Ranch Rd / SH286, south of Greenwood Dr  
(Street Address)  
City/Township/Parish: Corpus Christi County: Nueces State: Texas  
Acreage of Parcel/Review Area for JD: ~89.64ac  
Section: \_\_\_\_\_ Township: \_\_\_\_\_ Range: \_\_\_\_\_  
Latitude (decimal degrees): 27.705004° Longitude (decimal degrees): -97.449276°  
(For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ☐ I currently own this property. ☐ I plan to purchase this property.  
☒ I am an agent/consultant acting on behalf of the requestor.  
☐ Other (please explain): \_\_\_\_\_
- Reason for request: (check as many as applicable)  
☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.  
☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.  
☒ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.  
☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.  
☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.  
☐ A Corps JD is required in order to obtain my local/state authorization.  
☐ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.  
☐ I believe that the site may be comprised entirely of dry land.  
☐ Other: \_\_\_\_\_
- Type of determination being requested:  
☒ I am requesting an approved JD.  
☐ I am requesting a preliminary JD.  
☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.  
☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

\*Signature: Sandi Hart Date: 8/10/2023

• Typed or printed name: Cassandra Hart  
Company name: Coastal Environments, Inc.  
Address: 525 S. Carancahua St.  
Corpus Christi, Texas 78410  
Daytime phone no.: 361 633 9463  
Email address: [REDACTED]

\*Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.  
Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.  
Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.  
Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

**Appendix E**

**USFWS National Wetland Inventory Map**



U.S. Fish and Wildlife Service  
**National Wetlands Inventory**

## Wetlands



August 4, 2023

### Wetlands

Estuarine and Marine Deepwater	Freshwater Emergent Wetland	Lake
Estuarine and Marine Wetland	Freshwater Forested/Shrub Wetland	Other
	Freshwater Pond	Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)  
This page was produced by the NW mapper







































**Appendix F**

**NRCS Soil Classification Map & Data**



# Soil Map—Nueces County, Texas

## MAP LEGEND

<b>Area of Interest (AOI)</b>	 Area of Interest (AOI)	 Spill Area
<b>Soils</b>	 Soil Map Unit Polygons	 Stony Spot
 Soil Map Unit Lines	 Soil Map Unit Points	 Very Stony Spot
<b>Special Point Features</b>		 Wet Spot
 Blowout		 Other
 Borrow Pit		 Special Line Features
 Clay Spot		<b>Water Features</b>
 Closed Depression		 Streams and Canals
 Gravel Pit		<b>Transportation</b>
 Gravelly Spot		 Rails
 Landfill		 Interstate Highways
 Lava Flow		 US Routes
 Marsh or swamp		 Major Roads
 Mine or Quarry		 Local Roads
 Miscellaneous Water		<b>Background</b>
 Perennial Water		 Aerial Photography
 Rock Outcrop		
 Saline Spot		
 Sandy Spot		
 Severely Eroded Spot		
 Sinkhole		
 Slide or Slip		
 Sodic Spot		

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Nueces County, Texas  
Survey Area Data: Version 21, Aug 24, 2022

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

Date(s) aerial images were photographed: Dec 17, 2020—Dec 24, 2020

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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Gv	Gulfed land, saline	23.4	23.3%
la	Arenas clay, 0 to 1 percent slopes, slightly saline, moderately sodic, frequently flooded	1.7	1.6%
Ts	Tidal flats, occasionally ponded	3.9	3.8%
VpA	Victoria clay, 0 to 1 percent slopes	57.8	56.3%
VaB	Victoria clay, 1 to 3 percent slopes	15.3	14.9%
Totals for Area of Interest		102.1	100.0%

## **Appendix G**

### **SOP Table**



Name	GPS_Date	GPS_Time	Satellites	PDOP	Rcvr_Type	Dist_Prev(m)	Vert_Prec	Horz_Prec	Northing	Easting	Lat	Long	Collector
T1	2023-07-12	07:55:54am	24	1.9	Trimble Geo 7x		0.1	0.1	3065508.21	652860.045	27.70518978	-97.44962741	J. Sierra
1st Bollard	2023-07-12	07:59:26am	23	2	Trimble Geo 7x	38.84	0.1	0.1	3065488.539	652893.591	27.70501863	-97.44929018	J. Sierra
Curb	2023-07-12	08:00:12am	20	1.7	Trimble Geo 7x	8.54	0.1	0.1	3065486.523	652902.172	27.70499929	-97.44920303	J. Sierra
Fence Corner 1	2023-07-12	08:03:54am	19	2.4000001	Trimble Geo 7x	37.38	0.1	0.1	3065506.511	652869.898	27.70518332	-97.44952772	J. Sierra
Fence Corner 2	2023-07-12	08:04:23am	16	4.3000002	Trimble Geo 7x	0.56	0.1	0.1	3065502.692	652867.709	27.70514911	-97.44955041	J. Sierra
Fence Corner 3	2023-07-12	08:05:04am	19	2.9000001	Trimble Geo 7x	3.55	0.1	0.1	3065512.799	652847.891	27.70524257	-97.44975008	J. Sierra
Fence Corner 4	2023-07-12	08:08:46am	17	5.3000002	Trimble Geo 7x	49.52	0.1	0.1	3065456.822	652824.447	27.70474007	-97.44989491	J. Sierra
Fence Corner 5	2023-07-12	08:13:05am	21	3.4000001	Trimble Geo 7x	76.49	0.1	0.1	3065499.721	652721.3	27.70513892	-97.45103528	J. Sierra
Fence Corner 6	2023-07-12	08:15:39am	19	4.3000002	Trimble Geo 7x	23.10	0.1	0.1	3065581.788	652757.272	27.70569495	-97.45066264	J. Sierra
Fence Corner 7	2023-07-12	08:35:03am	16	2.0998999	Trimble Geo 7x	297.55	0.1	0.1	3065701.199	652494.4	27.70698286	-97.45331027	J. Sierra
Fence Corner 8	2023-07-12	08:35:42am	19	2.9000001	Trimble Geo 7x	10.75	0.1	0.1	3065702.648	652483.025	27.70699722	-97.45342542	J. Sierra
Fence Corner 9	2023-07-12	08:38:20am	18	4.6998998	Trimble Geo 7x	6.23	0.1	0.1	3065699.631	652474.519	27.70697095	-97.45351206	J. Sierra
Fence Corner 10	2023-07-12	08:42:31am	7	2	Trimble Geo 7x	4.19	0.7	0.5	3065694.169	652467.22	27.7069225	-97.45358677	J. Sierra
Fence Corner 11	2023-07-12	09:02:43am	18	3.0999999	Trimble Geo 7x	142.19	0.4	0.2	3065381.382	652297.349	27.70411901	-97.45534895	J. Sierra
Fence Corner 12	2023-07-12	09:03:31am	17	3.7	Trimble Geo 7x	11.47	0.3	0.2	3065369.804	652288.272	27.70401555	-97.45544245	J. Sierra
Fence Corner 13	2023-07-12	09:04:06am	13	3.9000001	Trimble Geo 7x	13.50	0.2	0.2	3065360.193	652276.744	27.70393013	-97.45555056	J. Sierra
Fence Corner 14 end	2023-07-12	09:07:42am	12	6.4000001	Trimble Geo 7x	60.27	0.1	0.1	3065275.375	652240.283	27.70316882	-97.45594103	J. Sierra
SW Property Corner/Photo Point 22	2023-07-12	09:15:22am	24	1.6	Trimble Geo 7x	44.88	0.1	0.1	3065214.689	652216.939	27.70262363	-97.45618543	J. Sierra
Photo Point 1	2023-07-12	10:06:09am	29	1.4	Trimble Geo 7x	627.28	0.1	0.1	3065435.399	652827.696	27.70454637	-97.4499647	J. Sierra
Photo Point 2	2023-07-12	10:15:33am	13	1.6	Trimble Geo 7x	174.75	0.1	0.1	3065275.161	652757.959	27.70310825	-97.45069222	J. Sierra
Photo Point 3	2023-07-12	10:40:37am	20	5.4000001	Trimble Geo 7x	307.85	0.1	0.1	3064993.615	652633.448	27.70058159	-97.45199052	J. Sierra
Photo Point 4	2023-07-12	12:39:49pm	85	6.5	Trimble Geo 7x	93.47	0.1	0.1	3064908.548	652594.703	27.69981831	-97.45239419	J. Sierra
Photo Point 5	2023-07-12	01:01:30pm	14	4.1999998	Trimble Geo 7x	70.86	0.1	0.1	3064843.475	652566.66	27.69923424	-97.45268681	J. Sierra
W101-pld	2023-07-12	01:20:58pm	112	6.6999998	Trimble Geo 7x	36.43	0.1	0.1	3064808.035	652556.774	27.69891553	-97.45279154	J. Sierra
U101-pld	2023-07-12	01:53:36pm	20	4.5999999	Trimble Geo 7x	10.01	0.1	0.1	3064814.906	652566.139	27.69897649	-97.45269572	J. Sierra
SFa_1	2023-07-13	08:39:20am	27	4.4000001	Trimble Geo 7x	45.61	0.1	0.1	3064760.841	652578.507	27.69848718	-97.45257721	H. Perez
SFa_2	2023-07-13	08:40:17am	25	4.4000001	Trimble Geo 7x	3.17	0.1	0.1	3064764.916	652576.705	27.69852415	-97.45259496	H. Perez
SFa_3	2023-07-13	08:41:11am	26	5.4000001	Trimble Geo 7x	9.34	0.1	0.1	3064778.562	652572.502	27.69862973	-97.45283609	H. Perez
SFa_4	2023-07-13	08:42:36am	25	5.5999999	Trimble Geo 7x	0.10	0.1	0.1	3064777.8	652569.097	27.69864129	-97.45267045	H. Perez
SFa_5	2023-07-13	08:44:00am	32	7.1999998	Trimble Geo 7x	12.59	0.1	0.1	3064795.758	652558.509	27.69880454	-97.45277552	H. Perez
SFa_6	2023-07-13	08:44:46am	31	4.4000001	Trimble Geo 7x	5.35	0.1	0.1	3064790.398	652557.442	27.6987563	-97.45278702	H. Perez
SFa_7	2023-07-13	08:45:28am	25	3.3	Trimble Geo 7x	1.96	0.1	0.1	3064789.769	652553.9	27.69876102	-97.45282301	H. Perez
SFa_8	2023-07-13	08:46:35am	25	6.0999999	Trimble Geo 7x	2.64	0.1	0.1	3064802.509	652531.787	27.69886849	-97.45304559	H. Perez
SFa_9	2023-07-13	08:47:15am	23	3.5999999	Trimble Geo 7x	5.58	0.1	0.1	3064811.128	652528.55	27.69894668	-97.45309759	H. Perez
SFa_10	2023-07-13	08:48:41am	39	3.5	Trimble Geo 7x	1.16	0.1	0.1	3064816.876	652517.401	27.69899978	-97.45318961	H. Perez
SFa_11	2023-07-13	08:51:02am	25	2.5	Trimble Geo 7x	7.34	0.1	0.1	3064829.287	652509.145	27.69911272	-97.45327174	H. Perez
SFa_12	2023-07-13	08:51:34am	28	6.5999999	Trimble Geo 7x	1.83	0.1	0.1	3064828.155	652507.342	27.69910271	-97.45329017	H. Perez
SFa_13	2023-07-13	08:52:52am	25	6.4000001	Trimble Geo 7x	12.84	0.1	0.1	3064807.853	652519.137	27.69891815	-97.45317316	H. Perez
SFa_14	2023-07-13	08:54:11am	32	2.9000001	Trimble Geo 7x	6.92	0.1	0.1	3064792.177	652538.257	27.69877475	-97.45300158	H. Perez
SFa_15	2023-07-13	08:55:58am	41	4.4000001	Trimble Geo 7x	2.23	0.1	0.1	3064787.055	652542.272	27.69872784	-97.45294125	H. Perez
SFa_16	2023-07-13	08:57:22am	20	6.5999999	Trimble Geo 7x	4.65	0.1	0.1	3064777.899	652551.755	27.69864414	-97.45284627	H. Perez
SFa_17	2023-07-13	08:58:12am	25	2.9000001	Trimble Geo 7x	4.31	1.1	1.1	3064772.107	652554.426	27.69859158	-97.45281892	H. Perez
SFa_18	2023-07-13	08:58:49am	23	2.3	Trimble Geo 7x	5.56	0.1	0.1	3064777.402	652556.186	27.69863916	-97.45280141	H. Perez
SFa_19	2023-07-13	08:59:22am	27	4.0998999	Trimble Geo 7x	1.06	0.1	0.1	3064777.598	652558.488	27.69864066	-97.45277805	H. Perez
SFa_20	2023-07-13	09:00:10am	30	8.1000004	Trimble Geo 7x	4.45	0.1	0.1	3064770.02	652565.32	27.69857151	-97.45270974	H. Perez
SFa_21	2023-07-13	09:04:56am	35	3.8	Trimble Geo 7x	0.59	0.1	0.1	3064767.737	652569.481	27.69855044	-97.45266784	H. Perez
SFa_22 tie to 1	2023-07-13	09:05:52am	22	2.21	Trimble Geo 7x	3.58	0.1	0.1	3064762.786	652572.346	27.69850542	-97.45263942	H. Perez
w101c_1	2023-07-13	09:08:17am	22	2	Trimble Geo 7x	11.14	0.1	0.1	3064782.601	652553.046	27.69868644	-97.45283259	H. Perez
w101c_2	2023-07-13	09:08:47am	22	2.3	Trimble Geo 7x	2.07	0.1	0.1	3064785.148	652552.354	27.69870949	-97.45283927	H. Perez
w101c_3	2023-07-13	09:09:20am	24	2.5999999	Trimble Geo 7x	2.37	0.1	0.1	3064788.949	652549.484	27.69874412	-97.45286779	H. Perez
w101c_4	2023-07-13	09:10:26am	21	2.0999999	Trimble Geo 7x	0.90	0.1	0.1	3064791.713	652545.41	27.69876953	-97.45290894	H. Perez
w101c_5	2023-07-13	09:10:57am	22	3.4000001	Trimble Geo 7x	1.66	0.1	0.1	3064790.764	652543.441	27.69876119	-97.45292893	H. Perez

Name	GPS_Date	GPS_Time	Satellites	PDOP	Revr_Type	Dist_Prec(m)	Vert_Prec	Horz_Prec	Northing	Easting	Lat	Long	Collector
w101c_6	2023-07-13	09:11:32am	25	3.5999999	Trimble Geo 7x	2.35	0.1	0.1	3064788.087	652543.693	27.698737	-97.45292671	H.Perez
w101c_7	2023-07-13	09:12:09am	21	3.7	Trimble Geo 7x	2.45	0.1	0.1	3064783.86	652547.256	27.69869845	-97.45289112	H.Perez
w101c_8	2023-07-13	09:12:57am	20	2.9000001	Trimble Geo 7x	0.08	0.1	0.1	3064782.048	652551.679	27.69868159	-97.45284651	H.Perez
Sfb_1	2023-07-13	09:23:31am	31	6.4000001	Trimble Geo 7x	56.25	0.1	0.1	3064702.598	652604.507	27.69795862	-97.45232101	H.Perez
Sfb_2	2023-07-13	09:24:34am	26	4.9000001	Trimble Geo 7x	4.05	0.1	0.1	3064708.382	652599.733	27.69801136	-97.45236868	H.Perez
Sfb_3	2023-07-13	09:28:46am	27	6.8000002	Trimble Geo 7x	2.53	0.2	0.1	3064712.95	652593.95	27.69805323	-97.45242673	H.Perez
Sfb_4	2023-07-13	09:27:43am	21	6.6999998	Trimble Geo 7x	9.09	0.1	0.1	3064726.16	652583.481	27.69817384	-97.45253119	H.Perez
Sfb_5	2023-07-13	09:28:46am	22	5.5999999	Trimble Geo 7x	4.09	0.1	0.1	3064733.937	652573.991	27.69824489	-97.45262642	H.Perez
Sfb_6	2023-07-13	09:29:40am	20	3	Trimble Geo 7x	7.00	0.9	1	3064724.206	652580.295	27.69815636	-97.45256374	H.Perez
Sfb_7 tie to 1	2023-07-13	09:30:34am	26	3	Trimble Geo 7x	11.48	0.5	0.4	3064708.067	652591.629	27.69800941	-97.45244885	H.Perez
W101a_1	2023-07-13	09:52:23am	32	5.1999998	Trimble Geo 7x	4.93	0.1	0.1	3064703.178	652623.841	27.69796166	-97.45212492	H.Perez
W101a_2	2023-07-13	09:53:11am	21	2.9000001	Trimble Geo 7x	2.71	1	1.2	3064706.746	652621.329	27.69799415	-97.45214993	H.Perez
W101a_3	2023-07-13	09:54:59am	20	5.3000002	Trimble Geo 7x	3.81	0.1	0.1	3064712.002	652617.095	27.69804206	-97.45219218	H.Perez
W101a_4	2023-07-13	09:55:54am	20	5.4000001	Trimble Geo 7x	7.86	0.1	0.1	3064720.835	652615.116	27.698122	-97.45221113	H.Perez
W101a_5	2023-07-13	09:56:42am	21	4.8000002	Trimble Geo 7x	1.09	0.1	0.1	3064724.386	652607.515	27.69815491	-97.45228774	H.Perez
W101a_6	2023-07-13	09:58:12am	20	5.5	Trimble Geo 7x	3.81	0.1	0.1	3064731.644	652597.689	27.69822131	-97.45238645	H.Perez
W101a_7	2023-07-13	09:58:48am	20	5.6999998	Trimble Geo 7x	8.75	0.1	0.1	3064743.984	652588.803	27.69833388	-97.45247496	H.Perez
W101a_8	2023-07-13	10:01:14am	21	4.4000001	Trimble Geo 7x	9.45	0.1	0.1	3064754.254	652588.146	27.69842664	-97.45248032	H.Perez
W101a_9	2023-07-13	10:04:37am	22	6.5	Trimble Geo 7x	6.68	0.2	0.2	3064764.321	652580.143	27.69851839	-97.45256017	H.Perez
W101a_10	2023-07-13	10:05:52am	22	3.2	Trimble Geo 7x	2.91	0.1	0.1	3064766.352	652583.023	27.6985364	-97.45253071	H.Perez
W101a_11	2023-07-13	10:11:06am	20	7.5	Trimble Geo 7x	3.44	0.1	0.1	3064758.037	652595.847	27.6984599	-97.45240175	H.Perez
W101a_12	2023-07-13	10:11:37am	20	4.3000002	Trimble Geo 7x	2.57	0.1	0.1	3064761.51	652593.736	27.69849149	-97.45242271	H.Perez
W101a_13	2023-07-13	10:12:56am	21	4.4000001	Trimble Geo 7x	3.32	0.1	0.1	3064767.804	652586.137	27.69854915	-97.45249896	H.Perez
W101a_14	2023-07-13	10:20:35am	21	6.9000001	Trimble Geo 7x	5.97	0.1	0.1	3064776.5	652582.801	27.69862801	-97.45253167	H.Perez
W101a_15	2023-07-13	10:23:54am	25	5.6999998	Trimble Geo 7x	12.19	0.1	0.1	3064791.386	652578.088	27.69876287	-97.45257758	H.Perez
W101a_16	2023-07-13	10:28:47am	21	3.8	Trimble Geo 7x	9.38	0.5	0.2	3064805.831	652567.359	27.69889445	-97.45268445	H.Perez
W101a_17	2023-07-13	10:29:12am	33	6.4000001	Trimble Geo 7x	1.40	0.1	0.1	3064810.799	652559.239	27.6989402	-97.4527662	H.Perez
W101a_18	2023-07-13	10:32:40am	22	6.8000002	Trimble Geo 7x	10.15	0.6	0.4	3064825.554	652550.959	27.69907429	-97.45284828	H.Perez
W101a_19	2023-07-13	10:34:02am	25	5.1999998	Trimble Geo 7x	4.17	0.1	0.1	3064836.593	652537.169	27.69917548	-97.45298668	H.Perez
W101a_20	2023-07-13	10:35:02am	25	6.9000001	Trimble Geo 7x	4.77	0.1	0.1	3064843.501	652533.857	27.69923819	-97.45301938	H.Perez
W101a_21	2023-07-13	10:37:02am	28	6.9000001	Trimble Geo 7x	2.30	0.4	0.2	3064849.049	652517.775	27.69929008	-97.45318174	H.Perez
W101a_22	2023-07-13	10:38:51am	21	6.8000002	Trimble Geo 7x	8.14	0.1	0.1	3064860.597	652513.325	27.6993948	-97.45322538	H.Perez
W101a_23	2023-07-13	10:40:48am	21	6.5999999	Trimble Geo 7x	11.66	2.1	0.9	3064866.954	652526.258	27.6994507	-97.45309344	H.Perez
W101a_24	2023-07-13	10:43:37am	21	4.5	Trimble Geo 7x	4.17	0.2	0.1	3064867.017	652535.271	27.69945025	-97.45300206	H.Perez
W101a_25	2023-07-13	10:51:07am	28	6.5999999	Trimble Geo 7x	18.15	1.1	0.7	3064880.281	652544.842	27.69956887	-97.45290333	H.Perez
W101a_26	2023-07-13	10:53:04am	32	5.0999999	Trimble Geo 7x	2.89	0.1	0.1	3064888.255	652539.468	27.69962338	-97.45295705	H.Perez
W101a_27	2023-07-13	01:08:27pm	20	3.5	Trimble Geo 7x	7.60	0.1	0.1	3064882.471	652530.282	27.69959028	-97.45305067	H.Perez
W101a_28	2023-07-13	01:09:53pm	30	3.5999999	Trimble Geo 7x	9.76	0.1	0.1	3064878.731	652520.288	27.69953961	-97.45315273	H.Perez
W101a_29	2023-07-13	01:11:42pm	43	4.6999999	Trimble Geo 7x	7.92	0.1	0.1	3064874.488	652507.884	27.69952077	-97.45327878	H.Perez
W101a_30	2023-07-13	01:15:39pm	23	2.2	Trimble Geo 7x	1.52	0.1	0.1	3064875.964	652502.135	27.69953474	-97.45333687	H.Perez
W101a_31	2023-07-13	01:17:40pm	21	3.9000001	Trimble Geo 7x	6.30	0.1	0.1	3064884.713	652499.523	27.699614	-97.45336225	H.Perez
W101a_32	2023-07-13	01:21:19pm	20	4.0999999	Trimble Geo 7x	0.80	0.1	0.1	3064894.46	652484.696	27.69970363	-97.45351133	H.Perez
Photo Point 6	2023-07-13	01:25:09pm	36	3.4000001	Trimble Geo 7x	13.01	0.1	0.1	3064887.405	652471.374	27.69964147	-97.45364731	H.Perez
W101a_33	2023-07-13	01:29:09pm	23	3.7	Trimble Geo 7x	3.41	0.1	0.1	3064887.024	652478.452	27.69963724	-97.45357558	H.Perez
W101a_34	2023-07-13	01:32:32pm	28	3.2	Trimble Geo 7x	14.44	0.1	0.1	3064885.4	652486.483	27.69944118	-97.45349691	H.Perez
Creek	2023-07-13	01:35:16pm	23	3.7	Trimble Geo 7x	13.89	0.1	0.1	3064847.281	652490.216	27.69927724	-97.45346137	H.Perez
W101a_35	2023-07-13	01:35:57pm	21	6.6999998	Trimble Geo 7x	4.79	0.1	0.1	3064850.737	652493.861	27.69930802	-97.45342398	H.Perez
W101a_36	2023-07-13	01:38:14pm	21	3.4000001	Trimble Geo 7x	3.59	0.1	0.1	3064841.167	652503.906	27.69822052	-97.45332335	H.Perez
W101a_37	2023-07-13	01:39:58pm	21	2.5999999	Trimble Geo 7x	6.91	0.1	0.1	3064831.863	652506.724	27.69913624	-97.45329596	H.Perez
W101a_38 on creek	2023-07-13	01:42:27pm	31	2.2	Trimble Geo 7x	2.85	0.1	0.1	3064834.188	652496.265	27.69915884	-97.45340171	H.Perez
W101a_39 on creek	2023-07-13	01:43:19pm	22	3.0999999	Trimble Geo 7x	1.40	0.1	0.1	3064833.031	652495.468	27.69914805	-97.45340994	H.Perez
W101a_40	2023-07-13	01:47:20pm	22	5.3000002	Trimble Geo 7x	0.36	0.3	0.2	3064826.432	652507.187	27.69908718	-97.45329196	H.Perez

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Name	GPS_Date	GPS_Time	Satellites	PDOP	Rcvr_Type	Dist_Prev(m)	Vert_Prec	Horz_Prec	Northing	Easting	Lat	Long	Collector
W101a_41	2023-07-13	01:48:28pm	20	2.8	Trimble Geo 7x	9.50	0.1	0.1	3064813.7	652511.249	27.69897181	-97.4532524	H Perez
W101a_42	2023-07-13	01:49:40pm	21	4.0999999	Trimble Geo 7x	11.26	0.1	0.1	3064790.781	652533.053	27.69876251	-97.45303424	H Perez
W101a_43	2023-07-13	01:50:45pm	21	4.6999998	Trimble Geo 7x	8.19	0.2	0.3	3064775.084	652548.379	27.69861913	-97.45288085	H Perez
W101a_44	2023-07-13	01:51:38pm	21	4.1999998	Trimble Geo 7x	4.64	0.2	0.3	3064768.224	652552.716	27.69855673	-97.45283776	H Perez
W101a_45	2023-07-13	01:52:50pm	26	6.3000002	Trimble Geo 7x	2.18	0.1	0.1	3064761.519	652563.435	27.698495	-97.45272993	H Perez
W101a_46	2023-07-13	01:55:01pm	25	4.5	Trimble Geo 7x	0.01	0.1	0.1	3064755.444	652579.188	27.6984384	-97.45257098	H Perez
W101a_47	2023-07-13	01:58:18pm	22	4.5999999	Trimble Geo 7x	9.74	0.2	0.1	3064742.797	652585.416	27.69832358	-97.45250946	H Perez
W101a_48	2023-07-13	02:02:17pm	28	4.4000001	Trimble Geo 7x	10.52	0.5	0.3	3064727.097	652598.59	27.69818038	-97.45237788	H Perez
W101a_49	2023-07-13	02:05:09pm	23	5.5999999	Trimble Geo 7x	10.80	0.7	0.1	3064712.324	652609.112	27.69804587	-97.45227309	H Perez
W101a_50 tie to 1	2023-07-13	02:07:13pm	52	4	Trimble Geo 7x	3.29	0.2	0.1	3064708.446	652610.48	27.69801072	-97.45225971	H Perez
Photo Point 8, PVC corner at creek	2023-07-13	02:16:10pm	50	4.4000001	Trimble Geo 7x	25.35	0.1	0.1	3064675.799	652631.75	27.69771369	-97.45204822	H Perez
W101b_1 tie to prop line	2023-07-13	02:18:53pm	23	4.9000001	Trimble Geo 7x	3.37	0.2	0.1	3064678.817	652633.509	27.69774072	-97.45203	H Perez
W101b_2 tie to prop line	2023-07-13	02:19:53pm	24	5	Trimble Geo 7x	4.94	0.1	0.1	3064683.57	652634.862	27.69778347	-97.45201568	H Perez
W101b_3	2023-07-13	02:20:57pm	23	5.5	Trimble Geo 7x	8.06	1.7	0.8	3064694.323	652628.352	27.69788147	-97.45210058	H Perez
W101b_4	2023-07-13	02:22:54pm	21	5.5	Trimble Geo 7x	2.55	0.7	0.4	3064700.893	652613.175	27.69794226	-97.45223335	H Perez
W101b_5	2023-07-13	02:25:15pm	19	27.6	Trimble Geo 7x	8.44	0.2	0.2	3064715.113	652693.38	27.69808185	-97.4524321	H Perez
W101b_6	2023-07-13	02:26:37pm	20	3.8	Trimble Geo 7x	11.93	0.1	0.1	3064734.46	652577.124	27.69824926	-97.45259459	H Perez
W101b_7	2023-07-13	02:28:38pm	21	3.2	Trimble Geo 7x	13.20	0.1	0.1	3064756.926	652555.537	27.69845445	-97.45281059	H Perez
W101b-8	2023-07-14	06:16:24am	21	4.6999998	Trimble Geo 7x	8.95	0.9	0.3	3064775.729	652534.178	27.69862655	-97.45302475	J Sierra
W101b-9	2023-07-14	06:18:11am	20	4.5999999	Trimble Geo 7x	1.98	0.2	0.1	3064781.689	652525.727	27.69868139	-97.45310967	J Sierra
W101b-10 at creek	2023-07-14	06:19:44am	39	4.8000002	Trimble Geo 7x	2.97	0.1	0.1	3064780.494	652521.261	27.69867101	-97.45315511	J Sierra
W101b-11 at creek	2023-07-14	06:29:57am	76	5.8000002	Trimble Geo 7x	5.40	0.3	0.1	3064771.93	652526.983	27.69859308	-97.45309819	J Sierra
T1 / Photo Point 7	2023-07-14	06:37:44am	41	5.0999999	Trimble Geo 7x	2.90	0.1	0.1	3064767.34	652530.133	27.69855131	-97.45306684	J Sierra
W101b-13	2023-07-14	06:43:13am	22	3.8	Trimble Geo 7x	2.62	0.4	0.3	3064756.366	652549.058	27.69845013	-97.45287635	J Sierra
W101b-14	2023-07-14	06:45:54am	22	3.5999999	Trimble Geo 7x	11.72	0.3	0.2	3064736.415	652587.606	27.69826798	-97.45269084	J Sierra
W101b-15	2023-07-14	06:50:00am	21	6.4000001	Trimble Geo 7x	18.02	0.9	0.4	3064709.412	652589.524	27.69802181	-97.45247205	J Sierra
W101b-16 connect flag	2023-07-14	06:53:23am	20	3.3	Trimble Geo 7x	13.52	0.1	0.1	3064685.855	652619.253	27.69780586	-97.45217384	J Sierra
T2 / Photo Point 9	2023-07-14	08:22:07pm	142	4.1999998	Trimble Geo 7x	173.33	0.1	0.1	3064975.562	652431.642	27.70044154	-97.45403893	J Sierra
Photo Point 10	2023-07-14	08:33:18pm	22	2.5999999	Trimble Geo 7x	30.89	0.1	0.1	3065000.574	652449.832	27.70066519	-97.45385132	J Sierra
Photo Point 11	2023-07-14	08:39:08pm	22	4.1999998	Trimble Geo 7x	108.76	0.1	0.1	3065096.807	652504.265	27.70152747	-97.45328718	J Sierra
Photo Point 12	2023-07-14	08:42:59pm	60	3.8	Trimble Geo 7x	137.51	0.1	0.1	3065230.644	652583.2	27.7027285	-97.45267259	J Sierra
Photo Point 13	2023-07-14	08:47:09pm	54	5.5	Trimble Geo 7x	135.09	0.1	0.1	3065366.871	652628.458	27.70395056	-97.45199358	J Sierra
Photo Point 14	2023-07-14	08:52:34pm	61	7	Trimble Geo 7x	97.39	0.1	0.1	3065489.234	652687.163	27.70504815	-97.45138275	J Sierra
T2	2023-07-14	08:55:29pm	19	1.7	Trimble Geo 7x	27.78	0.1	0.1	3065561.583	652724.04	27.70589777	-97.45099956	J Sierra
T3	2023-07-14	09:57:49pm	24	1.5	Trimble Geo 7x	144.78	0.1	0.1	3065627.113	652594.531	27.70630293	-97.45230442	J Sierra
Photo Point 15	2023-07-17	07:48:18am	79	4.5	Trimble Geo 7x	20.68	0.1	0.1	3065543.774	652550.482	27.70555584	-97.45278167	H Perez
Photo Point 16	2023-07-17	07:53:11am	57	3	Trimble Geo 7x	63.89	0.1	0.1	3065434.213	652491.919	27.70457376	-97.45336941	H Perez
Photo Point 17	2023-07-17	07:58:59pm	64	3.5999999	Trimble Geo 7x	110.39	0.1	0.1	3065298.377	652421.809	27.70335586	-97.45409757	H Perez
Photo Point 18	2023-07-17	08:01:30am	52	3.4000001	Trimble Geo 7x	36.98	0.1	0.1	3065257.451	652401.242	27.70288885	-97.45431131	H Perez
Photo Point 19	2023-07-17	08:04:02pm	46	7	Trimble Geo 7x	65.37	0.2	0.1	3065200.603	652358.656	27.70248065	-97.45475032	H Perez
Creek	2023-07-17	08:27:47am	82	3.8	Trimble Geo 7x	119.34	0.1	0.1	3065212.033	652217.442	27.70259978	-97.45618066	H Perez
Creek	2023-07-17	08:31:07am	37	3.9000001	Trimble Geo 7x	15.67	0.1	0.2	3065206.228	652237.518	27.70254513	-97.45597785	H Perez
Creek	2023-07-17	08:33:39am	21	2.2	Trimble Geo 7x	10.19	0.1	0.1	3065200.177	652251.892	27.70248889	-97.45583287	H Perez
Creek	2023-07-17	08:36:18am	21	3.0999999	Trimble Geo 7x	23.39	0.1	0.1	3065183.481	652287.381	27.70233421	-97.45547517	H Perez
Creek	2023-07-17	08:38:40am	21	5.9000001	Trimble Geo 7x	15.45	0.1	0.1	3065165.489	652316.134	27.70216867	-97.45518592	H Perez
Creek	2023-07-17	08:43:15pm	23	2.4000001	Trimble Geo 7x	7.77	0.2	0.2	3065149.88	652335.676	27.70202551	-97.45498977	H Perez
Creek	2023-07-17	08:47:14pm	22	2.3	Trimble Geo 7x	7.75	0.1	0.1	3065130.781	652358.916	27.70185052	-97.45475657	H Perez
T3 / Photo Point 20	2023-07-17	08:51:23pm	33	5.5999999	Trimble Geo 7x	4.76	0.1	0.1	3065144.778	652342.844	27.70197866	-97.45491774	H Perez
Creek	2023-07-17	08:57:14pm	21	4.6999998	Trimble Geo 7x	6.31	0.2	0.1	3065117.811	652370.929	27.70173212	-97.45463641	H Perez
Creek	2023-07-17	09:00:49pm	22	2.8	Trimble Geo 7x	0.37	0.1	0.1	3065108.475	652379.005	27.70164695	-97.45455572	H Perez
Creek	2023-07-17	09:15:52pm	20	2.8	Trimble Geo 7x	3.57	0.1	0.1	3065096.583	652384.403	27.70153902	-97.45450249	H Perez
Creek	2023-07-17	09:21:24pm	21	4.6999998	Trimble Geo 7x	13.41	0.1	0.1	3065065.683	652394.324	27.70125905	-97.454440584	H Perez

SOP\_223070

Name	GPS_Date	GPS_Time	Satellites	PDOP	Rcvr_Type	Dist_Prec(m)	Vert_Prec	Horz_Prec	Northing	Easting	Lat	Long	Collector
Creek	2023-07-17	09:27:43am	32	2.2	Trimble Geo 7x	20.48	0.1	0.1	3065021.871	652409.557	27.70086195	-97.45425696	H. Perez
Creek	2023-07-17	09:31:40am	21	6.5	Trimble Geo 7x	7.37	0.1	0.1	3065003.78	652418.66	27.70069747	-97.45416697	H. Perez
Creek	2023-07-17	09:45:51am	21	2.9000001	Trimble Geo 7x	22.49	1.1	1.1	3064956.908	652440.498	27.7002722	-97.45395152	H. Perez
Orange Stake	2023-07-17	09:51:56am	33	2.9000001	Trimble Geo 7x	4.44	0.1	0.1	3064947.652	652445.434	27.7001881	-97.45390265	H. Perez
creek	2023-07-17	10:02:06am	29	5	Trimble Geo 7x	16.95	0.1	0.1	3064919.768	652455.33	27.69993535	-97.45380586	H. Perez
SP1	2023-07-17	12:21:25pm	26	1.6	Trimble Geo 7x	96.80	0.1	0.1	3065032.411	652466.63	27.70095061	-97.45367696	H. Perez
SP2	2023-07-17	01:14:59pm	31	2.4000001	Trimble Geo 7x	277.58	0.1	0.1	3065291.547	652598.279	27.70327423	-97.45230916	H. Perez
Photo Point 21	2023-07-17	02:08:39pm	23	2.0999999	Trimble Geo 7x	304.86	0.1	0.1	3064898.582	652650.416	27.69972205	-97.45183059	H. Perez
SP-3	2023-07-18	05:47:47am	33	5.6999998	Trimble Geo 7x	20.34	0.1	0.1	3064872.842	652663.726	27.69948826	-97.45169892	J. Sierra
SP-4	2023-07-18	06:28:39am	21	2.5	Trimble Geo 7x	12.60	0.1	0.1	3064996.749	652455.025	27.70063009	-97.45379916	J. Sierra
SP-5	2023-07-18	07:49:39am	21	2.0999999	Trimble Geo 7x	44.54	0.1	0.1	3065170.794	652354.429	27.70221212	-97.45479697	J. Sierra

SOP\_223070

**Appendix H**  
**Site Photographs**



<b>Photo #</b>	<b>Description</b>	<b>Direction Facing</b>	<b>Date</b>
1	Representative vegetation at Sample Plot W101.	NW	7/12/2023
2	Representative vegetation at Sample Plot W101.	S	7/12/2023
3	Sample Plot W101 soil profile.	-	7/12/2023
4	Representative vegetation at Sample Plot U101.	SE	7/12/2023
5	Representative vegetation at Sample Plot U101.	NW	7/12/2023
6	Sample Plot U101 soil profile.	-	7/12/2023
7	Representative vegetation at Sample Plot 1.	N	7/17/2023
8	Representative vegetation at Sample Plot 1.	E	7/17/2023
9	Sample Plot 1 soil profile.	-	7/17/2023
10	Representative vegetation at Sample Plot 2.	E	7/17/2023
11	Representative vegetation at Sample Plot 2.	S	7/17/2023
12	Sample Plot 2 soil profile.	-	7/17/2023
13	Representative vegetation at Sample Plot 3.	SW	7/18/2023
14	Representative vegetation at Sample Plot 3.	SE	7/18/2023
15	Sample Plot 3 soil profile.	-	7/18/2023
16	Representative vegetation at Sample Plot 4.	SE	7/18/2023
17	Representative vegetation at Sample Plot 4.	NE	7/18/2023
18	Sample Plot 4 soil profile.	-	7/18/2023
19	Representative vegetation at Sample Plot 5.	SW	7/18/2023
20	Representative vegetation at Sample Plot 5.	NE	7/18/2023
21	Sample Plot 5 soil profile.	-	7/18/2023



**Figure 1. Representative vegetation at Sample Plot W101, facing northwest (CEI 7/12/2023).**



**Figure 2. Representative vegetation at Sample Plot W101, facing south (CEI 7/12/2023).**





**Figure 3.** Sample Plot W101 soil profile (CEI 7/12/2023).



**Figure 4.** Representative vegetation at Sample Plot U101, facing southeast (CEI 7/12/2023).





**Figure 5.** Representative vegetation at Sample Plot U101, facing northwest (CEI 7/12/2023).



**Figure 6.** Sample Plot U101 soil profile (CEI 7/12/2023).





**Figure 7. Representative vegetation at Sample Plot 1, facing north (CEI 7/17/2023).**



**Figure 8. Representative vegetation at Sample Plot 1, facing east (CEI 7/17/2023).**





**Figure 9.** Sample Plot 1 soil profile (CEI 7/17/2023).



**Figure 10.** Representative vegetation at Sample Plot 2, facing east (CEI 7/17/2023).





**Figure 11. Representative vegetation at Sample Plot 2, facing south (CEI 7/17/2023).**



**Figure 12. Sample Plot 2 soil profile (CEI 7/17/2023).**





**Figure 13. Representative vegetation at Sample Plot 3, facing southwest (CEI 7/18/2023).**



**Figure 14. Representative vegetation at Sample Plot 3, facing southeast (CEI 7/18/2023).**





**Figure 15.** Sample Plot 3 soil profile (CEI 7/18/2023).



**Figure 16.** Representative vegetation at Sample Plot 4, facing southeast (CEI 7/18/2023).





**Figure 17.** Representative vegetation at Sample Plot 4, facing northeast (CEI 7/18/2023).



**Figure 18.** Sample Plot 4 soil profile (CEI 7/18/2023).





**Figure 19. Representative vegetation at Sample Plot 5, facing southwest (CEI 7/18/2023).**



**Figure 20. Representative vegetation at Sample Plot 5, facing northeast (CEI 7/18/2023).**





**Figure 21.**      **Sample Plot 5 soil profile (CEI 7/18/2023).**

FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Permit Application  
JC Elliott Transfer Station

**APPENDIX I/II-B.2**

**ENDANGERED OR THREATENED SPECIES ASSESSMENT**



# Coastal Environments, Incorporated

## Services:

Applied Science  
& Planning

Environmental  
Restoration &  
Monitoring

Cultural Resources  
Management

Geographic  
Information  
Services (GIS)

Litigation Support

## Website:

[www.coastalenv.com](http://www.coastalenv.com)

## Corporate Office:

1 Main Street  
Baton Rouge, LA 70802  
Ph (225) 383-7455  
F (225) 383-7925  
[REDACTED]

## Other Locations:

2045 Lakeshore Drive  
CERM STE 315  
New Orleans, LA 70122  
Ph... (504) 516-2435  
Fax (504) 516-2433  
[REDACTED]

812 Water Street  
Biloxi, MS 39530  
Ph (228) 385-5547  
Fax (228) 385-5548

525 South Carancahua St.  
Corpus Christi, TX 78401  
Ph (361) 854-4885  
Fax (361) 884-1844  
[REDACTED]

1500 McGowen St., Ste. 150  
Houston, TX 77004  
Ph (713) 861-2323  
Fax (713) 861-8627

November 8, 2024

Texas Parks and Wildlife Department Wildlife Habitat Assessment Program  
4200 Smith School Road  
Austin, TX 78744 [REDACTED]

**RE: Request for Verification of Threatened and Endangered Species Habitat Survey J.C. Elliott Transfer Station, Nueces County.**

Dear TPWD Representative:

Coastal Environments, Inc. (CEI) has conducted a threatened and endangered species habitat survey on an approximate 89.64-acre site in accordance with the regulatory requirements of 30 Texas Administrative Code §330.61(n), Endangered and Threatened Species. The results of the approximate 89.64-acre site assessment are documented in the Threatened and Endangered Species Habitat Survey report dated December 14, 2023 (attached).

Although the entire 89.64-acre property was assessed, the area proposed for development as the J.C. Elliott Transfer Station consists of only approximately 25 acres located in the northeastern portions of the 89.64-acre property. Considering the overall poor habitat quality of the property and the small portion of the property containing relatively undisturbed habitat, the project is not likely to adversely affect threatened and endangered species identified by USFWS and TPWD that are known to occur in and around Corpus Christi in Nueces County, Texas. The Site Layout Plan showing the approximate 25-acre proposed development is depicted on Figure No. I/II-7 (attached).

In order to comply with the regulatory requirements for the assessment, CEI respectfully requests verification of the attached Habitat Survey. The development of the proposed J.C. Elliott Transfer Station will not result in the destruction or adverse modification of critical habitat of threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species.



We greatly appreciate your timely response regarding the threatened and endangered species review. Should you have any questions or need any additional information regarding this project, please feel free to contact me at (361) 633-9463 or [REDACTED]

Sincerely  
Coastal Environments, Inc.



Cassandra "Sandi" K. Hart, M.S.  
Division Director of Applied Science, Southwest Region  
Senior Environmental Project Manager

#### **ATTACHMENTS**

Figure No. I/II-7 Site Layout Plan

Threatened and Endangered Species Habitat Survey (An Approximate 89.64-Acre Site)  
December 14, 2023

#### **DISTRIBUTION**

Texas Parks and Wildlife Department  
Wildlife Habitat Assessment Program  
4200 Smith School Road  
Austin, TX 78744  
[REDACTED]

Mr. Jeff Reed  
SCS Engineers  
12651 Briar Forest Drive, Suite 205  
Houston, Texas 77077

Mr. Jon Reinhard  
Hanson Professional Services, Inc.  
4501 Gollihar Road  
Corpus Christi, Texas 78410







# Coastal Environments, Incorporated

## Services:

Applied Science  
& Planning

Environmental  
Restoration &  
Monitoring

Cultural Resources  
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Geographic  
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Services (GIS)

Litigation Support

## Website:

[www.coastalenv.com](http://www.coastalenv.com)

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Fax (504) 516-2433

812 Water Street  
Biloxi, MS 39530  
Ph (228) 385-5547  
Fax (228) 385-5548

525 South Carancahua St.  
Corpus Christi, TX 78401  
Ph (361) 854-4885  
Fax (361) 884-1844

1500 McGowen St., Ste. 150  
Houston, TX 77004  
Ph (713) 861-2323  
Fax (713) 861-8627

July 2, 2024

Mr. Jeff Reed  
SCS Engineers  
12651 Briar Forest Drive, Suite 205  
Houston, Texas 77077

**RE: Results of Coordination with the U.S. Fish and Wildlife Service  
Regarding Threatened and Endangered Species Habitat Survey Proposed  
Transfer Station  
An Approximate 89.64-Acre Site Nueces County, Texas**

Dear Mr. Reed,

Coastal Environments, Inc. (CEI) has conducted a threatened and endangered species habitat survey for the above-referenced project site in accordance with the regulatory requirements of 30 Texas Administrative Code §330.61(n), Endangered and Threatened Species. The results of the assessment are documented in the Threatened and Endangered Species Habitat Survey report dated December 14, 2023. The purpose of the assessment was to determine whether the facility and the operation of the facility will result in the destruction or adverse modification of critical habitat of threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species.

In order to comply with the regulatory requirements for the assessment, CEI submitted project boundaries to the U.S. Fish and Wildlife Service (USFWS) through the agency's Information for Planning and Conservation (IPaC) online system. In response, the USFWS provided a correspondence letter and Official Species List for the project site, which is included as an attachment to this letter. The Official Species List identifies federally threatened, endangered, proposed to be listed species, designated critical habitat, and candidate species that may occur within the project site boundaries and/or may be affected by the proposed project.

The Official Species List presents thirteen (13) threatened, endangered, or candidate species to be considered in the effect analysis for the project site. According to the USFWS, there are no designated critical habitats of these species within the project area.

Based on the information presented by the USFWS, and results of the habitat study performed by CEI, we believe there will be "no effect" on any of the species for Nueces County, Texas. Therefore, we have determined the project will not result in the destruction or adverse modification of critical habitat of threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species.



Should you have any questions or need any additional information regarding this project, please do not hesitate to contact me at (361) 633-9463 or [REDACTED]

Sincerely  
Coastal Environments, Inc.

A handwritten signature in black ink that reads "Sandi Hart". The script is cursive and fluid.

Cassandra "Sandi" K. Hart, M.S.  
Division Director of Applied Science, Southwest Region  
Senior Environmental Project Manager

ATTACHMENT

USFWS Correspondence and Official Species List

DISTRIBUTION

Mr. Jeff Reed  
SCS Engineers  
12651 Briar Forest Drive, Ste. 205  
Houston, Texas 77077

Mr. Jon Reinhard  
Hanson Professional Services, Inc.  
4501 Gollihar Road  
Corpus Christi, Texas 78410



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Texas Coastal Ecological Services Field Office  
17629 El Camino Real, Suite 211  
Houston, TX 77058-3051  
Phone: (281) 286-8282 Fax: (281) 488-5882



In Reply Refer To:

July 11, 2023

Project Code: 2023-0102884

Project Name: City of Corpus Christi (J. C. Elliott) Transfer Station

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Corpus Christi, and Alamo, Texas, have combined administratively to form the Texas Coastal Ecological Services Field Office. All project related correspondence should be sent to the field office address listed below responsible for the county in which your project occurs:

Project Leader; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058

*Angelina, Austin, Brazoria, Brazos, Chambers, Colorado, Fayette, Fort Bend, Freestone, Galveston, Grimes, Hardin, Harris, Houston, Jasper, Jefferson, Leon, Liberty, Limestone, Madison, Matagorda, Montgomery, Newton, Orange, Polk, Robertson, Sabine, San Augustine, San Jacinto, Trinity, Tyler, Walker, Waller, and Wharton.*

Assistant Field Supervisor, U.S. Fish and Wildlife Service; 4444 Corona Drive, Ste 215; Corpus Christi, Texas 78411

*Aransas, Atascosa, Bee, Brooks, Calhoun, De Witt, Dimmit, Duval, Frio, Goliad, Gonzales, Hidalgo, Jackson, Jim Hogg, Jim Wells, Karnes, Kenedy, Kleberg, La Salle, Lavaca, Live Oak, Maverick, McMullen, Nueces, Refugio, San Patricio, Victoria, and Wilson.*

U.S. Fish and Wildlife Service; Santa Ana National Wildlife Refuge; Attn: Texas Ecological Services Sub-Office; 3325 Green Jay Road, Alamo, Texas 78516  
*Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata.*

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as

amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/media/endangered-species-consultation-handbook>.

Non-Federal entities may consult under Sections 9 and 10 of the Act. Section 9 and Federal regulations prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of

injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Should the proposed project have the potential to take listed species, the Service recommends that the applicant develop a Habitat Conservation Plan and obtain a section 10(a)(1)(B) permit. The Habitat Conservation Planning Handbook is available at: <https://www.fws.gov/media/habitat-conservation-planning-and-incidental-take-permit-processing-handbook>.

#### Migratory Birds:

In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts visit: <https://www.fws.gov/program/migratory-birds>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable National Environmental Policy Act (NEPA) documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

#### Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands



## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Texas Coastal Ecological Services Field Office**

17629 El Camino Real, Suite 211

Houston, TX 77058-3051

(281) 286-8282

## PROJECT SUMMARY

Project Code: 2023-0102884

Project Name: City of Corpus Christi (J. C. Elliott) Transfer Station

Project Type: Landfill - Solid Waste

Project Description: The City of Corpus Christi is building a municipal solid waste transfer station facility.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@27.70235195,-97.45271755334517,14z>



Counties: Nueces County, Texas

## ENDANGERED SPECIES ACT SPECIES

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10477">https://ecos.fws.gov/ecp/species/10477</a>	Threatened
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1923">https://ecos.fws.gov/ecp/species/1923</a>	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Endangered

## REPTILES

NAME	STATUS
<b>Green Sea Turtle <i>Chelonia mydas</i></b> Population: North Atlantic DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>	Threatened
<b>Hawksbill Sea Turtle <i>Eretmochelys imbricata</i></b> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3656">https://ecos.fws.gov/ecp/species/3656</a>	Endangered
<b>Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i></b> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5523">https://ecos.fws.gov/ecp/species/5523</a>	Endangered
<b>Leatherback Sea Turtle <i>Dermochelys coriacea</i></b> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1493">https://ecos.fws.gov/ecp/species/1493</a>	Endangered
<b>Loggerhead Sea Turtle <i>Caretta caretta</i></b> Population: Northwest Atlantic Ocean DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1110">https://ecos.fws.gov/ecp/species/1110</a>	Threatened

## INSECTS

NAME	STATUS
<b>Monarch Butterfly <i>Danaus plexippus</i></b> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## FLOWERING PLANTS

NAME	STATUS
<b>Slender Rush-pea <i>Hoffmannseggia tenella</i></b> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5298">https://ecos.fws.gov/ecp/species/5298</a>	Endangered
<b>South Texas Ambrosia <i>Ambrosia cheiranthifolia</i></b> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/3331">https://ecos.fws.gov/ecp/species/3331</a>	Endangered

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.



## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

- 
1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<b>Chimney Swift <i>Chaetura pelagica</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
<b>Dickcissel <i>Spiza americana</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 5 to Aug 31
<b>Hudsonian Godwit <i>Limosa haemastica</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
<b>Lesser Yellowlegs <i>Tringa flavipes</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds elsewhere
<b>Long-billed Curlew <i>Numenius americanus</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds elsewhere
<b>Painted Bunting <i>Passerina ciris</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
<b>Prothonotary Warbler <i>Protonotaria citrea</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
<b>Ruddy Turnstone <i>Arenaria interpres morinella</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
<b>Short-billed Dowitcher <i>Limnodromus griseus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
<b>Swallow-tailed Kite <i>Elanoides forficatus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8938">https://ecos.fws.gov/ecp/species/8938</a>	Breeds Mar 10 to Jun 30
<b>Willet <i>Tringa semipalmata</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (●)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (|)

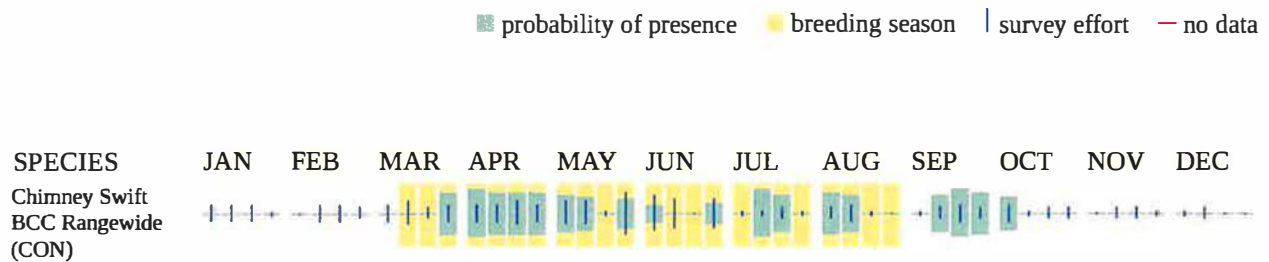
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

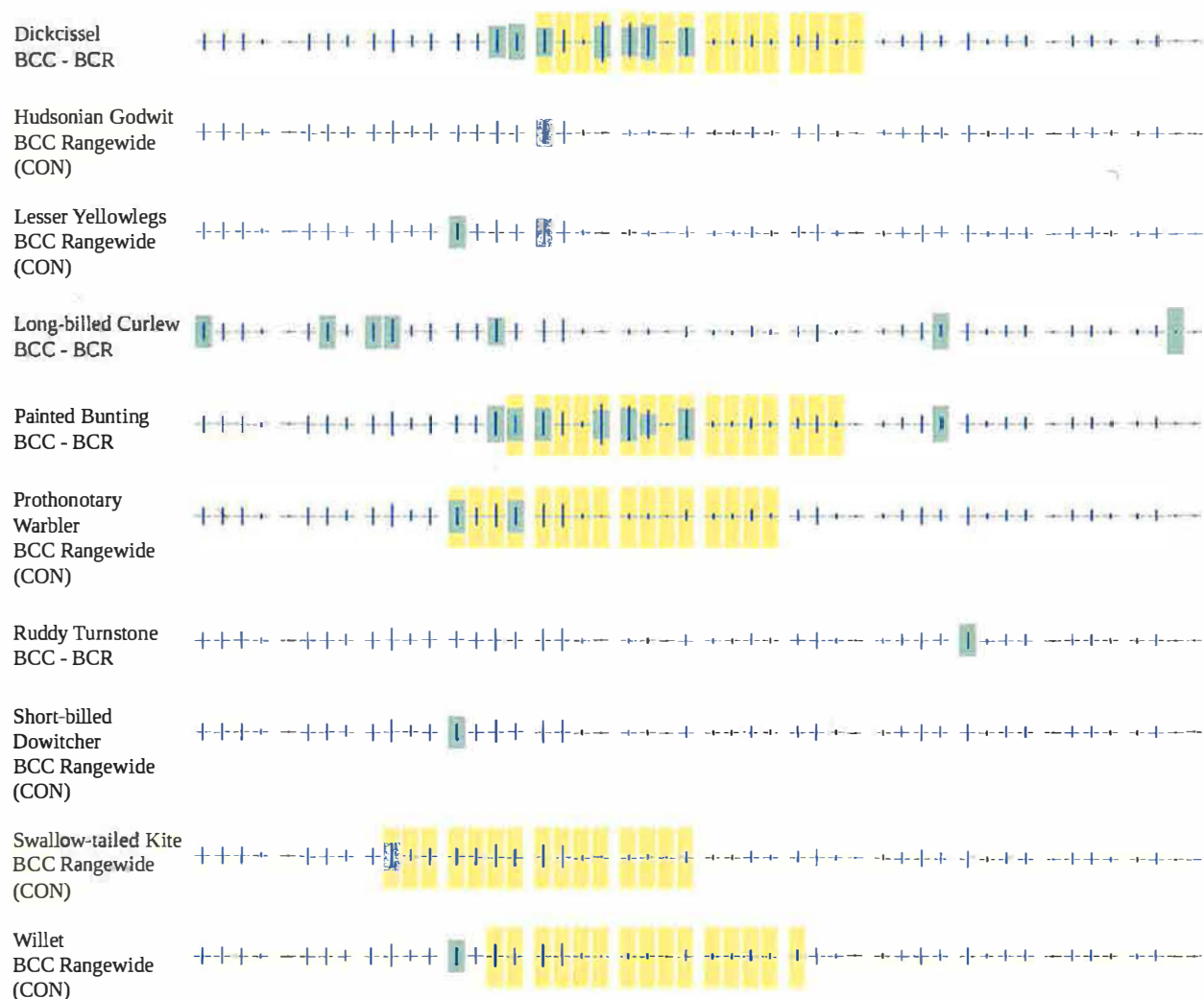
### No Data (—)

A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## MIGRATORY BIRDS FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very



helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

#### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

#### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

#### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### FRESHWATER EMERGENT WETLAND

- [PEM1C](#)

### RIVERINE

- [R5UBH](#)
- [R1UBV](#)

### FRESHWATER POND

- [PUSR](#)

## **IPAC USER CONTACT INFORMATION**

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## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Corpus Christi city



***THREATENED AND ENDANGERED SPECIES REPORT***

**89.64-ACRE TRACT  
CHAPMAN RANCH ROAD (RD) / STATE HIGHWAY (SH) 286  
CORPUS CHRISTI, NUECES COUNTY, TEXAS**

***Prepared by  
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525 S. Carancahua St. Corpus Christi, TX 70401***

***Prepared for  
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***December 14, 2023***

## **THREATENED AND ENDANGERED SPECIES REPORT**

### **89.64-ACRE TRACT CHAPMAN RANCH ROAD (RD) / STATE HIGHWAY (SH) 286 CORPUS CHRISTI, NUECES COUNTY, TEXAS**

#### **INTRODUCTION**

Coastal Environments, Inc. (CEI) was sub-contracted by Hanson Professional Services, Inc. for the City of Corpus Christi, to perform a rare, threatened and endangered species survey of an 89.64-acre tract of land located at the northwestern corner of the intersection of Crosstown Expressway/SH286 and Oso Creek in Corpus Christi, Nueces County, Texas (Figure 1: Vicinity Map). The property is platted as an 89.64 Acre Tract of Land, situated in the Enriquez Villareal Survey, Abstract 1, comprising portions of Lot 4, Section 14 and Lot 1, Section 16, Bohemian Colony Land, as recorded in Volume A, Page 48, of the Map Records of Nueces County, Texas, also being a portion of a 130 Acre Tract, as described in a Warranty Deed from C.B. Land and Annie May Land to S.A. Simcik, recorded in Volume 161, Pages 526-528, recording in the Deed Records of Nueces County, Texas according to the survey map and legal description in Appendix A. It is bordered to the north and the west by the J.C. Elliott Landfill, to the east by Texas Highway 286, and to the south by Oso Creek. Approximate UTM NAD 83 (meters) coordinates for this site are Northing 3065484.68, Easting 652895.94.

Based on historic aerial imagery, most of the property has been primarily used for agriculture, which was last planted two years ago. Additionally, a portion of the property south of the farmed area appears to have been used as a dump or staging area for cars, boats, camper trailers and other debris, with at least three buildings on the site. Between 2012 and 2014, much of this debris was being hauled off, concluding with the removal of the last of the buildings between 2017 and 2020. However, site visits revealed trash and debris, including remnants of old motor vehicles, is still present in this part of the property today. Additionally, in 2020, industrial activity is visible in this location. What appears to be evidence of either the removal or installation of small diameter pipe, which can be seen laid out on the property. Deep trenches visible on both sides of Crosstown Expressway seem consistent with the use of a horizontal directional drill (HDD) rig.

On July 12-14, and 17, 2023, CEI performed a rare, threatened and endangered species (RTE) survey of the 89.64-± acre project site.

#### **STUDY AREA**

The project area is a ±89.64-acre tract bordered to the north and the west by the J.C. Elliott Landfill, to the east by Texas Highway 286, and to the south by Oso Creek. The northern two-thirds of the property was actively farmed as recently as two years ago, and sorghum (*Sorghum bicolor*) is still present in small numbers. Except for the boundary with scrub-shrub habitats to the southwest, a wide strip around the perimeter of the former agricultural area is periodically mowed. This has encouraged vegetation resistant to regular disturbance to become more dominant in these areas. Dominant species noted in these locations included Bermudagrass (*Cynodon dactylon*), windmill grass (*Chloris sp.*) and yellow bluestem (*Bothriochloa ischaemum*) with small numbers of opportunistic annual sunflower (*Helianthus annuus*), silverleaf nightshade (*Solanum elaeagnifolium*), tropical puff (*Neptunia pubescens*) and huisache (*Vachellia farnesiana*).

In adjacent fallow agricultural fields dominant species include annual sunflower, Santa Maria feverfew (*Parthenium hysterophorus*), white panicle aster (*Symphyotrichum lanciolatum*), Bermudagrass and yellow bluestem. These species were highly dominant and were often the only species present in some areas. Other species found to be locally abundant included turkey tangle frogfruit (*Phyla nodiflora*), pyramidflower (*Melochia pyramidalata*), Rooseveltweed (*Baccharis neglecta*), California loosestrife (*Lythrum californicum*) and Virginia pepperweed (*Lepidium virginianum*).

Southwest of the fallow agricultural field contains relatively undisturbed areas where there have been less invasive anthropogenic activities in the past. Where these activities were heaviest, fields almost exclusively dominated by yellow bluestem occur. Some scrub-shrub species have begun to colonize these grassy areas, including honey mesquite (*Prosopis glandulosa*) and white leadtree (*Leucaena leucocephala*). Extremely dense scrub-shrub habitats, often completely shading out understory growth also were observed in this area, frequently associated with erosional features. These areas contained honey mesquite, lime pricklyash (*Zanthoxylum fagara*), Texas swampprivet (*Forestiera angustifolia*), huisache (*Vachellia farnesiana*), blackbrush acacia (*V. rigidula*), saffron plum (*Sideroxylon celastrinum*), retama (*Parkinsonia aculeata*) and spiny hackberry (*Celtis ehrenbergiana*). Some areas near the edge of the fallow field contain small trees including sugarberry (*Celtis laevigata*) and Chinaberry (*Melia azedarach*), but these appear to have been planted based on their proximity past anthropogenic activity and clustered distribution. One small area on the east side of the property just south of the fallow agricultural field contains a depression containing distinct vegetation. This depression contains an overstory of retama over a dense understory of longtom (*Paspalum denticulatum*) with scattered individuals of ravenfoot sedge (*Rhynchospora crus-corvi*) and pond flatsedge (*Cyperus ochraceus*).

Closer to Oso Creek, some areas include larger honey mesquite and Mexican ash (*Fraxinus berlandieriana*) forming an open understory with switchgrass (*Panicum virgatum*) growing underneath. Significant monospecific stands of giant reed (*Arundo donax*) close to the creek bank also were observed in some areas. Finally, some areas in the southeast corner of the property appear to be possible remnants of old side channels of Oso Creek. These depressional areas included unvegetated sand flats, surrounded by wetlands dominated with halophytic vegetation, including saltgrass (*Distichlis spicata*), turtleweed (*Batis maritima*), dwarf glasswort (*Salicornia bigelovii*), shoregrass (*Monanthochloe littoralis*), seaside oxeye daisy (*Borrchia frutescens*) and gulf cordgrass (*Spartina spartinae*). A more complete list of plant species observed on the subject property can be found in Table 1.

**Table 1. Plant species observed throughout the project area during field investigations.**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Common Name</b>	<b>Scientific Name</b>
Giant reed	<i>Arundo donax</i>	Chinaberry	<i>Melia azedarach</i>
Rooseveltweed	<i>Baccharis neglecta</i>	Pyramidflower	<i>Melochia pyramidalata</i>
Turtleweed	<i>Batis maritima</i>	Tropical puff	<i>Neptunia pubescens</i>
Seaside oxeye daisy	<i>Borrchia frutescens</i>	Longflower beeblossom	<i>Oenothera longiflora</i>
Yellow bluestem	<i>Bothriochloa ischaemum</i>	Switchgrass	<i>Panicum virgatum</i>
Balloon vine	<i>Cardiospermum halicacabum</i>	Jerusalem thorn	<i>Parkinsonia aculeata</i>
Ravenfoot sedge	<i>Carex crus-corvi</i>	Santa Maria feverfew	<i>Parthenium hysterophorus</i>
Spiny hackberry	<i>Celtis ehrenbergiana</i>	Longtom	<i>Paspalum denticulatum</i>
Sugarberry	<i>Celtis laevigata</i>	Christmas mistletoe	<i>Phoradendron tomentosum</i>
Prostrate sandmat	<i>Chamaesyce prostrata</i>	Turkey tangle fogfruit	<i>Phyla nodiflora</i>
Spiny chloracantha	<i>Chloracantha spinosa</i>	Eastern Cottonwood	<i>Populus deltoides</i>
Windmill grass	<i>Chloris sp.</i>	Ram's horn	<i>Proboscidea louisianica</i>
Sorrelvine	<i>Cissus trifoliata</i>	Honey mesquite	<i>Prosopis glandulosa</i>
Betonyleaf thoroughwort	<i>Conoclinium betonicifolium</i>	Least snoutbean	<i>Rhynchosia minima</i>
Cantaloupe	<i>Cucumis melo</i>	Southern dewberry	<i>Rubus trivialis</i>
Bermudagrass	<i>Cynodon dactylon</i>	Yucatan wild Petunia	<i>Ruellia yucatanica</i>
Pond flatsedge	<i>Cyperus ochraceus</i>	Dwarf saltwort	<i>Salicornia bigelovii</i>
Texas crabgrass	<i>Digitaria texana</i>	Saffron plum	<i>Sideroxylon celastrinum</i>
Saltgrass	<i>Distichlis spicata</i>	Silverleaf nightshade	<i>Solanum elaeagnifolium</i>
Corpus Christi fleabane	<i>Erigeron procumbens</i>	Aniscented goldenrod	<i>Solidago odora</i>
Redcardinal	<i>Erythrina herbacea</i>	Sorghum	<i>Sorghum bicolor</i>
Texas swampprivet	<i>Forestiera angustifolia</i>	Gulf cordgrass	<i>Spartina spartinae</i>
Mexican ash	<i>Fraxinus berlandieriana</i>	White panicle aster	<i>Symphyotrichum lanceolatum</i>
South American mock vervain	<i>Glandularia pulchella</i>	Canada germander	<i>Teucrium canadense</i>
Common sunflower	<i>Helianthus annuus</i>	Small ballmoss	<i>Tillandsia recurvata</i>
Virginia pepperweed	<i>Lepidium virginicum</i>	Reclining signalgrass	<i>Urochloa reptans</i>
White leadtree	<i>Leucaena leucocephala</i>	Huisache	<i>Vachellia farnesiana</i>
Carolina desert-thorn	<i>Lycium carolinianum</i>	Blackbrush acacia	<i>Vachellia rigidula</i>
California loosestrife	<i>Lythrum californicum</i>	Texas vervain	<i>Verbena halei</i>
Red barberry	<i>Mahonia trifoliata</i>	Rough cocklebur	<i>Xanthium strumarium</i>
Shoregrass	<i>Monanthochloe littoralis</i>	Lime pricklyash	<i>Zanthoxylum fagara</i>

## METHODOLOGY

Prior to site visits, the U. S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) report was generated and an official project-specific list of protected species possibly occurring in or near the project footprint was provided (Appendix B). Additionally, the Texas Parks and Wildlife Department (TPWD) Rare, Threatened and Endangered Species of Texas (RTEST) web site also was consulted to find state-listed species that may not have federal protection (Appendix C). An information request was then filed with the Texas Natural Diversity Database (TXNDD) to find occurrences of protected species along the project footprint (Appendix D). Google Earth aerial imagery of the property was examined to note habitat types present, land use activities and recent changes to the property to gain an understanding of current conditions.

Field investigations were conducted by CEI biologists with experience surveying for RTE species on July 12 – 14, and 17 – 19, 2022. Field work consisted of a series of pedestrian surveys along transects running the length of the property from northeast to southwest. Transects were no farther than 250 ft apart, running across the project area looking for both direct (e.g., vocalizations or sightings of individuals) and indirect (e.g., tracks or scat) evidence of RTE species and their

habitat. Additional transects were placed in transitional areas, such as property boundaries or significant habitat boundaries. Periodically, photo plots were established to obtain a visual representation of habitats existing throughout the project area (Appendix E). Photo plots were generally established on transect lines and property corners where possible, but were offset if unsafe conditions (e.g., steep slopes or thick thorny vegetation) were present. Figure 2 shows the location of transects and photo locations on the property. Areas where vegetation or structures impeded observation were more closely scrutinized to ensure complete coverage of the project area during field investigations. During field investigations, logs, branches, and debris were lifted to determine if small animals were sheltering underneath them. After they were examined, these items were replaced in the condition in which they were found. Additionally, fissures in the soil were scrutinized, looking for small animals.

## LISTED SPECIES ACCOUNTS

The USFWS IPaC report lists threatened and endangered species, potentially using areas within the project site in Nueces County, Texas. Though no critical habitat for protected species was identified in the project area, the list of potential protected species includes five birds, five reptiles, and one plant. The TPWD RTEST site reports an additional eight birds, three amphibians, two fish, eight mammals, three reptiles and one plant that are state listed, for a total of 36 species of state and federal listed species. However, many of the listed species are marine species, and considering the property examined for this report was terrestrial, with Oso Creek being outside of the property, species requiring more than an ephemeral waterbody were not considered for this report. Table 2 includes marine and aquatic species not considered in this report due to lack of available aquatic environments. Tables 3 – 7 include lists of federal and state listed plants, amphibians, reptiles, birds, and mammals, respectively, potentially found in terrestrial sites in Nueces County, Texas. This section will outline a brief description of these species and their habitats.

**Table 2. Marine and aquatic endangered and threatened species not considered due to lack of aquatic habitat.**

Common Name	Scientific Name	Federal Status	State Status
Oceanic Whitetip Shark	<i>Carcharhinus longimanus</i>	Threatened	Threatened
Shortfin Mako Shark	<i>Isurus oxyrinchus</i>		Threatened
Blue Whale	<i>Balaenoptera musculus</i>	Endangered	Endangered
Gulf of Mexico Bryde's Whale	<i>Balaenoptera ricei</i>	Endangered	Endangered
North Atlantic Right Whale	<i>Eubalaena glacialis</i>	Endangered	Endangered
Sei Whale	<i>Balaenoptera borealis</i>	Endangered	Endangered
Sperm Whale	<i>Physeter macrocephalus</i>	Endangered	Endangered
West Indian Manatee	<i>Trichechus manatus</i>	Threatened	Threatened
White-nosed Coati	<i>Nasua narica</i>		Threatened
Atlantic Hawksbill Sea Turtle	<i>Eretmochelys imbricata</i>	Endangered	Endangered
Green Sea Turtle	<i>Chelonia mydas</i>	Threatened	Threatened
Kemp's Ridley Sea Turtle	<i>Lepidochelys kempii</i>	Endangered	Endangered
Leatherback Sea Turtle	<i>Dermochelys coriacea</i>	Endangered	Endangered
Loggerhead Sea Turtle	<i>Caretta caretta</i>	Threatened	Threatened

## Plants



Table 3. State or federally listed plant species in Nueces County, Texas.

Common Name	Scientific Name	Federal Status	State Status
Black lace cactus	<i>Echinocereus reichenbachii</i> var. <i>albertii</i>	Endangered	Endangered
Slender rush pea	<i>Hoffmannseggia tenella</i>	Endangered	Endangered
South Texas ambrosia	<i>Ambrosia cheiranthifolia</i>	Endangered	Endangered

Black lace cactus (*Echinocereus reichenbachii* var. *albertii*) State and federally listed  
ENDANGERED

This cactus, also included in *E. reichenbachii* ssp *fitchii* or *E. fitchii* ssp. *albertii* by some sources, is recognizable by its cylindrical shape and vertical rows of radially appressed spines. They occur in fairly flat areas containing open grasslands, in coastal semi-saline grasslands, under dense to semi-open thorn-scrub and mesquite - acacia woodlands with sandy, somewhat saline soils, undisturbed naturally open areas with sparse low woody shrubs and along creeks dominated by halophytic vegetation. They produce showy flowers with purplish-pink petals and yellow-orange stamen from April to June. In Nueces County, there have been no known recent observations reported on iNaturalist, but there are known populations in Kleberg and San Patricio Counties, indicating the possibility that there could be undocumented local populations.

Slender rush-pea (*Hoffmannseggia tenella*) State and federally listed ENDANGERED

This member of the pea family is endemic to the blackland prairie region of Texas in Kleberg and Nueces Counties. There, it occurs mostly in blackland clays, though it has been found in areas containing lighter and coarser soils in the coastal plain. Habitat tends to be sparsely vegetated prairie, often dominated by low-growing vegetation and occasionally associated with streams. It seems to tolerate disturbance well and is known to occur in locations that are regularly mowed. This species tends to form colonies where found. Stems are generally horizontal, though it can reach 15 cm in height. These stems radiate out from a central tap root, which goes dormant in winter. Leaflets are arranged pinnately, giving a fern-like appearance commonly found in Fabaceae. Blooming occurs from April to November. Flower buds come off of very thin filament-like culms and are coral but become salmon-colored when the five-petaled flowers open between mid-morning and mid-afternoon. The fruit is a straight pod, which is pointed at each end. Threats include habitat loss from agriculture and residential and commercial development. Additionally, introduction of highly invasive non-native species, such as yellow bluestem and Kleberg bluestem (*Dichanthium annulatum*) may exclude this species.

South Texas ambrosia (*Ambrosia cheiranthifolia*) State and federally listed ENDANGERED

This member of the ragweed genus is a rhizomatous perennial that reaches over a foot tall with shallow lobed (young leaves) to entire leaf margins (mature leaves) that are opposite near the base and alternate toward the top. The leaves are covered with fine microscopic hairs that give them a distinct gray-green color. As with other species of ragweed, the inflorescence is terminal raceme with inconspicuous flowers, which appears from July – November. It occurs in grasslands,

savannah, erosional areas along creeks and mesquite-dominated shrublands on various soils, including heavy clays, on the coastal plain. It can also occur in modified unplowed sites that mimic conditions in these habitats. In Nueces County, iNaturalist observations of this species occur in the southwest near Bishop.

## Amphibians

**Table 4. State or federally listed amphibian species in Nueces County, Texas.**

Common Name	Scientific Name	Federal Status	State Status
Black-spotted Newt	<i>Notophthalmus meridionalis</i>		Threatened
Sheep Frog	<i>Hypopachus variolosus</i>		Threatened
South Texas Siren (Large Form)	<i>Siren sp. 1</i>		Threatened

### Black-spotted Newt (*Notophthalmus meridionalis*) State listed THREATENED

The Black-spotted Newt is found in the coastal plain, mostly in Southern Texas as far north as Waco and as far east as Houston. As is common with amphibians, there are terrestrial and aquatic life-stages, with reproduction occurring in aquatic settings. This makes ephemeral waterbodies important for eggs, young and reproductive adults due to the reduction of predatory elements. Ephemeral pools from 0.5 – 2m deep with firm clay bottoms, up to 1 percent salinity, and occasionally containing emergent vegetation are preferred, but ditches and other waterbodies lacking predatory fish, high salinity, heavy grazing, or agricultural runoff are also used. Though captive individuals are reported to breed year-round, data is lacking in wild populations, though it is thought low temperature likely prevents breeding in December and January. Diets include insect eggs and larvae, small snails, seed shrimp and other small invertebrates. Collected specimens are primarily obtained through examination of the underside of rocks, logs and through seining waterbodies in which they reside. Additionally estivating adults have been found in burrows and fissures of dried soil near breeding sites.

### Sheep Frog (*Hypopachus variolosus*) State listed THREATENED

This is a fossorial species that requires high humidity, so it is generally found within approximately 160 km of the coast in South Texas, where it extends north of the Rio Grande as far as Aransas and Refugio Counties. Habitat generally includes intact native brushland, thorn scrub, grassland, savannah, open forest or pasture with abundant shortgrass cover. Their diet consists mostly of termites, ants and small flies. As with many amphibians, young are aquatic, so breeding depends on a variety of ephemeral and permanent pools, ditches and ponds, typically after heavy rain or crop irrigation. Evidence of breeding in South Texas has been observed from July to September, though acceptable temperatures and rainfall could occur from May to October. Though they are

know to remain in burrows and fissures in the ground until rain floods these cavities, individuals have been observed under logs and other debris sustaining a moist microclimate.

#### South Texas Siren (Large Form) (*Siren sp. 1*) State listed THREATENED

Though the debate over the precise taxonomical relationship of *Siren spp.* in South Texas is ongoing due to the secretive nature and sympatric distribution of multiple, morphologically similar species, it is recognized that populations of these unique salamanders are imperiled. The South Texas Siren is an obligate aquatic salamander known to occur in South Texas as far north as San Patricio and Jim Wells Counties. They live in the Rio Grande delta and associated relic channels, and other permanent to temporary waterbodies with high amounts of edge cover. Other *Siren* species can tolerate small amounts of salinity, so it is possible the South Texas Siren also has some degree of salinity tolerance. In temporary waterbodies, they may estivate in the ground for months if moist conditions can persist. Diets consist of small vertebrates, insects, worms, crustaceans mollusks, and other invertebrates, though facultative herbivory may also occur.

### Reptiles

*Table 5. State or federally listed reptile species in Nueces County, Texas.*

Common Name	Scientific Name	Federal Status	State Status
Texas Horned Lizard	<i>Phrynosoma cornutum</i>		Threatened
Texas Scarletsnake	<i>Cemophora lineri</i>		Threatened
Texas Tortoise	<i>Gopherus berlandieri</i>		Threatened

#### Texas Horned lizard (*Phrynosoma cornutum*) State listed THREATENED

This species occurs naturally as far north as Colorado and Kansas, as far west as Arizona and south into Central Mexico. There have been some populations established east of Texas in the southeast U.S., but these areas are outside of their natural range. Preferred habitats include arid to semi-arid open habitats with sparse vegetation, scattered brush or scrubby trees, which facilitates foraging and predator avoidance. They are proficient burrowers, so sandy soils are preferred. They dig into loose soil to escape predators, hibernate, nest or escape extreme temperatures. Their main prey is harvester ants, though other insects are also consumed. Texas Horned Lizards spend much of their time near harvester ant colonies and their blood contains compounds that neutralize harvester ant venom. Vehicle impact is a major cause of mortality. There are relatively few reports of Texas Horned Lizard in Corpus Christi, where they have been reported in Flour Bluff and North Padre Island.

Texas Scarletsnake (*Cemophora lineri*) State listed THREATENED

The Texas Scarletsnake was elevated to full species status in 2017 based on DNA, color pattern and lepidosis. It is endemic to Texas, known to occur in a narrow band of sand-floored baygall thickets adjacent to Laguna Madre, oak mottes, coastal prairie and Tamaulipan thorn-scrub habitats in the Rio Grande plain in South Texas. They are thought to feed largely on the eggs of other reptiles, supplementing their diet occasionally with small rodents, snakes, and lizards. They are a secretive burrowing species, so areas containing loose soils in which they can burrow are important. Though no Texas Scarletsnakes have been reported recently in Corpus Christi, there have been sightings in the past in the Flour Bluff area.

Texas Tortoise (*Gopherus berlandieri*) State listed THREATENED

This species is found in south Texas and northeast Mexico, where it prefers arid to semi-arid open grassland, scrub-shrub, lomas and open forest with sandy well-drained soils. Though they prefer to use existing burrows of other animals including badger and armadillo, they are occasionally known to burrow. Their diet is composed of vegetation, of which succulents are preferred. Nests are generally dug near or at the base of low woody vegetation. Sightings of Texas Tortoise in and around Corpus Christi are widespread though there is only one documented observation reported in the vicinity of the project area.

## Birds

Table 6. State or federally listed bird species in Nueces County, Texas.

Common Name	Scientific Name	Federal Status	State Status
Eastern Black Rail	<i>Laterallus jamaicensis jamaicensis</i>	Threatened	Threatened
Northern Aplomado Falcon	<i>Falco femoralis septentrionalis</i>	Endangered	Endangered
Piping Plover	<i>Charadrius melodus</i>	Threatened	Threatened
Red Knot	<i>Calidris canutus rufa</i>	Threatened	Threatened
Whooping Crane	<i>Grus americanus</i>	Endangered	Endangered
Wood Stork	<i>Mycteria americana</i>		Threatened
Reddish Egret	<i>Egretta rufescens</i>		Threatened
Sooty Tern	<i>Onychoprion fuscatus</i>		Threatened
Swallow-tailed Kite	<i>Elanoides forficatus</i>		Threatened
Texas Botteri's Sparrow	<i>Peucaea botterii texana</i>		Threatened
Tropical Parula	<i>Setophaga pitiayumi</i>		Threatened
White-faced Ibis	<i>Plegadis chihi</i>		Threatened
White-tailed Hawk	<i>Buteo albicaudatus</i>		Threatened

Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) State and federally listed  
THREATENED

This small dark sparrow-sized rail is very secretive, choosing to run along the ground through tunnels in vegetation rather than fly. They prefer tidal marsh near the coast, though they are known to occur in inland freshwater marshes and wet meadows. They prefer areas with dense vegetation composed of grasses, rushes, sedges, and glasswort. These small birds feed during the day on insects, spiders, mollusks, crustaceans, and seeds. Singing occurs mostly around dawn and dusk, and sometimes into the night. The peak breeding season occurs from April to mid-June and during that time nests are constructed in herbaceous vegetation above the level of the ground with vegetation covering the top. In Nueces County Black Rail observations are most common north of Hwy 44 in the vicinity of Robstown, Calallen and Bluntzer, Texas.

Northern Aplomado Falcon (*Falco femoralis septentrionalis*) State and federally listed  
THREATENED

This medium-sized falcon declined in the U.S., and the last documented nest in the U. S. prior to the banning of DDT and the initiation of recovery efforts was recorded in 1952. They are non-migratory and in South Texas, currently occur as far north as Matagorda County, with some sightings recorded in Galveston County. In South Texas, barrier islands are heavily used, presumably due to reduced development in preferred habitat. They prefer open grassland and savannah with scattered woody species such as mesquite and yucca. Nests are established in the woody remnants of the nests of other large raptor or corvid species, and eggs are laid from March to May. They feed upon birds, large insects, small mammals, snakes and lizards, depending on seasonal prey availability.

Piping Plover (*Charadrius melodus*) State and federally listed THREATENED

Piping Plovers breed in the coastal northeast U.S. and Canada, along the shores of the Great Lakes and along lakeshores, rivers and alkaline wetlands in the Great Plains. In Texas, they winter along the gulf coast, but may be encountered on the shores of water bodies and in wet flats during migration. Foraging habitat is generally along shorelines but can include flats exposed by low tides. Diets are composed of invertebrates, such as worms, snails, crustaceans and insects. In Nueces County, most observations are associated with the bays and barrier islands, though they are occasionally noted in more inland flats.

Red Knot (*Calidris canutus rufa*) Federally listed THREATENED

This shorebird species breeds in the arctic in northern Canada and coastal Greenland. Wintering grounds can be found in Atlantic and Pacific coastal areas from the northern U.S. to South America. In Texas, they winter along the Gulf Coast, but have been documented along the shorelines of large lakes and freshwater marsh in eastern North America. Diets are largely



invertebrates including crustaceans, snails, bivalves, worms and amphipods, but may include seeds and grass shoots. Additionally, in some times and locations eggs of horseshoe crabs (east coast) or Grunions (west coast) are an important dietary component. In Nueces County, Red Knots are frequently seen on the Gulf side of North Padre and Mustang Islands, though some observations have been made on the bay shores.

#### Whooping Crane (*Grus americana*) State and federally listed ENDANGERED

Whooping Cranes have several migratory and residential populations in the U.S., including Experimental Non-essential resident flocks in Florida and Louisiana and a migratory flock that breeds in central Wisconsin and winters from Indiana to Florida. The only natural population breeds in the northern parts of Northwest Territories and Alberta, Canada and winter along the coast in south Texas. Nesting occurs in marshy areas containing concealing cover from predators. Nests are composed of mounds of vegetation with an impression in the center. In Texas, their habitat includes estuarine marshes, flats, bays, though they are also known to use agricultural fields and residential areas. On their wintering grounds, they are frequently seen in family groups composed of the parents and 1 – 3 young. Diets include a wide variety of fruit, vegetation, invertebrates and small vertebrates, though Blue Crab is particularly important in coastal Texas. This unmistakable bird may be found during migrating in flocks of the smaller Sandhill Crane in fields, marshes, waterbodies and other open habitats.

#### Wood Stork (*Mycteria americana*) State THREATENED

Wood Storks in the U.S. breed from coastal South Carolina to south Florida, and they are year-round residents in south Florida. In their breeding range, they nest in trees, such as cypress, tupelo, oak, mangrove and Australian pine over standing water. Their wintering territory is along coastal areas of the southeastern U.S. and southern California, into Mexico, Central America and South America, where they are widespread year-round residents. Though their range in Texas is mostly near the coast, they are sighted inland around waterbodies where they forage for invertebrates and fish. They could be observed foraging in or near shallow aquatic habitats or roosting in large trees in late summer through winter. This large conspicuous bird is social and is often seen in large flocks.

#### Reddish Egret (*Egretta rufescens*) State listed THREATENED

Reddish Egrets are a species that is highly selective of breeding and foraging habitat, takes three to four years to reach sexual maturity and has low fecundity, making it very slow to recover from impacts to their population. Though many of these threats have been removed, this species remains the least common egret in North America. Foraging habitat is largely composed of coastal marsh, tidal flats and shallow waterbodies though individuals have been noted foraging in the surf of the Gulf of Mexico and in inland freshwater sites. They are weakly migratory with most breeding occurring along the entire Gulf Coast of Texas. However, there are rare instances of breeding pairs

establishing nests at inland sites. Breeding occurs from March to early August, with a general trend of post-breeding dispersal to the south. Nests are constructed from small woody material and grass. These nests generally occur on natural and man-made islands in woody shrubs, yucca or prickly pear, though rare nests have been documented directly on the ground.

Sooty Tern (*Onychoprion fuscatus*) State listed THREATENED

This pelagic species normally stays out at sea in warm tropical areas, avoiding shallow water and mainland coasts except to breed. They have a diet consisting of small fish and squid. Breeding generally occurs on open sandy beaches with little to no vegetation on remote islands. Nests are established in colonies and consist of shallow scrapes in the open or at the edge of shrubs. Young tend to wander around, but often return to the nest to be fed. In Nueces County, this species is most likely to be observed offshore and would be unusual, even on the barrier islands. Inland sightings of this species almost certainly are of lost individuals blown in by storms.

Swallow-tailed Kite (*Elanoides forficatus*) State listed THREATENED

This species lives in forested wetlands and along streams where it is known for capturing and eating flying insects on the wing. Additional dietary items include birds, frogs, lizards, snakes, and in the tropics, small fruits. Courtships involve aerial displays and chases, often accompanied by vocalizations. Nests are built in the top of tall trees (over 60 feet above the ground) in open forest. Nests are built from a platform of woody material lined with lichens and Spanish moss. Both sexes incubate the eggs, but most brooding is done by the female with the male hunting for food. In Nueces County, this species is a migrant observed during spring and fall migration. It is not known to regularly breed or winter in South Texas.

Texas Botteri's Sparrow (*Peucaea botterii texana*) State listed THREATENED

This subspecies of the more widespread Botteri's Sparrow occurs in grassland with scattered trees and / or shrubs along the coast as far north as Rockport and Refugio. They are migratory, generally arriving in South Texas around March, breeding from April to June, then departing in early October. Breeding habitat is in low altitude bunch grass habitat that may contain scattered woody vegetation, such as mesquite or huisache in a thin strip (approximately 33 km wide) along the Gulf Coast. Nests are generally constructed from vegetative material lined with animal hair, located in grass clumps with entrances rising up to the nest from the side. Though the Texas Breeding Bird Atlas reports confirmed breeding sites south of Nueces County, there are possible and probable breeding sites west of San Antonio Bay and recent observations of individuals nearby in Kleberg County have been reported.

#### Tropical Parula (*Setophaga pitiayumi*) State listed THREATENED

This tropical and semi-tropical species is widespread in South and Central America, where it is a year-round resident. However, in South Texas, it is migratory, coming north to breed from mid-April to mid-July. Nests tend to be established in epiphytic vegetation toward the ends of branches in trees such as Mexican ash, cedar elm, sugarberry or live oak. In general, they prefer open to dense forest, often along streams and other waterbodies. evergreen woodland along rivers and resacas. Though quite colorful, this small bird can be difficult to observe. However, its song is very distinctive, with a slower and more musical trill that speeds up then tips over at the end when compared to the Northern Parula.

#### White-faced Ibis (*Plegadis chihi*) State listed THREATENED

These birds have a year-round distribution along the northern and western Gulf Coast and Southern California, but also have populations that migrate to breed in parts of the northern Great Plains and the northwest. In Texas, their range is closer to the coast, but migrating individuals have been reported in more inland sites. Their typical habitat can be in fresh, brackish or saltwater settings and includes shallow waterbodies, marsh with short vegetation, agricultural fields with short vegetation including rice fields and crawfish ponds. Diets are broad, including crustaceans, bivalves, snails, worms, insects, arachnids and their larvae, amphibians and small rodents. Breeding habitat includes shallow marsh with patches of taller herbaceous emergent vegetation. They nest in low trees and shrubs, floating mats of vegetation, on the ground on bulrushes or reeds.

#### White-tailed Hawk (*Buteo albicaudatus*) State listed THREATENED

These predatory birds are found in tropical grasslands and savannahs, extending up into the coastal plain and dry rangelands of South Texas. They are mostly found on the coastal plain and will use areas with scattered shrubs and trees, but typically avoid farmland and heavily grazed areas. They are non-migratory, but are known to make relatively short-range seasonal movements. They have a highly variable diet, which they typically hunt from a perch or while flying. They also are attracted to grassfires where they hunt animals fleeing from the fire. Dietary items include flying insects, small mammals, birds (including the endangered Attwater's Prairie-Chicken), reptiles, frogs, crawfish and crabs. Breeding occurs from March to May with courtship displays occurring on the ground. Nests are bulky structures constructed from woody and herbaceous plant material, built in large shrubs and small trees. One to four young (usually two to three) are cared for by both parents for up to seven months before becoming independent.

## Mammals

Table 7. State or federally listed mammal species in Nueces County, Texas.

Common Name	Scientific Name	Federal Status	State Status
Ocelot	<i>Leopardus pardalis</i>	Endangered	Endangered
White-nosed Coati	<i>Nasua narica</i>		Threatened

### Ocelot (*Leopardus pardalis*) State and federally listed ENDANGERED

Though the Ocelot is widespread in more tropical areas, in the U.S. it is restricted to dense thorn-scrub and oak mottes in South Texas. They are about the size of a slim bobcat and use their small size to navigate the understory of dense woody vegetation to hunt prey, avoid predators and limit heat exposure. This secretive species is largely nocturnal, preying primarily on rodents, but may also take other small mammals, birds, reptiles, amphibians, fish and land crabs, depending on availability. They are solitary, though the home range of males may overlap the home ranges of multiple females. Breeding in Texas begins in summer from about June to November, though in more tropical parts of their range, they breed year-round. They generally have 1 – 2 kittens during fall in Texas, though on rare occasions 3 or 4 kittens have been reported.

### White-nosed Coati (*Nasua narica*) State listed THREATENED

This raccoon relative occurs in the southwest U. S., Mexico, Central America and northern South America. While primarily diurnal, they may become nocturnal in areas with high levels of hunting pressure or human activity/habitation. They prefer wooded areas but will inhabit riparian corridors, canyons, mountains and can survive in urban settings. They spend a lot of time on the ground, but are skillful climbers, using their long tail for balance. They are social animals and often are found in groups consisting of closely related females and their young, traveling in single file with tails held high. Adult males are solitary and have been known to kill young coatis. In Texas, they are rare, with most sightings near the Mexican border, though it is thought their numbers have been growing recently. They are omnivorous and forage on a wide variety of fruit, vegetation, invertebrates and small vertebrates.

## FINDINGS

### Habitat descriptions

During field investigations, photo plots were established to document the available habitats present. Figure 2 shows the locations of transects and photo plots throughout the project area, and Appendix E contains photographs with cut lines at these locations.

Most of the project area has been largely disturbed through anthropogenic activity in the last five years. Row crops were produced as recently as two years ago in the northern two-thirds of the property, resulting in regular, highly invasive disturbance of vegetation and surface soils through tilling, chemical application, and compaction. Within this formerly agricultural area, a parking

area surfaced with crushed limestone has been established off Greenwood Dr on part of the northeast boundary, and it was still in place at the time site visits were conducted. These areas were dominated by early successional species that averaged two to four feet tall, depending on local species composition. These species would shade out low-growing species that can't tolerate shade during the early part of the growing season. Some of these species had senesced or were in the process of senescence during field investigations when conditions were very dry. As succession continues, perennials will become more dominant, but highly invasive species already present in this area, such as yellow bluestem, will likely expand, forming monotypic stands. This part of the property is poor quality for RTE species considered in this report.

Though the portion of the property below the agricultural area in the south corner of the property had comparatively less invasive impacts in the near past, it is still suffering from the effects of recent anthropogenic activities. Most of this area is dominated by monotypic stands of invasive yellow bluestem, which exclude native plant species. There are some parts of this area with trees and shrubs, at least some of which were planted. However, some of these are introduced species such as lead tree and Chinaberry, further reducing overall habitat quality in this area. Finally, trash and debris left behind when anthropogenic activities ceased in this area remain, especially along tree lines. The heavily invasive nature of the non-native vegetation that is dominant in this area and the widespread debris results in poor quality habitat for RTE species considered in this report.

One small area near the southern property corner contains a depression dominated by hydrophytic vegetation that have low salt-tolerance. The National Wetland Inventory labels the depression as seasonally flooded palustrine emergent wetlands with persistent vegetation. However, a wetland delineation performed concurrently with the RTE surveys revealed this area now lacks all the characteristics required by the U.S. Army Corps of Engineers to classify an area as a wetland. Vegetation consisted of an overstory of retama and an understory of dense longtom with a few scattered hydrophytic sedges. However, there was no evidence of wetland hydrology beyond the presence of hydrophytic vegetation. It is possible that changes to the hydrology in the area occurred during and after construction of the Crosstown Expressway which resulted in the cessation of seasonal flooding in this area. If this area continued to flood seasonally, it would be an area in which amphibians could reproduce. However, the lack of evidence of flooding and the small size of this patch makes it poor quality habitat for RTE species considered in this report.

The balance of the property is a mosaic of dense thorn-scrub and more open mesquite with an understory of switchgrass that parallels Oso Creek. In general, this part of the property is the least disturbed, though it appears a portion of the southern corner of the property has been used as a trash dump in the recent past. Though this area has superior habitat to the rest of the property, it is relatively small and would not meet the habitat patch size requirements of many species on its own. However, the degree of cover along Oso Creek makes this part of the property a potential travel corridor and migration stopover habitat for other terrestrial RTE species. The lack of indirect and direct evidence of usage by these species during field investigations indicates that if such use exists, it is likely short term or briefly seasonal (e.g., migration). Therefore, even though this thin strip of habitat could support some RTE species in this report, it is unlikely.

Within this area in the southern corner are some emergent wetlands that appear to be relic channels of Oso Creek. When the creek is high due to storm surge, unusually high tide or significant rain



events upstream, there is connectivity between Oso Creek and these wetlands. These wetlands surround salt barrens and are dominated by strongly halophytic vegetation, indicating the presence of significant marine influence, so it is likely that most of the time Oso Creek is high, it is because of storm or tidal events rather than upstream flooding. Due to the high salinity based on plant species composition, these wetlands are not good habitat for reproduction of amphibian RTE species considered in this report.

### Species Accounts

Black lace cactus (*Echinocereus reichenbachii* var. *albertii*) State and federally listed ENDANGERED

This cactus is not generally found in disturbed areas, such as agricultural lands. However, they are known to occur under dense to semi-open thorn-scrub and mesquite - acacia woodlands with sandy, somewhat saline soils, undisturbed naturally open areas with sparse low woody shrubs and along creeks dominated by halophytic vegetation. Considering its habitat preference, the most likely part of the project area where these cacti may occur is in the relatively undisturbed understory of the thorn-scrub bordering Oso Creek. Field investigations failed to detect any cacti, including black lace cactus on the subject property. Additionally, there are no iNaturalist reports for this species in Nueces County, though it is reported to the north in San Patricio County and to the south in Kleberg County. Due to the lack of known populations near the project area, the borderline nature of the soils in areas with similar vegetative morphology to described habitats and the lack of individuals located during filed surveys, this project is not likely to adversely affect black lace cactus.

Slender rush-pea (*Hoffmannseggia tenella*) State and federally listed ENDANGERED

This species is a perennial that stores energy in a tap root and tends to form colonies. The reliance on the tap root makes it susceptible to plowing, so it is unlikely potential populations will persist in agricultural fields, such as the one that occupies most of the project area. However, it is resistant to less invasive forms of disturbance, such as mowing, so it is possible, even in agricultural areas, for it to persist on turnrows, dirt roads, rights-of-way and other areas that may not be plowed. Preferred habitat tends to be sparsely vegetated prairie, often dominated by low-growing vegetation, and occasionally associated with streams, indicating it does not tolerate shading well. Therefore, areas where invasive species, such as yellow bluestem, form dense stands, as were observed in herbaceous areas south of the crop fields on the property, are not good habitat, and slender rush-pea may be excluded. Though the only potential habitat for this species was located around the perimeter of the property, the entire area was carefully examined for this small hard-to-notice plant. During field investigations, no individuals were observed. No nearby iNaturalist observations were reported, though admittedly there are populations in Nueces County that are not documented by that source. Due to limited and marginal habitat and the absence of individuals detected during filed investigations, this project is not likely to adversely affect slender rush-pea.

South Texas ambrosia (*Ambrosia cheiranthifolia*) State and federally listed ENDANGERED

This is another species of perennial plant that doesn't do well in plowed soils. Its preferred habitat includes grassy areas with no to scattered shrubs and trees including erosional areas along creeks and mesquite-dominated shrublands on various soils, in the coastal plain. On the subject property, the area most closely resembling this description is located along Oso Creek. However, during field investigations, the entirety of the property was closely scrutinized, and no South Texas Ambrosia was located. In Nueces County, iNaturalist reports two populations of this species in the vicinity of Bishop, TX, though other populations are known south of that location around Kingsville in Kleberg County. Due to the poor quality of the habitat for South Texas Ambrosia on the property and the fact that surveys failed to locate this distinctive species, this project is not likely to adversely affect South Texas Ambrosia.

Black-spotted Newt (*Notophthalmus meridionalis*) State listed THREATENED

The Black-spotted Newt, like many amphibians, relies upon standing water for reproduction. Study of their ecology shows the terrestrial eft stage is brief, which would tie this species more closely to water than its nearest relatives. Though there is evidence of ephemeral pools forming in some small portions of the property, these areas contained an abundance of halophytic plant species surrounding salt barrens, indicating much of the inundation has tidal influence, and therefore are too highly saline for Black-spotted Newts. Oso Creek to the south also has abundant predatory fish with wide salinity tolerance that would make it inhospitable to newts even when the water is fresher. Ditches near the property are more likely to be sources of fresh water but have in the recent past been subject to landfill and agricultural runoff. During field investigations, logs and other debris were flipped, and fissures in soil were examined to determine if Black-spotted Newts were present, but none were observed. Furthermore, observations reported through iNaturalist are confined to Willacy, Hidalgo, and Cameron Counties in the southernmost tip of Texas. Considering the very poor habitat quality found on the subject property, the lack of observations during field efforts and the lack of reports from citizen scientists in Nueces County, this project is not likely to adversely affect Black-spotted Newts.

Sheep Frog (*Hypopachus variolosus*) State listed THREATENED

This fossorial species spends much of its time in the burrows of other organisms or in fissures in soil, such as those formed in vertic clays. When precipitation or crop irrigation floods these burrows and fissures, Sheep Frogs emerge and breed in the resulting ephemeral pools and ditches. Habitat generally includes intact native grassy to woody habitats and pasture with abundant shortgrass cover. On the subject property, this would be located along Oso Creek, though much of this area has been significantly disturbed in the recent past. There are few areas on the property with evidence of the formation of ephemeral pools, and these areas show signs of being flooded with water containing high salinity. During the time in which site visits were conducted, no precipitation occurred, so Sheep Frogs would not have been vocalizing. However, logs and other debris were flipped, and fissures in soil were examined to determine if Sheep Frogs were present,

but none were observed. Accounts of individuals observed on iNaturalist in Nueces County are west of Corpus Christi near Robstown and Bluntzer. Due to the marginal nature of habitats on the subject property and the lack of observations in and around Corpus Christi on iNaturalist, this project is not likely to adversely affect Sheep Frogs.

South Texas Siren (Large Form) (*Siren sp. 1*) State listed THREATENED

Due to ongoing taxonomical debates on what constitutes a South Texas Siren, all *Siren* species were considered for this field effort in an abundance of caution. Any evidence of any *Siren* species would be treated as South Texas Siren, if found. These eel-like salamanders are more closely tied to aquatic resources than other salamanders that have terrestrial adult forms. They are found in permanent waterbodies with high degrees of sub-aquatic vegetation and emergent vegetation on the shoreline but are also known to use ephemeral pools. They are nocturnal and may move overland at night to access other waterbodies. The subject property is a terrestrial system, though small areas develop ephemeral pools that appear to have significant salinity based on the surrounding halophytic vegetation. This makes the property poor quality overall for *Siren* species. Sightings of *Siren* species on iNaturalist are very limited, including one observation in Flour Bluff and two other observations south of Banquete, Texas. Considering the poor habitat quality and the lack of observations on the subject property during field investigations or near the property on iNaturalist, this project is not likely to adversely impact South Texas Siren

Texas Horned lizard (*Phrynosoma cornutum*) State THREATENED

Preferred habitat for this species includes arid to semi-arid open habitats with sandy soils and sparse vegetation, scattered brush or scrubby trees. Their diet is composed chiefly of ants, especially harvester ants. What is available within the project area are blackland clay soils with early succession vegetative growth, dense stands of yellow bluestem and dense woody vegetation over sparse herbaceous vegetation in heavily shaded areas to dense switchgrass under more open canopies. During field investigations, no good habitat for this species or individuals were noted in the project area. Furthermore, no sign of the presence of harvester ants or their nests were noted in the project area. Though iNaturalist reports exist in the Corpus Christi area, they are either closer to the coast in the Flour Bluff or barrier island areas, or they are further inland, presumably where soils are more favorable. When the recent land use practices, local soils, lack of individuals, habitat and harvester ants observed during field investigations are considered, this project is not likely to adversely affect the Texas Horned Lizard.

Texas Scarletsnake (*Cemophora lineri*) State listed THREATENED

This secretive fossorial snake generally requires loose soils in which it can burrow. The heavy clay soils on the property are not ideal for burrowing and few burrows were observed outside of wetlands flanking Oso Creek, which contained numerous Fiddler Crab (*Uca sp.*) burrows. Outside of these wetlands, soils were extremely hard and resistant to burrowing activity, which is further

complicated by the fact that most of the property was tilled annually until two years ago. There are no reports of Texas Scarlet Snake in iNaturalist, though there have been sightings in the past in the Flour Bluff area. During field efforts, logs and other debris were flipped and fissures in the soil were examined to determine if Texas Scarlet Snake is present on the property, but no evidence of their presence was found. Considering the poor habitat quality, the lack of observations on the project area during field investigations and dearth of observations in the Corpus Christi area on iNaturalist, this project is not likely to adversely impact Texas Scarlet Snake.

#### Texas Tortoise (*Gopherus berlandieri*) State THREATENED

This species prefers arid to semi-arid open grassland, scrub-shrub, lomas and open forest with sandy well-drained soils. They occasionally burrow, but more often use existing burrows and eat vegetation, especially succulents. Local soils were heavy clays, not well suited to burrowing behavior, and very few burrows large enough to accommodate even a juvenile Texas Tortoise were observed during field efforts. Furthermore, succulents were absent from most of the property, only appearing in periodically flooded areas adjacent to Oso Creek that were dominated by halophytic species, some of which are succulents. Data from iNaturalist shows there are numerous sightings of Texas Tortoise in the Corpus Christi area, but the precise locations of these occurrences are unreliable considering the alarming number of alleged sightings that are mapped in coastal waterbodies and the curiously rectangular distribution of sightings. However, there is a documented observation provided by the Texas Parks and Wildlife Department along Oso Creek across the Crosstown Expressway bridge, which is so close to the property that it is likely this species uses at least part of the project area. However, during field investigations, no direct or indirect evidence of the presence of Texas Tortoise was observed in the project area, indicating this potential use of the property by Texas Tortoise is not frequent. Therefore, this project is not likely to adversely affect the Texas Tortoise.

#### Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) State and federally listed THREATENED

This highly secretive sparrow-sized bird prefers tidal marsh, freshwater marsh and wet meadows, with dense herbaceous vegetation, generally near the coast. Most of the subject property is fallow agricultural field, upland grassland dominated by yellow bluestem and thorn-scrub. Very little of the project area has any wetlands, and these areas contain and are surrounded by mesquite and retama thickets. Habitat quality is poor at best. Black Rails are very difficult to detect, and though the field efforts occurred outside of the breeding season where you would expect few if any vocalizations, site visits began early within two hours of sunrise in case vocalizing birds were present. However, the poor habitat quality almost certainly would not have been sufficient for these small marsh birds, and none were observed during field efforts. Reports on iNaturalist in Nueces County for Black Rail located north of Hwy 44 in the vicinity of Robstown, Calallen and Bluntzer. Additionally, there are currently no ebird reports from Nueces County. Therefore, this project is not likely to adversely impact Black Rails.

Northern Aplomado Falcon (*Falco femoralis septentrionalis*) State and federally listed  
THREATENED

This medium-sized falcon prefers open grassland and savannah with scattered woody species such as mesquite and yucca. By contrast the subject property contains mainly fallow agricultural fields with a mosaic of dense thorn-scrub and grasses along Oso Creek. Furthermore, this property is directly adjacent to Hwy 286. Most sightings in the Corpus Christi area from iNaturalist are on North Padre and Mustang Islands. Some ebird reports occur inland, the closest of which is from the South Texas Botanical Gardens and Nature Center. No Aplomado Falcons were observed during field investigations. Considering the lack of observations on or around the property and the overall poor quality of habitat contained therein, it is not likely that this project will adversely affect Aplomado Falcons.

Piping Plover (*Charadrius melodus*) State and federally THREATENED

The project area contains very little area which may become barely passable foraging habitat for short durations following significant precipitation or tidal events. Considering these birds prefer open areas, the thorn-scrub thickets near small salt barrens observed on the property also would likely be avoided when flooded or saturated. Additionally, no individuals were observed, and no vocalizations were heard during field investigations, though it is recognized that observations during this time period would be unlikely due to their migratory nature. Observation location data from iNaturalist are not very precise, but still show a trend of sightings being more concentrated toward the coast and bay areas. Additionally, ebird data back up this trend with more precise location data. The nearest observations of Piping Plover to the project area are at the South Texas Botanical Gardens and Nature Center, over four miles downstream along Oso Creek. Due to lack of suitable habitat in the project area and lack of observations within four miles, this project is not likely to adversely affect Piping Plovers.

Red Knot (*Calidris canutus rufa*) Federally THREATENED

The project area contains very little wet flats where Red Knots forage, and these small areas are not associated with any shorelines. Furthermore, these small areas are dry most of the year and surrounded by thickets of thorn-scrub, which makes them undesirable to this species. During field investigations, no individuals were observed, and no vocalizations were heard to indicate their presence in the area, though it is recognized that observations during this time would be unlikely considering they breed in northern Canada and Alaska during the summer. Observations on iNaturalist are almost exclusively on the barrier islands, though ebird observations occur just under five miles away at the South Texas Botanical Gardens and Nature Center. Due to lack of suitable habitat in the project area, and lack of nearby observations of this species, this project is not likely to adversely affect Red Knots.



#### Whooping Crane (*Grus americana*) State ENDANGERED

These large birds are conspicuous where they occur and prefer open areas, making them hard to miss when present. Preferred habitat includes prairie, agricultural lands and fields, though they avoid dense residential areas and prefer more rural settings. In South Texas, preferred habitat is coastal marsh where they feed on Blue Crab. Though they are winter residents that would not be present at the time field surveys were conducted, available habitat on the subject property was poor at best and it is unlikely Whooping Cranes would use it. Both iNaturalist and ebird data indicate Whooping Crane observations around Corpus Christi are uncommon, and when they occur are along the bays and in coastal marsh. Due to the lack of suitable habitat in the project area, and lack of documented occurrences in the nearby vicinity, this project is not likely to adversely affect Whooping Cranes.

#### Wood Stork (*Mycteria americana*) State THREATENED

These large birds are most likely to be observed in wetlands, marshes, swamps and shallow waterbodies where they feed mostly on living and dead fish. The nearest waterbody containing fish is Oso Creek, which has steep banks, and the water depth increases rapidly in most areas adjacent to the property, which limits access to fish by piscivorous wading birds. The nearest reported sightings from ebird and iNaturalist are from Oso Parkway about three miles down Oso Creek and at the South Texas Botanical Gardens and Nature Center, respectively. However, during field investigations on July 14, 2023, a single Wood Stork was observed from the project area, though it was not on, nor did it interact with the property. This individual was flying along Oso Creek, following its course downstream toward previously mentioned areas where sightings have been reported. It was flying very high and at one point paused to gain some altitude in a thermal before continuing downstream along Oso Creek. This individual did not appear to have any intention of using the property and was simply passing through. Due to the lack of suitable habitat in the project area, few sightings reported in the vicinity, of which, the only one within sight of the property was an individual flying through the area at high altitude, this project is not likely to adversely affect Wood Storks.

#### Reddish Egret (*Egretta rufescens*) State listed THREATENED

As previously stated, Reddish Egrets are highly selective of breeding and foraging habitat, which are open shallow coastal areas and occasionally marshy inland sites often associated with waterbodies. Considering the property is not coastal and contains a very limited area that occasionally floods when nearby Oso Creek tops its banks, this project has poor habitat at best for this species. The nearest iNaturalist and ebird locations to the property are erroneous, considering one was a driving survey covering dozens of miles and another location was placed in a residential neighborhood almost three miles away, where the associated photos clearly show a large shallow waterbody. The closest believable ebird and iNaturalist sighting locations were at the South Texas Botanical Gardens and Nature Center, over four miles from the property. Finally, during field investigations, no direct or indirect evidence of the presence of this species was observed.

Considering the lack of documented sightings within four miles and the lack of suitable habitat on the property, this project is not likely to adversely affect Reddish Egrets.

Sooty Tern (*Onychoprion fuscatus*) State listed THREATENED

This pelagic bird lives most of its life far out at sea, only coming to land to breed. Preferred breeding habitat occurs on open sandy beaches with little to no vegetation on remote islands. The project area is located on the mainland about 14 miles from the bay shore of North Padre Island and lacks the habitat features noted in Sooty Tern breeding colonies. During field investigations, no individuals were observed on or near the project area. Therefore, this project is not likely to adversely affect the Sooty Tern.

Swallow-tailed Kite (*Elanoides forficatus*) State listed THREATENED

The preferred habitat for this species is forested wetlands and along streams. Breeding occurs in the summer months, so at the time site visits were conducted, this species would be nesting in tall trees and exhibiting territorial behavior. No suitable breeding habitat was noted on the subject property. Furthermore, in Nueces County, this species is a transient migrant not known to regularly breed or winter in South Texas, so it would not be expected during the time of year in which field investigations occurred. Observations from iNaturalist and ebird are of spring and fall migrants and are more common along the coast. Finally, during site inspections, no Swallow-tailed Kites were detected on or near the property. Due to the lack of habitat on the property and the fact that this part of Texas is a migration corridor, this project is not likely to adversely impact Swallow-tailed Kites.

Texas Botteri's Sparrow (*Peucaea botterii texana*) State listed THREATENED

This species prefers grassland with scattered trees and/or shrubs along the coast. They are migratory and are present in parts of South Texas at the time field surveys were conducted. Breeding occurs in bunch grass habitat that may contain scattered woody vegetation, such as mesquite or huisache along the Gulf Coast. Though grasses were common on the part of the property that borders Oso Creek, these were not bunch grasses. These areas may be acceptable as foraging habitat, but no Botteri's Sparrows were observed during field inspections. Furthermore, no observations from ebird or iNaturalist exist in the Corpus Christi area. Due to the lack of suitable breeding habitat, and the lack of observations in and around the property, this project is not likely to adversely impact the Texas Botteri's Sparrow.

Tropical Parula (*Setophaga pitayumi*) State listed THREATENED

In South Texas, this migratory species would be found in open to dense forest, often along streams and other waterbodies. Site inspections were conducted during the breeding season, where nests would be established in epiphytic vegetation toward the ends of branches in trees. The only suitable habitat for this species on the property would have been along Oso Creek. During field

investigations, no individuals were seen or heard, and no nests established in epiphytes were noted. Observations on ebird and iNaturalist for this species are uncommon in the Corpus Christi area with the closest observation recorded at a private residence near Captain Falcon Park, about three miles southeast of the property. Due to the lack of observations on the property, the overall lack of sightings in the Corpus Christi area and the limited amount of potential habitat present, this project is not likely to adversely impact Tropical Parula.

#### White-faced Ibis (*Plegadis chihi*) State listed THREATENED

This species often feeds in shallow, flooded open areas, mud flats, moist vegetated soils, shorelines or agricultural fields. Though the project area contains a fallow agricultural field, it's position near Oso Creek and the presence of drainage ditches and slopes descending toward the creek make it unlikely that flooding will occur, except possibly for short durations following significant precipitation events. Lack of signs of hydrological indicators in these fields indicates flooding has not occurred recently. Additionally, the property lacks marshy areas preferred for breeding habitat. During field investigations, no individuals were observed, and no vocalizations were heard. The only Ebird observation within four miles of the property was recorded in 2009 in the landfill to the northwest. The closest iNaturalist observation was reported in 2022 at the South Texas Botanical Gardens and Nature Center, over four miles from the property. Due to the lack of suitability of habitats observed within the project area and the lack sightings on and near the property, this project is not likely to adversely affect White-faced Ibis.

#### White-tailed Hawk (*Buteo albicaudatus*) State listed THREATENED

These large conspicuous raptors prefer grasslands and savannahs with scattered shrubs and trees. However, they are known to avoid farmland and heavily grazed areas. This would make the subject property low quality at best for this species since most of it is fallow agricultural field and the balance is a mosaic of non-native invasive grassland and dense thorn-scrub. However, they occasionally are observed scavenging at dumps, and there are a couple of ebird observations, one of which was an incidental flyover, at the dump next to the subject property. Considering this is a soaring bird, it is expected to have widespread observations, even outside of their typical habitat as they make small-scale movements, such as between roost sites and feeding areas. During field investigations, no White-tailed Hawks were noted on the subject property, and though there have been incidental sightings at the dump as recently as 2020, it does not appear that they regularly use any area on or near the property. Considering the poor habitat quality and few observations in the immediate vicinity of the property, this project is not likely to adversely affect White-tailed Hawks.

#### Ocelot (*Leopardus pardalis*) State and federally listed ENDANGERED

This medium-sized cat prefers dense thorn-scrub and oak mottes in South Texas. Most of the subject property is fallow agricultural field, which would restrict potential use of the property to the area bordering Oso Creek. Though some dense thorn-scrub exists along the creek, it is not a very wide strip of land and considering the size of Ocelot home ranges, that part of the property

would not be sufficient to support one. Furthermore, areas around the property contain little if any suitable habitat, so if there were any use of the property, it would be in the role of a travel corridor between suitable patches of habitat of sufficient size to support one or more individuals. During site inspections, searches for both direct and indirect evidence of the presence of Ocelot were conducted, and no such evidence was detected. Additionally, no iNaturalist observations have been recorded north of Laguna Atascosa National Wildlife Refuge. Considering the overall lack of habitat in the surrounding areas and the lack of reports in Nueces County, this project is not likely to adversely impact Ocelot.

#### White-nosed Coati (*Nasua narica*) State THREATENED

This species has a wide range of habitat preference including urban settings. Though normally diurnal, they are known to become nocturnal in urban areas, presumably to minimize contact with humans. In undeveloped areas, they prefer forested areas, including riparian corridors, so the most likely portion of the subject property to be used would be the area bordering Oso Creek. However, site inspections failed to locate any direct or indirect evidence of the presence of White-nosed Coati. Additionally, there are no observations for this species in Nueces County on iNaturalist. In fact, the closest observation is from an individual that was trapped in Alamo, TX and released on state lands along the Mexican border near Santa Maria, TX. Considering the lack of preferred habitat and evidence of their presence in the area, this project is not likely to adversely affect White-nosed Coati.

### SUMMARY

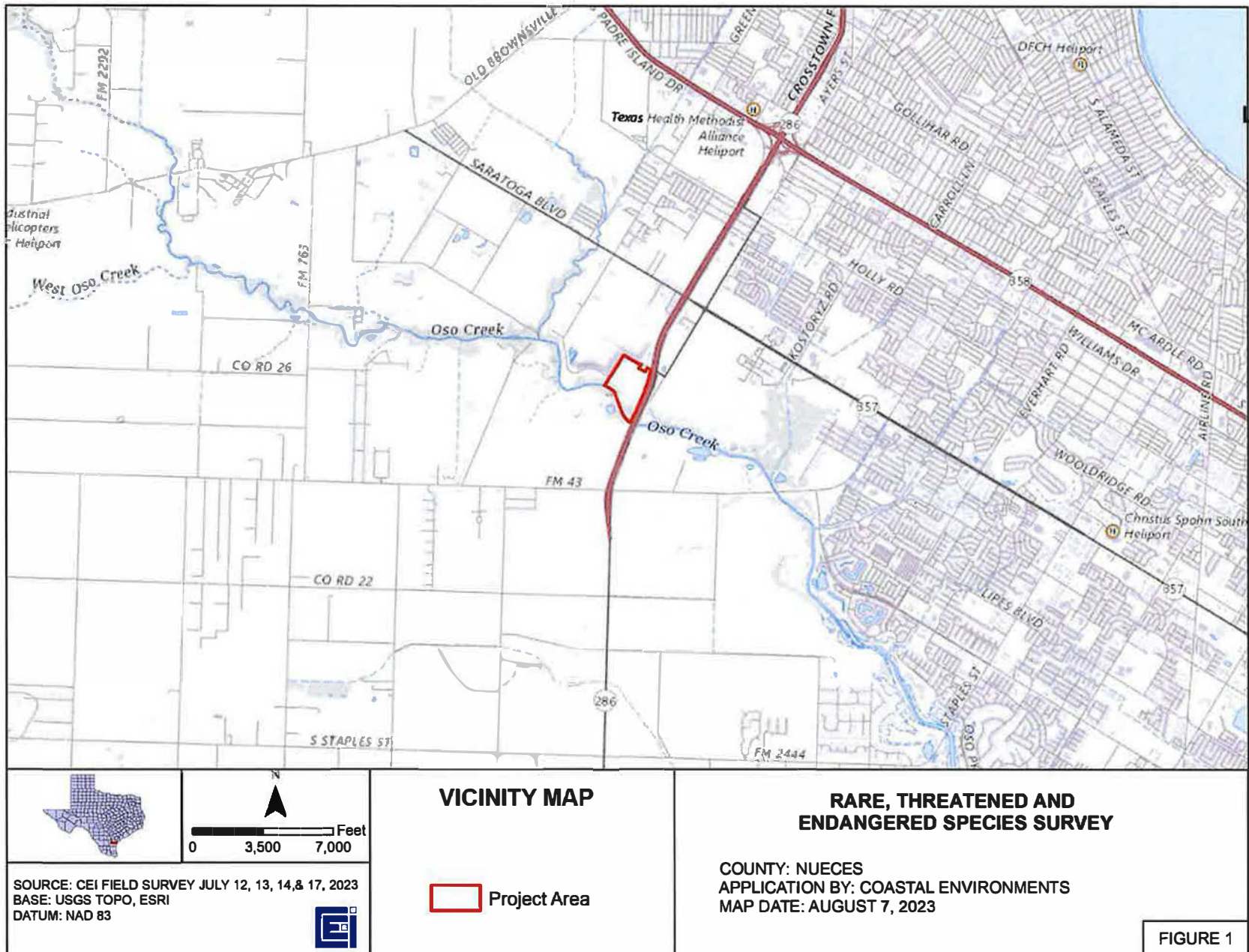
Most of the property has been highly disturbed through normal agricultural practices as recently as two years ago. Due to the highly invasive nature of plowing, it can take perennial plant species a long time to re-establish after the cessation of these practices. Additional anthropogenic activities created areas dominated by monotypic stands of non-native vegetation and scattered trash and debris. The remainder of the property is a relatively thin strip of dense thorn-scrub with very sparse understory and mesquite with switchgrass understory, paralleling Oso Creek. Though it was unlikely threatened and endangered species would occur in these areas, pedestrian surveys were conducted throughout the entirety of the project area at a slow pace to maximize detection rates. In addition to visual and auditory observation of individuals, a search for indirect evidence of the occupation of protected species was conducted.

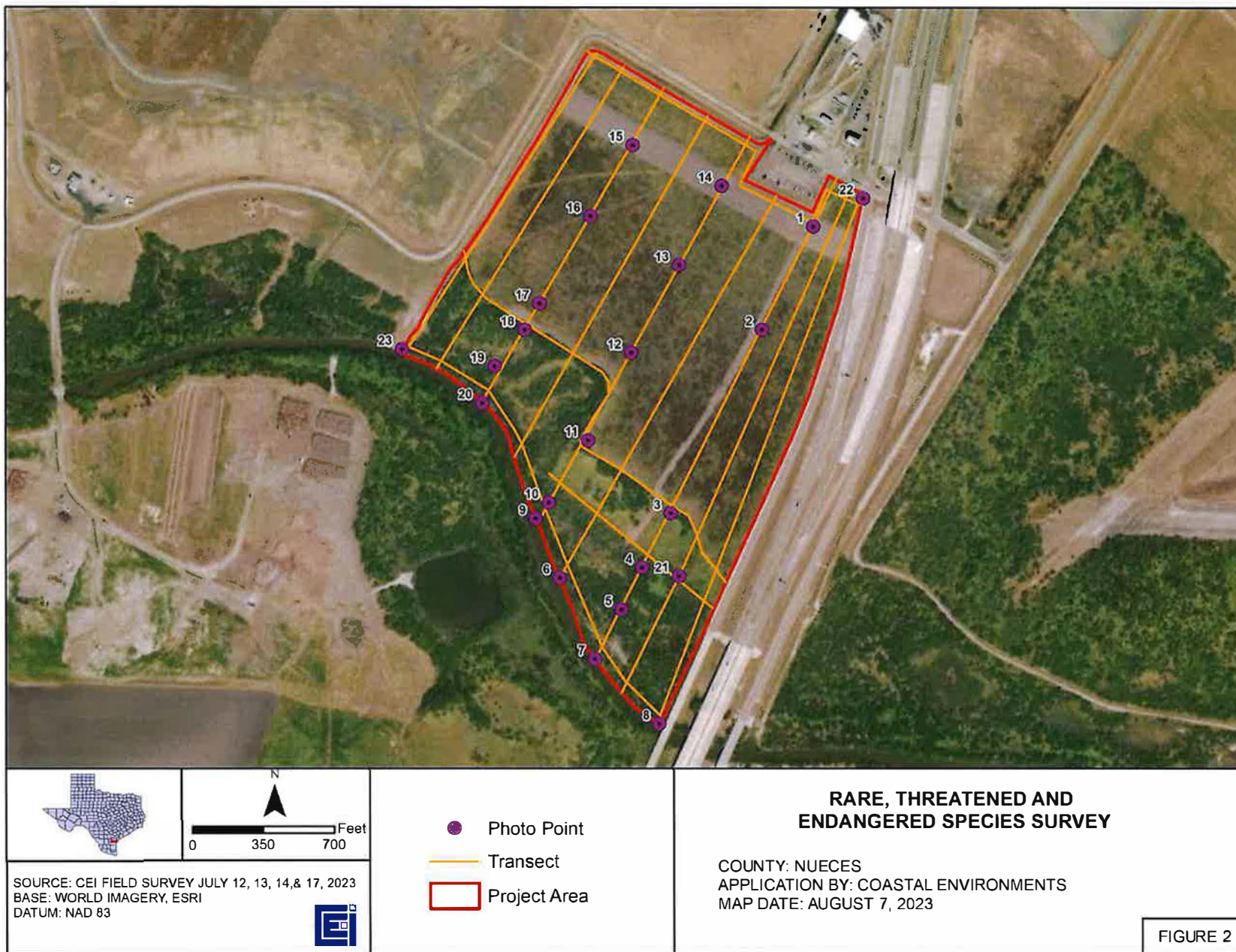
In addition to surveys, searches for reports of the occurrence of RTE species considered in this report were conducted using iNaturalist, ebird and the TXNDD. Though ebird is moderated by bird identification experts and questionable observations are discarded, it is limited to bird observations and isn't helpful with other groups of organisms. Though iNaturalist contains reports of all types of flora and fauna, it is less tightly regulated than ebird and incorrect identification of organisms is possible. However, there are many knowledgeable biologists that go through iNaturalist records and make suggested identifications for incorrect records, but due to the volume of observations, incorrect observations can persist. Though records from the TXNDD are more reliable, there are limits on observations based on property access. Both ebird and iNaturalist are

similarly limited, though private landowners may record observations on their property where access is otherwise denied.

The result of field efforts and searches for electronic records of RTE species on or near the property resulted in only one observation from the property (a Wood Stork flying high along Oso Creek toward the southeast) and three from the near vicinity of the property (two White-tailed Hak sightings at the landfill and a Texas Tortoise just across the Crosstown Expressway). Considering the overall poor habitat quality of the property and the small portion of the property containing relatively undisturbed habitat, the project is not likely to adversely affect threatened and endangered species identified by USFWS and TPWD that are known to occur in and around Corpus Christi in Nueces County, Texas.









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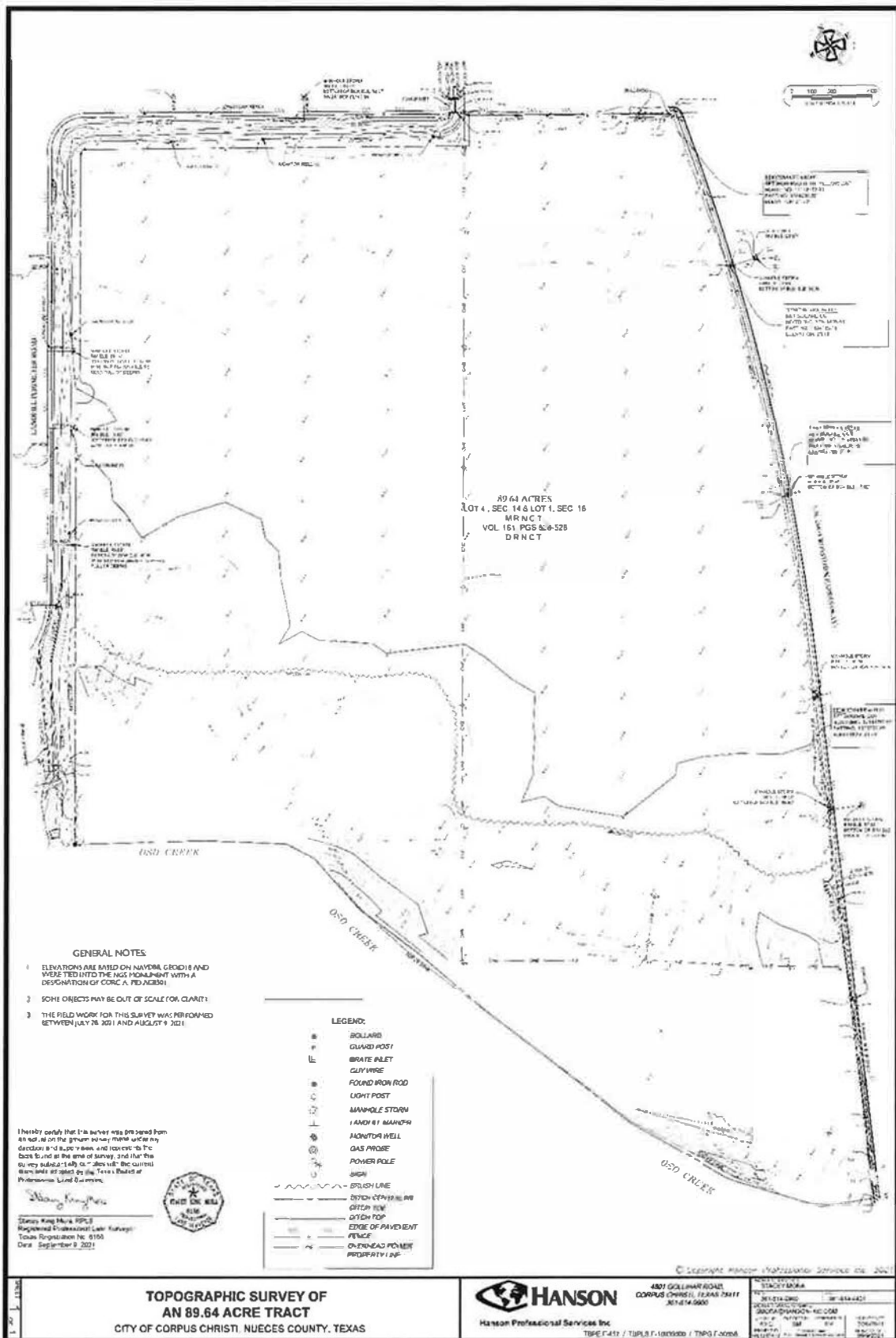
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**Appendix A**  
**Survey Map and Legal Description**







**Appendix B**  
**IPaC**



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Texas Coastal Ecological Services Field Office  
17629 El Camino Real, Suite 211  
Houston, TX 77058-3051  
Phone: (281) 286-8282 Fax: (281) 488-5882



In Reply Refer To:

July 11, 2023

Project Code: 2023-0102884

Project Name: City of Corpus Christi (J. C. Elliott) Transfer Station

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The U.S. Fish and Wildlife Service (Service) field offices in Clear Lake, Corpus Christi, and Alamo, Texas, have combined administratively to form the Texas Coastal Ecological Services Field Office. All project related correspondence should be sent to the field office address listed below responsible for the county in which your project occurs:

Project Leader; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058

*Angelina, Austin, Brazoria, Brazos, Chambers, Colorado, Fayette, Fort Bend, Freestone, Galveston, Grimes, Hardin, Harris, Houston, Jasper, Jefferson, Leon, Liberty, Limestone, Madison, Matagorda, Montgomery, Newton, Orange, Polk, Robertson, Sabine, San Augustine, San Jacinto, Trinity, Tyler, Walker, Waller, and Wharton.*

Assistant Field Supervisor, U.S. Fish and Wildlife Service; 4444 Corona Drive, Ste 215; Corpus Christi, Texas 78411

*Aransas, Atascosa, Bee, Brooks, Calhoun, De Witt, Dimmit, Duval, Frio, Goliad, Gonzales, Hidalgo, Jackson, Jim Hogg, Jim Wells, Karnes, Kenedy, Kleberg, La Salle, Lavaca, Live Oak, Maverick, McMullen, Nueces, Refugio, San Patricio, Victoria, and Wilson.*

U.S. Fish and Wildlife Service; Santa Ana National Wildlife Refuge; Attn: Texas Ecological Services Sub-Office; 3325 Green Jay Road, Alamo, Texas 78516  
*Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata.*

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as

amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/media/endangered-species-consultation-handbook>.

Non-Federal entities may consult under Sections 9 and 10 of the Act. Section 9 and Federal regulations prohibit the take of endangered and threatened species, respectively, without special exemption. "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. "Harm" is further defined (50 CFR § 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. "Harass" is defined (50 CFR § 17.3) as intentional or negligent actions that create the likelihood of



injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Should the proposed project have the potential to take listed species, the Service recommends that the applicant develop a Habitat Conservation Plan and obtain a section 10(a)(1)(B) permit. The Habitat Conservation Planning Handbook is available at: <https://www.fws.gov/media/habitat-conservation-planning-and-incidental-take-permit-processing-handbook>.

#### Migratory Birds:

In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts visit: <https://www.fws.gov/program/migratory-birds>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable National Environmental Policy Act (NEPA) documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

#### Attachment(s):

- Official Species List
- Migratory Birds
- Wetlands

## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Texas Coastal Ecological Services Field Office**  
17629 El Camino Real, Suite 211  
Houston, TX 77058-3051  
(281) 286-8282

## PROJECT SUMMARY

Project Code: 2023-0102884

Project Name: City of Corpus Christi (J. C. Elliott) Transfer Station

Project Type: Landfill - Solid Waste

Project Description: The City of Corpus Christi is building a municipal solid waste transfer station facility.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@27.70235195,-97.45271755334517,14z>



Counties: Nueces County, Texas

## ENDANGERED SPECIES ACT SPECIES

There is a total of 13 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## BIRDS

NAME	STATUS
Eastern Black Rail <i>Laterallus jamaicensis ssp. jamaicensis</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/10477">https://ecos.fws.gov/ecp/species/10477</a>	Threatened
Northern Aplomado Falcon <i>Falco femoralis septentrionalis</i> Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1923">https://ecos.fws.gov/ecp/species/1923</a>	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6039">https://ecos.fws.gov/ecp/species/6039</a>	Threatened
Red Knot <i>Calidris canutus rufa</i> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/1864">https://ecos.fws.gov/ecp/species/1864</a>	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/758">https://ecos.fws.gov/ecp/species/758</a>	Endangered

## REPTILES

NAME	STATUS
<b>Green Sea Turtle <i>Chelonia mydas</i></b> Population: North Atlantic DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/6199">https://ecos.fws.gov/ecp/species/6199</a>	Threatened
<b>Hawksbill Sea Turtle <i>Eretmochelys imbricata</i></b> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3656">https://ecos.fws.gov/ecp/species/3656</a>	Endangered
<b>Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i></b> There is <b>proposed</b> critical habitat for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5523">https://ecos.fws.gov/ecp/species/5523</a>	Endangered
<b>Leatherback Sea Turtle <i>Dermochelys coriacea</i></b> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1493">https://ecos.fws.gov/ecp/species/1493</a>	Endangered
<b>Loggerhead Sea Turtle <i>Caretta caretta</i></b> Population: Northwest Atlantic Ocean DPS There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1110">https://ecos.fws.gov/ecp/species/1110</a>	Threatened

## INSECTS

NAME	STATUS
<b>Monarch Butterfly <i>Danaus plexippus</i></b> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## FLOWERING PLANTS

NAME	STATUS
<b>Slender Rush-pea <i>Hoffmannseggia tenella</i></b> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/5298">https://ecos.fws.gov/ecp/species/5298</a>	Endangered
<b>South Texas Ambrosia <i>Ambrosia cheiranthifolia</i></b> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/3331">https://ecos.fws.gov/ecp/species/3331</a>	Endangered

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.



## MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\)](#) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
<b>Chimney Swift <i>Chaetura pelagica</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
<b>Dickcissel <i>Spiza americana</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds May 5 to Aug 31
<b>Hudsonian Godwit <i>Limosa haemastica</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

NAME	BREEDING SEASON
<b>Lesser Yellowlegs <i>Tringa flavipes</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a>	Breeds elsewhere
<b>Long-billed Curlew <i>Numenius americanus</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/5511">https://ecos.fws.gov/ecp/species/5511</a>	Breeds elsewhere
<b>Painted Bunting <i>Passerina ciris</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 25 to Aug 15
<b>Prothonotary Warbler <i>Protonotaria citrea</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
<b>Ruddy Turnstone <i>Arenaria interpres morinella</i></b> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds elsewhere
<b>Short-billed Dowitcher <i>Limnodromus griseus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere
<b>Swallow-tailed Kite <i>Elanoides forficatus</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8938">https://ecos.fws.gov/ecp/species/8938</a>	Breeds Mar 10 to Jun 30
<b>Willet <i>Tringa semipalmata</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 5

## PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see

below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

## Breeding Season (🌞)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (l)

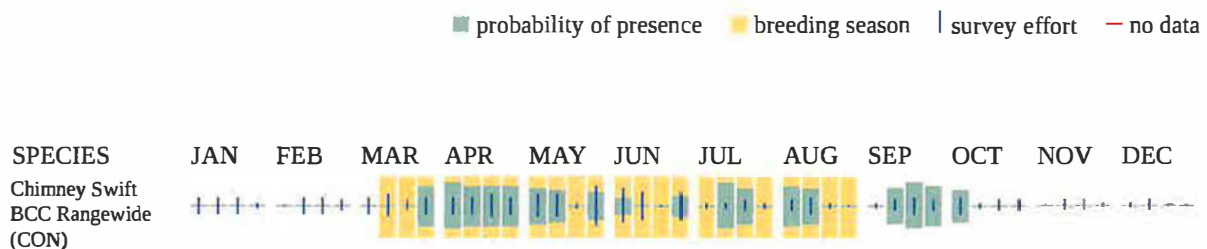
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

**No Data (—)**

A week is marked as having no data if there were no survey events for that week.

## Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

## MIGRATORY BIRDS FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very

helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**



Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

#### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

#### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

#### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of

certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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## WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

### FRESHWATER EMERGENT WETLAND

- [PEM1C](#)

### RIVERINE

- [R5UBH](#)
- [R1UBV](#)

### FRESHWATER POND

- [PUSR](#)

## **IPAC USER CONTACT INFORMATION**

Agency: Corpus Christi city

Name: Walker Wilson

Address: 525 Carancahua St

City: Corpus Christi

State: TX

Zip: 78401

Email

Phone: 2255738767

## **LEAD AGENCY CONTACT INFORMATION**

Lead Agency: Corpus Christi city

**Appendix C**  
**RTEST**



Last Update: 1/4/2023

## NUECES COUNTY

### AMPHIBIANS

#### black-spotted newt

*Notophthalmus meridionalis*

Terrestrial and aquatic: Terrestrial habitats used by adults are typically poorly drained clay soils that allow for the formation of ephemeral wetlands. A wide variety of vegetation associations are known to be used, such as thorn scrub and pasture. Aquatic habitats used for reproduction are a variety of ephemeral and permanent water bodies.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

#### sheep frog

*Hypopachus variolosus*

Terrestrial and aquatic: Predominantly grassland and savanna; largely fossorial in areas with moist microclimates.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

#### South Texas siren (Large Form)

*Siren sp. 1*

Aquatic: Mainly found in bodies of quiet water, permanent or temporary, with or without submergent vegetation. Wet or sometimes wet areas, such as arroyos, canals, ditches, or even shallow depressions; aestivates in the ground during dry periods, but does require some moisture to remain.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNRQ	State Rank: S1

#### Strecker's chorus frog

*Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

### BIRDS

#### bald eagle

*Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

#### black rail

*Laterallus jamaicensis*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

#### black skimmer

*Rynchops niger*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
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Endemic: N                      Global Rank: G5                      State Rank: S2B

**Franklin's gull**                      *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G5                      State Rank: S2N

**lark bunting**                      *Calamospiza melanocorys*

Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideoats and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding playas. This species avoids urban areas and cotton fields.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G5                      State Rank: S4B

**mountain plover**                      *Charadrius montanus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G3                      State Rank: S2

**northern aplomado falcon**                      *Falco femoralis septentrionalis*

Open country, especially savanna and open woodland, and sometimes in very barren areas; grassy plains and valleys with scattered mesquite, yucca, and cactus; nests in old stick nests of other bird species

Federal Status: LE                      State Status: E                      SGCN: Y  
Endemic: N                      Global Rank: G4T2T3                      State Rank: S1

**piping plover**                      *Charadrius melodus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT                      State Status: T                      SGCN: Y  
Endemic: N                      Global Rank: G3                      State Rank: S2N

**reddish egret**                      *Egretta rufescens*

Resident of the Texas Gulf Coast; brackish marshes and shallow salt ponds and tidal flats; nests on ground or in trees or bushes, on dry coastal islands in brushy thickets of yucca and prickly pear

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Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2B

**rufa red knot** *Calidris canutus rufa*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore. Bolivar Flats in Galveston County, sandy beaches Mustang Island, few on outer coastal and barrier beaches, tidal mudflats and salt marshes.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4T2	State Rank: S2N

**sooty tern** *Onychoprion fuscatus*

Primarily an offshore bird; does nest on sandy beaches and islands, breeding April-July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S1B

**Sprague's pipit** *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

**swallow-tailed kite** *Elanoides forficatus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

**Texas Botteri's sparrow** *Peucaea botterii texana*

Grassland and short-grass plains with scattered bushes or shrubs, sagebrush, mesquite, or yucca; nests on ground of low clump of grasses

Federal Status:	State Status: T	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S3B

**tropical parula** *Setophaga pitiayumi*

Semi-tropical evergreen woodland along rivers and resacas. Texas ebony, anacua and other trees with epiphytic plants hanging from them. Dense or open woods, undergrowth, brush, and trees along edges of rivers and resacas; breeding April to July.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B

**western burrowing owl** *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S2

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**white-faced ibis**

*Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

**white-tailed hawk**

*Buteo albicaudatus*

Near coast on prairies, cordgrass flats, and scrub-live oak; further inland on prairies, mesquite and oak savannas, and mixed savanna-chaparral; breeding March-May

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S4B

**whooping crane**

*Grus americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1S2N

**wood stork**

*Mycteria americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

## FISH

**american eel**

*Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habitats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

**fat snook**

*Centropomus parallelus*

Occupies freshwater, estuarine, and marine areas near mangroves, rocky overhangs or protected riverbanks, but is most commonly found inshore (freshwater). Spawning occurs from March-August in freshwater. After hatching, larvae disperse with the currents to estuarine areas (Gilmore et al. 1983, McMichael and Parsons 1989). Juveniles migrate from freshwater to estuarine areas based on flow and salinity regimes.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3?

**oceanic whitetip shark**

*Carcharhinus longimanus*

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Habitat description is not available at this time.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

**opossum pipefish** *Microphis brachyurus*

Adults are only found in low salinity waters of estuaries or freshwater tributaries within 30 miles of the coast (Gilmore 1992), where they also give birth. Young move or are carried into more saline waters off the coast after birth. Newly released larvae must have conditions near 18 ppt salinity for at least two weeks after birth to survive, indicating a physiology adapted for downstream transport to estuarine and marine environments (Frias-Torres 2002). Juvenile migration toward the ocean depends on water flow regimes, salinity, and vegetation for cover and capturing prey (Frias-Torres 2002). Seawalls, docks, and riprap construction destroy habitat and poor water quality and alteration of flow regimes may prevent migration (NMFS 2009).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3N

**shortfin mako shark** *Isurus oxyrinchus*

Habitat description is not available at this time.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

**snook** *Centropomus undecimalis*

Juvenile common snook are generally restricted to the protection of riverine, salt marshes, seagrass beds, and estuary environments. These environments offer shallow water and an overhanging vegetative shoreline. Juvenile common snook can survive in waters with lower oxygen levels than adults. Adult common snook inhabit many fresh, estuarine, and marine environments including mangrove forests, beaches, river mouths, nearshore reefs, salt marshes, sea grass meadows, and near structure (pilings, artificial reefs, etc.). Adult common snook appear to be less sensitive to cold water temperatures than larvae or small juveniles. The lower lethal limit of water temperature is 48.2°-57.2° F (9°-14° C) for juveniles and 42.8°-53.6° F (6°-12° C) for adults (Hill 2005, Press 2010).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3?

**southern flounder** *Paralichthys lethostigma*

This is an estuarine-dependent species that inhabits riverine, estuarine and coastal waters, and prefers muddy, sandy, or silty substrates (Reagan and Wingo 1985). Individuals can tolerate wide temperature (~5-35°C) and salinity ranges (0-60 ppt). Southern Flounder spawn in offshore waters of the Gulf of Mexico from October to February (Reagan and Wingo 1985). The oceanic larval stage is pelagic and lasts 30–60 days. Metamorphosing individuals enter estuaries and migrate towards low-salinity headwaters, where settlement occurs (Burke et al. 1991, Walsh et al. 1999). The young fish enter the bays during late winter and early spring, occupying seagrass; some may move further into coastal rivers and bayous. Juveniles remain in estuaries until the onset of sexual maturation (approximately two years), at which time they migrate out of estuaries to join adults on the inner continental shelf. Adult southern flounder leave the bays during the fall for spawning in the Gulf of Mexico. They spawn for the first time when two years old at depths of 50 to 100 feet. Although most of the adults leave the bays and enter the Gulf for spawning during the winter, some remain behind and spend winter in the bays. Those in the Gulf will reenter the bays in the spring. The spring influx is gradual and does not occur with large concentrations that characterize the fall emigration.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

## INSECTS

**American bumblebee** *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

**Comanche harvester ant** *Pogonomyrmex comanche*

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Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

**gladiator short-winged katydid** *Dichopetala gladiator*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: GNR	State Rank: SNR

**Manfreda giant-skipper** *Stallingsia maculosus*

Most skippers are small and stout-bodied; name derives from fast, erratic flight; at rest most skippers hold front and hind wings at different angles; skipper larvae are smooth, with the head and neck constricted; skipper larvae usually feed inside a leaf shelter and pupate in a cocoon made of leaves fastened together with silk

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

## MAMMALS

**barrier island Texas pocket gopher** *Geomys personatus personatus*

Limited information available. Likely found in sandy soils.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4TNR	State Rank: SNR

**big free-tailed bat** *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**blue whale** *Balaenoptera musculus*

Inhabits tropical, subtropical, temperate, and subpolar waters worldwide, but are infrequently sighted in the Gulf of Mexico. They migrate seasonally between summer feeding grounds and winter breeding grounds, but specifics vary. Commonly observed at the surface in open ocean.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: SH

**cave myotis bat** *Myotis velifer*

Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carports, under bridges, and even in abandoned Cliff Swallow (*Hirundo pyrrhonota*) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S2S3

**eastern red bat** *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is

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difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**eastern spotted skunk** *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

**Gulf of Mexico Bryde's whale** *Balaenoptera ricei*

Habitat description is not available at this time.

Federal Status: LE	State Status: E	SGCN: N
Endemic: N	Global Rank: G1	State Rank: SNR

**hoary bat** *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

**humpback whale** *Megaptera novaeangliae*

Inhabits tropical, subtropical, temperate, and subpolar waters world wide. Migrate up to 5,000 miles between colder water (feeding grounds) and warmer water (calving grounds) each year. They will use both open ocean and coastal waters, sometimes including inshore areas such as bays, and are often found near the surface; however, this species is rare in the Gulf of Mexico. The northwest Atlantic/Gulf of Mexico distinct population segment is not considered at risk of extinction and is not listed as Endangered on the Endangered Species Act.

Federal Status: LE	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SNR

**long-tailed weasel** *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

**maritime pocket gopher** *Geomys personatus maritimus*

Fossorial, in deep sandy soils; feeds mostly from within burrow on roots and other plant parts, especially grasses; ecologically important as prey species and in influencing soils, microtopography, habitat heterogeneity, and plant diversity

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4T2	State Rank: S2

**mountain lion** *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

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**North Atlantic right whale** *Eubalaena glacialis*

Inhabits subtropical and temperate waters in the northern Atlantic. Commonly found in coastal waters or close to the continental shelf near the surface. They migrate from feeding grounds in cooler waters (Canada and New England) to warmer waters of the southeast US (South Carolina, Georgia, and Florida) to give birth in the fall/winter - both areas are identified as critical habitat by NOAA-NMFS. Nursery areas are in shallow, coastal waters. This species is very rare in the Gulf of Mexico and the few reported sightings are likely vagrants (Ward-Geiger et al 2011).

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S1

**northern yellow bat** *Lasiurus intermedius*

Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegetation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

**ocelot** *Leopardus pardalis*

Restricted to mesquite-thorn scrub and live-oak mottes; avoids open areas. Dense mixed brush below four feet; thorny shrublands; dense chaparral thickets; breeds and raises young June-November.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1

**Padre Island kangaroo rat** *Dipodomys compactus compactus*

Dunes and open sandy areas near the coast.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4T3	State Rank: S3

**sei whale** *Balaenoptera borealis*

Habitat description is not available at this time.

Federal Status: LE	State Status: E	SGCN: N
Endemic: N	Global Rank: G5?	State Rank: SNR

**southern yellow bat** *Lasiurus ega*

Relict palm grove is only known Texas habitat. Neotropical species roosting in palms, forages over water; insectivorous; breeding in late winter. Roosts in dead palm fronds in ornamental palms in urban areas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3S4

**sperm whale** *Physeter macrocephalus*

Inhabits tropical, subtropical, and temperate waters world wide, avoiding icy waters. Distribution is highly dependent on their food source (squids, sharks, skates, and fish), breeding, and composition of the pod. In general, this species migrates from north to south in the winter and south to north in the summer; however, individuals in tropical and temperate waters don't seem to migrate at all. Routinely dive to catch their prey (2,000-10,000 feet) and generally occupies water at least 3,300 feet deep near ocean trenches.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S1

**tricolored bat** *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
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Endemic: N Global Rank: G3G4 State Rank: S2

**West Indian manatee** *Trichechus manatus*

Large rivers, brackish water bays, coastal waters. Warm waters of the tropics, in rivers and brackish bays but may also survive in salt water habitats. Very sensitive to cold water temperatures. Rarely occurring as far north as Texas. Gulf and bay system; opportunistic, aquatic herbivore.

Federal Status: LT State Status: T SGCN: Y  
Endemic: N Global Rank: G2G3 State Rank: S1

**western hog-nosed skunk** *Conepatus leuconotus*

Habitats include woodlands, grasslands & deserts, to 7200 feet, most common in rugged, rocky canyon country; little is known about the habitat of the ssp. *telmalestes*

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G4 State Rank: S4

**white-nosed coati** *Nasua narica*

Woodlands, riparian corridors and canyons. Most individuals in Texas probably transients from Mexico; diurnal and crepuscular; very sociable; forages on ground and in trees; omnivorous; may be susceptible to hunting, trapping, and pet trade

Federal Status: State Status: SGCN: Y  
Endemic: N Global Rank: G5 State Rank: S1

## MOLLUSKS

**No accepted common name** *Millerelix gracilis*

Habitat description is not available at this time.

Federal Status: State Status: SGCN: Y  
Endemic: Global Rank: G2G3 State Rank: S2?

## REPTILES

**Atlantic hawksbill sea turtle** *Eretmochelys imbricata*

Inhabit tropical and subtropical waters worldwide, in the Gulf of Mexico, especially Texas. Hatchling and juveniles are found in open, pelagic ocean and closely associated with floating algae/seagrass mats. Juveniles then migrate to shallower, coastal areas, mainly coral reefs and rocky areas, but also in bays and estuaries near mangroves when reefs are absent; seldom in water more than 65 feet deep. They feed on sponges, jellyfish, sea urchins, molluscs, and crustaceans. Nesting occurs from April to November high up on the beach where there is vegetation for cover and little or no sand. Some migrate, but others stay close to foraging areas - females are philopatric.

Federal Status: LE State Status: E SGCN: Y  
Endemic: N Global Rank: G3 State Rank: S2

**green sea turtle** *Chelonia mydas*

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Adults and juveniles occupy inshore and nearshore areas, including bays and lagoons with reefs and seagrass. They migrate from feeding grounds (open ocean) to nesting grounds (beaches/barrier islands) and some nesting does occur in Texas (April to September). Adults are herbivorous feeding on sea grass and seaweed; juveniles are omnivorous feeding initially on marine invertebrates, then increasingly on sea grasses and seaweeds.

Federal Status: LT State Status: T SGCN: Y  
Endemic: N Global Rank: G3 State Rank: S3B,S3N

**Kemp's Ridley sea turtle** *Lepidochelys kempii*

Inhabits tropical, subtropical, and temperate waters of the northwestern Atlantic Ocean and Gulf of Mexico. Adults are found in coastal waters with muddy or sandy bottoms. Some males migrate between feeding grounds and breeding grounds, but some don't. Females migrate between

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feeding and nesting areas, often returning to the same destinations. Nesting in Texas occurs on a smaller scale compared to other areas (i.e. Mexico). Hatchlings are quickly swept out to open water and are rarely found nearshore. Similarly, juveniles often congregate near floating algae/seagrass mats offshore, and move into nearshore, coastal, neritic areas after 1-2 years and remain until they reach maturity. They feed primarily on crabs, but also snails, clams, other crustaceans and plants, juveniles feed on sargassum and its associated fauna; nests April through August.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G1	State Rank: S3

**leatherback sea turtle** *Dermochelys coriacea*

Inhabit tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. Nesting is not common in Texas (March to July). Most pelagic of the seaturtles with the longest migration (>10,000 miles) between nesting and foraging sites. Are able to dive to depths of 4,000 feet. They are omnivorous, showing a preference for jellyfish.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1S2

**loggerhead sea turtle** *Caretta caretta*

Inhabits tropical, subtropical, and temperate waters worldwide, including the Gulf of Mexico. They migrate from feeding grounds to nesting beaches/barrier islands and some nesting does occur in Texas (April to September). Beaches that are narrow, steeply sloped, with coarse-grain sand are preferred for nesting. Newly hatched individuals depend on floating algae/seaweed for protection and foraging, which eventually transport them offshore and into open ocean. Juveniles and young adults spend their lives in open ocean, offshore before migrating to coastal areas to breed and nest. Foraging areas for adults include shallow continental shelf waters.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S4

**Mexican blackhead snake** *Tantilla atriceps*

Terrestrial: Shrubland savanna.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1

**slender glass lizard** *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**Tamaulipan spot-tailed earless lizard** *Holbrookia subcaudalis*

Terrestrial: Habitats include moderately open prairie-brushland regions, particularly fairly flat areas free of vegetation or other obstructions (e.g., open meadows, old and new fields, graded roadways, cleared and disturbed areas, prairie savanna, and active agriculture including row crops); also, oak-juniper woodlands and mesquite-prickly pear associations (Axtell 1968, Bartlett and Bartlett 1999).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S2

**Texas diamondback terrapin** *Malaclemys terrapin littoralis*

Coastal marshes, tidal flats, coves, estuaries, and lagoons behind barrier beaches; brackish and salt water; burrows into mud when inactive. Bay islands are important habitats. Nests on oyster shell beaches.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G4T3	State Rank: S2

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**Texas horned lizard** *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

**Texas indigo snake** *Drymarchon melanurus erebennus*

Terrestrial: Thornbush-chaparral woodland of south Texas, in particular dense riparian corridors. Can do well in suburban and irrigated croplands. Requires moist microhabitats, such as rodent burrows, for shelter.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5T4	State Rank: S4

**Texas scarlet snake** *Cemophora lineri*

Terrestrial: Prefers well drained soils with a variety of forest, grassland, and scrub habitats.

Federal Status:	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S1S2

**Texas tortoise** *Gopherus berlandieri*

Terrestrial: Open scrub woods, arid brush, lomas, grass-cactus association; often in areas with sandy well-drained soils. When inactive occupies shallow depressions dug at base of bush or cactus; sometimes in underground burrow or under object. Eggs are laid in nests dug in soil near or under bushes.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S2

**western box turtle** *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

**western hognose snake** *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

**western massasauga** *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3

## PLANTS

**black lace cactus** *Echinocereus reichenbachii* var. *albertii*

Grasslands, thorn shrublands, mesquite woodlands on sandy, somewhat saline soils on coastal prairie, most frequently in naturally open areas sparsely covered with brush of a low stature not resulting from disturbance or along creeks in ecotonal areas between this upland type and lower

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areas dominated by halophytic grasses and forbs; flowering April-June

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G5T1Q	State Rank: S1

**Buckley's spiderwort** *Tradescantia buckleyi*

Occurs on sandy loam or clay soils in grasslands or shrublands underlain by the Beaumont Formation.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

**Cory's croton** *Croton coryi*

Grasslands and woodland openings on barrier islands and coastal sands of South Texas, inland on South Texas Sand Sheet; Annual; Flowering July-Oct; Fruiting July-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

**crestless onion** *Allium canadense* var. *ecristatum*

Occurs on poorly drained sites on sandy substrates within coastal prairies of the Coastal Bend area (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G5T3	State Rank: S3

**Drummond's rushpea** *Hoffmannseggia drummondii*

Open areas on sandy clay; Perennial

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

**Elmendorf's onion** *Allium elmendorfi*

Grassland openings in oak woodlands on deep, loose, well-drained sands; in Coastal Bend, on Pleistocene barrier island ridges and Holocene Sand Sheet that support live oak woodlands; to the north it occurs in post oak-black hickory-live oak woodlands over Queen City and similar Eocene formations; one anomalous specimen found on Llano Uplift in wet pockets of granitic loam; Perennial; Flowering March-April, May

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

**Greenman's bluet** *Houstonia parviflora*

Grass pastures. Feb- Apr. (Correll and Johnston 1970).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

**Jones' nailwort** *Paronychia jonesii*

Occurs in early successional open areas on deep well-drained sand; Biennial Annual; Flowering March-Nov; Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

**Jones's rainlilly** *Cooperia jonesii*

Hardpan swales and other seasonally moist low areas (Jones 1977). Flowering mid summer--early fall (Jul--Oct) (Flagg, Smith & Flory 2002).

Federal Status:	State Status:	SGCN: Y
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Endemic: Y                      Global Rank: G3Q                      State Rank: S3

**large selenia**                      *Selenia grandis*

Occurs in seasonally wet clayey soils in open areas; Annual; Flowering Jan-April; Fruiting Feb-April

Federal Status:                      State Status:                      SGCN: Y  
Endemic: Y                      Global Rank: G3                      State Rank: S3

**lila de los Llanos**                      *Echeandia chandleri*

Most commonly encountered among shrubs or in grassy openings in subtropical thorn shrublands on somewhat saline clays of lomas along Gulf Coast near mouth of Rio Grande; also observed in a few upland coastal prairie remnants on clay soils over the Beaumont Formation at inland sites well to the north and along railroad right-of-ways and cemeteries; flowering (May-) September-December, fruiting October-December

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G2G3                      State Rank: S2S3

**Mexican mud-plantain**                      *Heteranthera mexicana*

Wet clayey soils of resacas and ephemeral wetlands in South Texas and along margins of playas in the Panhandle; flowering June-December, only after sufficient rainfall

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G2G3                      State Rank: S1

**plains gumweed**                      *Grindelia oolepis*

Coastal prairies on heavy clay (blackland) soils, often in depressional areas, sometimes persisting in areas where management (mowing) may maintain or mimic natural prairie disturbance regimes; crawfish lands; on nearly level Victoria clay, Edroy clay, claypan, possibly Greta within Orelia fine sandy loam over the Beaumont Formation, and Harlingen clay; roadsides, railroad rights-of-ways, vacant lots in urban areas, cemeteries; flowering April-December

Federal Status:                      State Status:                      SGCN: Y  
Endemic: N                      Global Rank: G2                      State Rank: S2

**sand Brazos mint**                      *Brazoria arenaria*

Sandy areas in South Texas; Annual; Flowering/Fruiting March-April

Federal Status:                      State Status:                      SGCN: Y  
Endemic: Y                      Global Rank: G3                      State Rank: S3

**slender rush-pea**                      *Hoffmannseggia tenella*

Coastal prairie grasslands on level uplands and on gentle slopes along drainages, usually in areas of shorter or sparse vegetation; soils often described as Blackland clay, but at some of these sites soils are coarser textured and lighter in color than the typical heavy clay of the coastal prairies; flowering April-November

Federal Status: LE                      State Status: E                      SGCN: Y  
Endemic: Y                      Global Rank: G1                      State Rank: S1

**South Texas ambrosia**                      *Ambrosia cheiranthifolia*

Grasslands and mesquite-dominated shrublands on various soils ranging from heavy clays to lighter textured sandy loams, mostly over the Beaumont Formation on the Coastal Plain; in modified unplowed sites such as railroad and highway right-of-ways, cemeteries, mowed fields, erosional areas along small creeks; Perennial; Flowering July-November

Federal Status: LE                      State Status: E                      SGCN: Y  
Endemic: N                      Global Rank: G2                      State Rank: S1

**South Texas spikeseedge**                      *Eleocharis austrotexana*

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Occurring in miscellaneous wetlands at scattered locations on the coastal plain; Perennial; Flowering/Fruiting Sept

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

**Texas peachbush** *Prunus texana*

Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3G4	State Rank: S3S4

**Texas stonecrop** *Lenophyllum texanum*

Found in shrublands on clay dunes (lomas) at the mouth of the Rio Grande and on xeric calcareous rock outcrops at scattered inland sites; Perennial; Flowering/Fruiting Nov-Feb

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

**Texas windmill grass** *Chloris texensis*

Sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants, often on roadsides where regular mowing may mimic natural prairie fire regimes; flowering in fall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

**Tharp's rhododon** *Rhododon angulatus*

Deep, loose sands in sparsely vegetated areas on stabilized dunes of Pleistocene barrier islands; flowering (May-) June-September, sometimes later with appropriate rainfall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1Q	State Rank: S1

**tree dodder** *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

**velvet spurge** *Euphorbia innocua*

Open or brushy areas on coastal sands and the South Texas Sand Sheet; Perennial; Flowering Sept-April; Fruiting Nov-July

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

**Welder machaeranthera** *Psilactis heterocarpa*

Grasslands, varying from midgrass coastal prairies, and open mesquite-huisache woodlands on nearly level, gray to dark gray clayey to silty soils; known locations mapped on Victoria clay, Edroy clay, Dacosta sandy clay loam over Beaumont and Lissie formations; flowering September-November

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2S3

**Wright's trichocoronis** *Trichocoronis wrightii* var. *wrightii*

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Most records from Texas are historical, perhaps indicating a decline as a result of alteration of wetland habitats; Annual; Flowering Feb-Oct; Fruiting Feb-Sept

Federal Status:

State Status:

SGCN: Y

Endemic: N

Global Rank: G4T3

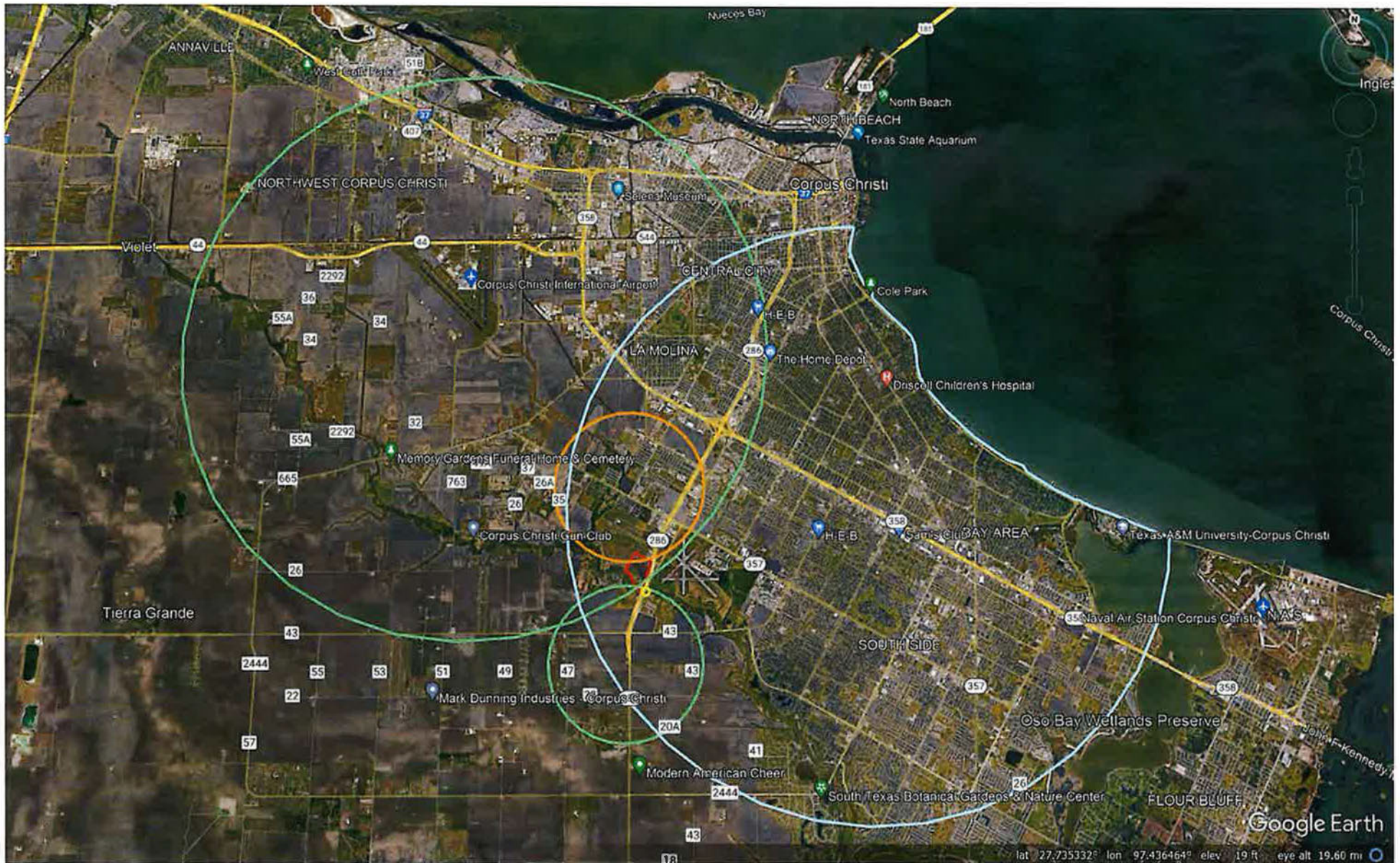
State Rank: S2

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**Appendix D**  
**TXNDD**



**Texas Natural Diversity Database Element Occurrence (EO) Data Intersection Map with the property boundary in red. EO data are represented in yellow for Texas Tortoise (*Gopherus berlandieri*), green for Texas stonecrop (*Lenophyllu texanum*), orange for lila de los Llanos (*Echeandia chandleri*) and blue for Texas windmill grass (*Chloris texensis*).**

## Occurrence List for Quads Surrounding Request Area

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Allium elmendorfii</i>	Elmendorf's onion	15			6813
<i>Ambrosia cheiranthifolia</i>	South Texas ambrosia	4	E	LE	1470
<i>Atriplex klebergorum</i>	Kleberg saltbush	1			5611
<i>Brazoria arenaria</i>	sand Brazos mint	18			11151
<i>Brazoria arenaria</i>	sand Brazos mint	19			11188
<i>Brazoria arenaria</i>	sand Brazos mint	20			11187
<i>Buteo albicaudatus</i>	white-tailed hawk	16	T		4615
<i>Cemophora lineri</i>	Texas scarlet snake	2	T		2808
<i>Charadrius melodus</i>	pipin plover	2	T	LT	4066
<i>Charadrius melodus</i>	pipin plover	28	T	LT	1482
<i>Charadrius melodus</i>	pipin plover	29	T	LT	4932
<i>Charadrius melodus</i>	pipin plover	30	T	LT	4933
<i>Charadrius melodus</i>	pipin plover	68	T	LT	1698
<i>Chelonia mydas</i>	green sea turtle	10	T	LT	8991
<i>Chloris texensis</i>	Texas windmill grass	28			7590
<i>Chloris texensis</i>	Texas windmill grass	29			3579

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Desmanthus reticulatus</i>	net-leaf bundleflower	7			10192
<i>Echeandia chandleri</i>	lila de los Llanos	6			4985
<i>Echeandia chandleri</i>	lila de los Llanos	9			3701
<i>Echeandia chandleri</i>	lila de los Llanos	13			1797
<i>Echeandia chandleri</i>	lila de los Llanos	14			4271
<i>Echeandia chandleri</i>	lila de los Llanos	25			5859
<i>Echeandia chandleri</i>	lila de los Llanos	29			7599
<i>Eleocharis austrotexana</i>	South Texas spikesedge	4			10897
<i>Euphorbia innocua</i>	velvet spurge	1			8407
<i>Euphorbia innocua</i>	velvet spurge	2			8408
<i>Euphorbia innocua</i>	velvet spurge	3			8409
<i>Euphorbia innocua</i>	velvet spurge	18			11204
<i>Euphorbia innocua</i>	velvet spurge	19			11170
<i>Euphorbia innocua</i>	velvet spurge	22			11283
<i>Euphorbia peplidion</i>	low spurge	14			10407
<i>Geomys personatus maritimus</i>	maritime pocket gopher	1			316
<i>Geomys personatus maritimus</i>	maritime pocket gopher	2			5049

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Geomys personatus maritimus</i>	maritime pocket gopher	3			10802
<i>Geomys personatus maritimus</i>	maritime pocket gopher	4			10805
<i>Gopherus berlandieri</i>	Texas tortoise	17	T		5785
<i>Grindelia oolepis</i>	plains gumweed	14			676
<i>Grindelia oolepis</i>	plains gumweed	15			3535
<i>Grindelia oolepis</i>	plains gumweed	21			6571
<i>Heteranthera mexicana</i>	Mexican mud-plantain	8			10919
<i>Heteranthera mexicana</i>	Mexican mud-plantain	12			8395
<i>Hoffmannseggia tenella</i>	slender rush-pea	2	E	LE	1070
<i>Holbrookia subcaudalis</i>	Tamaulipan spot-tailed earless lizard	57			9528
<i>Holbrookia subcaudalis</i>	Tamaulipan spot-tailed earless lizard	58			9529
<i>Hypopachus variolosus</i>	sheep frog	6	T		8062
<i>Lasiurus ega</i>	southern yellow bat	4			3660
<i>Lenophyllum texanum</i>	Texas stonecrop	4			2966
<i>Lenophyllum texanum</i>	Texas stonecrop	12			1091
<i>Malaclemys terrapin littoralis</i>	Texas diamondback terrapin	25			6412
<i>Nerodia clarkii</i>	salt marsh snake	14			5853



<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Nerodia clarkii</i>	salt marsh snake	15			3353
<i>Nerodia clarkii</i>	salt marsh snake	16			6547
<i>Paronychia jonesii</i>	Jones' nailwort	9			10000
<i>Prunus texana</i>	Texas peachbush	20			10400
<i>Psilactis heterocarpa</i>	Welder machaeranthera	19			4776
<i>Rookery</i>		31			1424
<i>Rookery</i>		32			4899
<i>Rookery</i>		33			3899
<i>Rookery</i>		34			6407
<i>Rookery</i>		35			928
<i>Rookery</i>		36			8075
<i>Rookery</i>		37			5728
<i>Rookery</i>		40			6086
<i>Rookery</i>		41			627
<i>Rookery</i>		42			7569
<i>Rookery</i>		53			7625
<i>Rookery</i>		54			2721

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Rookery</i>		55			8048
<i>Rookery</i>		56			5422
<i>Rookery</i>		97			4115
<i>Rookery</i>		183			2832
<i>Rookery</i>		572			5740
<i>Schizachyrium littorale - Paspalum monostachyum Grassland</i>	Shore Bluestem - Gulf dune Crowngrass Tallgrass Prairie	2			11385
<i>Selenia grandis</i>	large selenia	14			10970
<i>Spilogale putorius</i>	eastern spotted skunk	30			12778
<i>Spilogale putorius interrupta</i>	plains spotted skunk	27			12631
<i>Trichechus manatus</i>	West Indian manatee	1	T	LT	6570
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	20			10264
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	21			10117
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	Wright's trichocoronis	23			10011

## Element Occurrence Record

Scientific Name: *Chloris texensis*

EO ID: 7590

Common Name: Texas windmill grass

Global Rank: G2

State Rank: S2

Identification Confirmed: Y - Yes

TX Protection Status:

Federal Protection Status:

### Survey Information:

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

First Observation:

Survey Date:

Last Observation: 1973-09-02

EO Data:

Comments:

Habitat Description: CLAY

### References:

### Specimens:

CORPUS CHRISTI MUSEUM/HERBARIUM. 1973. F.B. JONES #7833, SPECIMEN # 77D230 CC. 2 SEPTEMBER 1973.

### Source Feature Data:

EO ID: 7590

Source Feature ID: 9378

Observation Date:

Observer:

Observation Data:

## Element Occurrence Record

**Scientific Name:** *Chloris texensis*

**EO ID:** 3579

**Common Name:** Texas windmill grass

**Global Rank:** G2

**State Rank:** S2

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

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### **Survey Information:**

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:**

**Survey Date:**

**Last Observation:** 1959-07-09

**EO Data:**

**Comments:**

**Habitat Description:** CLAY

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### **References:**

### **Specimens:**

CORPUS CHRISTI MUSEUM/HERBARIUM. 1959. F.B. JONES #3311, SPECIMEN # 770229 CC. 9 JULY 1959.

### **Source Feature Data:**

**EO ID:** 3579

**Source Feature ID:** 3579

**Observation Date:**

**Observer:**

**Observation Data:**

---

## Element Occurrence Record

**Scientific Name:** *Echeandia chandleri*

**EO ID:** 2174

**Common Name:** lila de los Llanos

**Global Rank:** G2G3

**State Rank:** S2S3

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

---

### Survey Information:

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:** 1973-09-30

**Survey Date:**

**Last Observation:** 1987-09-30

**EO Data:**

**Comments:**

**Habitat** CLAY

**Description:**

---

### References:

O'Brien, R. 1988. Letter of 3 December 1988 to Jackie Poole, Texas Parks and Wildlife Department Botanist, concerning an *Ambrosia cheiranthifolia* occurrence along the road to St. James Cemetery from highway 77 and inside the cemetery gate, and a list of specimens for *Ambrosia Cheiranthifolia* and *Anthericum Chandleri* in the Corpus Christi Museum.

### Specimens:

CORPUS CHRISTI MUSEUM HERBARIUM. 1973. F.B. JONES #7918, SPECIMEN # ? CC. 30 SEPTEMBER 1973.

### Source Feature Data:

**EO ID:** 2174

**Source Feature ID:** 2174

**Observation Date:**

**Observer:**

**Observation Data:**

---



## Element Occurrence Record

**Scientific Name:** *Gopherus berlandieri*

**EO ID:** 3865

**Common Name:** Texas tortoise

**Global Rank:** G4

**State Rank:** S2

**Identification Confirmed:** Y - Yes

**TX Protection Status:** T

**Federal Protection Status:**

---

### Survey Information:

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:**

**Survey Date:**

**Last Observation:** 1961-02-10

**EO Data:**

**Comments:**

**Habitat**

**Description:**

---

### References:

Elliott, Lee. 1994. Memorandum to Dorinda Sullivan dated December 2, 1994 concerning Texas A&M-Kingsville Vertebrate Specimens Catalogue.

### Specimens:

TEXAS A & M UNIVERSITY-KINGSVILLE--VERTEBRATE COLLECTION. 1961. UNKNOWN COLLECTOR, SPECIMEN # 478 AI. 10 FEBRUARY 1961.

### Source Feature Data:

**EO ID:** 3865

**Source Feature ID:** 3865

**Observation Date:**

**Observer:**

**Observation Data:**

---

## Element Occurrence Record

**Scientific Name:** *Holbrookia subcaudalis*

**EO ID:** 9529

**Common Name:** Tamaulipan spot-tailed earless lizard

**Global Rank:** GNR

**State Rank:** S2

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

---

### **Survey Information:**

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:** 1962

**Survey Date:** 2009-03-18

**Last Observation:** 1980

**EO Data:** 1962: A specimen was collected. 1980: A specimen was collected. 18 Mar 2009: Area was surveyed; none were found.

**Comments:**

**Habitat**

**Description:**

---

### **References:**

Duran, Mike and R. W. Axtell. 2010. A rangewide inventory and habitat model for the spot-tailed earless lizard (*Holbrookia lacerata*). Horned Lizard License Plate Fund Contract # 199464. Submitted to Texas Parks and Wildlife Dept. 30 November 2010. 35 pp with additional files.

Ralph Axtell. 1998. *Holbrookia lacerata* Cope. Interpretive Atlas of Texas Lizards, No. 20. Self published. 12 pp.

### **Specimens:**

Texas A&M University-Corpus Christi, TX; J. Miller, 1980, TAMU-CC.

Texas A&M University-Kingsville, Kingsville, TX; collector unknown, 1962, TAIC.

## Element Occurrence Record

### Source Feature Data:

**EO ID:** 9529

**Source Feature ID:** 22135

**Observation Date:** 1962

**Observer:** Unknown

**Observation Data:** A specimen was collected (TAIC).

**Observation Date:** 2009-03-18

**Observer:** Mike Duran

**Observation Data:** Area was surveyed; none were found.

---

**Source Feature ID:** 22136

**Observation Date:** 1980

**Observer:** J. Miller

**Observation Data:** A specimen was collected half a mile north of the CPL outfall.

**Observation Date:** 2009-03-18

**Observer:** Mike Duran

**Observation Data:** Area was surveyed; none were found.

---

## Element Occurrence Record

**Scientific Name:** *Lenophyllum texanum*

**EO ID:** 2966

**Common Name:** Texas stonecrop

**Global Rank:** G3

**State Rank:** S3

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

---

### Survey Information:

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:** 1894

**Survey Date:**

**Last Observation:** 1932-11-09

**EO Data:** IN FLOWER

**Comments:** TYPE LOCALITY

**Habitat Description:** IN CHAPARRAL

---

### References:

TURNER, B. L. 1983. USF& WS STATUS REPORT.

Jones, F. B. 1977. Flora of the Texas Coastal Bend. Second edition. Welder Wildlife Foundation, Sinton, Texas. 262 pp.

### Specimens:

University of Texas at Austin Herbarium. 1932. B.C. Tharp (s.n.), Specimen # 65635 TEX. 9 November 1932.

### Source Feature Data:

**EO ID:** 2966

**Source Feature ID:** 2966

**Observation Date:**

**Observer:**

**Observation Data:**

---

## Element Occurrence Record

**Scientific Name:** *Lenophyllum texanum*

**EO ID:** 1907

**Common Name:** Texas stonecrop

**Global Rank:** G3

**State Rank:** S3

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

---

### Survey Information:

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:**

**Survey Date:**

**Last Observation:** 1966-10-20

**EO Data:** SPECIMEN (JONES 6980, 10-20-66) IN FLOWER

**Comments:**

**Habitat Description:** BRUSHY PASTURE

---

### References:

### Specimens:

CORPUS CHRISTI MUSEUM HERBARIUM. 1966. F.B. JONES #6980, SPECIMEN # 76D224 CC. 20 OCTOBER 1966.

### Source Feature Data:

**EO ID:** 1907

**Source Feature ID:** 1907

**Observation Date:**

**Observer:**

**Observation Data:**

---



## Element Occurrence Record

**Scientific Name:** *Nerodia clarkii*

**EO ID:** 5853

**Common Name:** salt marsh snake

**Global Rank:** G4

**State Rank:** S3

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

### **Survey Information:**

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:**

**Survey Date:**

**Last Observation:** 1976-1980

**EO Data:**

**Comments:** NO DATE GIVEN, BUT BETWEEN 1976 AND 1980

**Habitat**

**Description:**

### **References:**

CHANEY, A.H. NO DATE. SPECIMEN #4516. ONE SPECIMEN. TEXAS A & I UNIVERSITY.

### **Specimens:**

CHANEY, A.H. NO DATE. SPECIMEN #4516. ONE SPECIMEN. TEXAS A & I UNIVERSITY. (S??CHAAITXUS)

TEXAS A & M UNIVERSITY-KINGSVILLE--VERTEBRATE COLLECTION. NO DATE. A.H. CHANEY, SPECIMEN # 4516 AI.

### **Source Feature Data:**

**EO ID:** 5853

**Source Feature ID:** 5853

**Observation Date:**

**Observer:**

**Observation Data:**

## Element Occurrence Record

**Scientific Name:** *Prunus texana*

**EO ID:** 10400

**Common Name:** Texas peachbush

**Global Rank:** G3G4

**State Rank:** S3S4

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

---

### **Survey Information:**

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:**

**Survey Date:**

**Last Observation:**

**EO Data:**

**Comments:**

**Habitat**

**Description:**

---

### **References:**

Jones, F. B. 1977. Flora of the Texas Coastal Bend. Second edition. Welder Wildlife Foundation, Sinton, Texas. 262 pp.

### **Specimens:**

<b><u>Source Feature Data:</u></b>	
<b>EO ID:</b>	10400
<b>Source Feature ID:</b>	24369
<b>Observation Date:</b>	
<b>Observer:</b>	
<b>Observation Data:</b>	

## Element Occurrence Record

**Scientific Name:** *Tradescantia buckleyi*

**EO ID:** 8510

**Common Name:** Buckley's spiderwort

**Global Rank:** G3

**State Rank:** S3

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

### Survey Information:

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:** 1997-04-16

**Survey Date:** 1997-04-16

**Last Observation:** 1997-04-16

**EO Data:** 16 April 1997 - Locally common, 100-200 plants in flower. Forming colonies.

### **Comments:**

**Habitat Description:** Forming colonies under *Acacia rigidula*, *Forestiera angustifolia* and other shrubs in fairly dense shrubland on clay slope.

### References:

CARR, W.R. (16083). 1997. SPECIMEN # NONE TEX-LL.

### Specimens:

CARR, W.R. (16083). 1997. SPECIMEN # NONE TEX-LL. (S97CAR01TXUS)

University of Texas Herbarium. 1997. W.R. Carr (16083) and David Wolfe. Specimen # none. 16 April 1997. TEX-LL.

### Source Feature Data:

**EO ID:** 8510

**Source Feature ID:** 10068

**Observation Date:** 1997-04-16

**Observer:** W. R. Carr with D. Wolfe

**Observation Data:** Locally common. 100-200 plants in flower. Forming colonies under *Acacia rigidula*, *Forestiera angustifolia* and other shrubs in fairly dense shrubland on clay slope.

## Element Occurrence Record

**Scientific Name:** *Tradescantia buckleyi*

**EO ID:** 10898

**Common Name:** Buckley's spiderwort

**Global Rank:** G3

**State Rank:** S3

**Identification Confirmed:** Y - Yes

**TX Protection Status:**

**Federal Protection Status:**

---

### **Survey Information:**

*All fields in this report must be reviewed to understand this record. Some data may be duplicated across multiple fields.*

**First Observation:** 1966-10-20

**Survey Date:**

**Last Observation:** 1966-10-20

### **EO Data:**

**Comments:** Complete specimen citation: Ca. 1 1/2 mi NW of Cabaniss Field, shaded by brush, clay loam, 20 Oct 1966, F. B. Jones 6983 (CCM).

**Habitat Description:** Shaded by brush on clay loam.

---

### **References:**

Jones, F.B. (6983). 1966. Specimen No. none. CCM.

### **Specimens:**

Jones, F.B. (6983). 1966. Specimen No. none. CCM. (S66JONCCTXUS)

### **Source Feature Data:**

**EO ID:** 10898

**Source Feature ID:** 25082

**Observation Date:**

**Observer:**

**Observation Data:**

---

## Source Feature List for Quads Surrounding Request Area

<u>Source Feature ID:</u>	<u>Scientific Name:</u>	<u>Source Feature Descriptor:</u>	<u>Source Feature Locator:</u>
27714	Anaxyrus woodhousii	ID Confirmed: Yes	
27765	Phrynosoma cornutum	ID Confirmed: Yes	
27822	Phrynosoma cornutum	ID Confirmed: Yes	
27871	Gopherus berlandieri	ID Confirmed: Yes	
28091	Malaclemys terrapin littoralis	ID Confirmed: Yes	
28784	Microphis brachyurus	ID Confirmed: Yes	
30821	Paralichthys lethostigma	ID Confirmed: Yes	
30822	Paralichthys lethostigma	ID Confirmed: Yes	
31149	Centropomus undecimalis	ID Confirmed: Yes	
32310	Gopherus berlandieri	ID Confirmed: Yes	
32317	Gopherus berlandieri	ID Confirmed: Yes	
32322	Gopherus berlandieri	ID Confirmed: Yes	
32369	Ophisaurus attenuatus	ID Confirmed: Yes	
32371	Ophisaurus attenuatus	ID Confirmed: Yes	
32988	Gopherus berlandieri	ID Confirmed: Yes	
33240	Malaclemys terrapin littoralis	ID Confirmed: Yes	
37665	Malaclemys terrapin littoralis	ID Confirmed: Yes	
38294	Ophisaurus attenuatus	ID Confirmed: Yes	
38320	Laterallus jamaicensis	ID Confirmed: Yes	
38390	Laterallus jamaicensis	ID Confirmed: Yes	
39724	Ophisaurus attenuatus	ID Confirmed: Yes	
39811	Ophisaurus attenuatus	ID Confirmed: Yes	
40285	Ophisaurus attenuatus	ID Confirmed: Yes	



**Source Feature  
ID:**

40608

**Scientific Name:**

Geomys personatus maritimus

**Source Feature Descriptor:**

ID Confirmed: Yes

**Source Feature Locator:**

## Source Feature Record

**Scientific Name:** Gopherus berlandieri

**Source Feature ID:** 32308

**Common Name:** Texas tortoise

**State Conservation Rank:** S2

**Global Conservation Rank:** G4

**Texas Protection Status:** T

**Federal Protection Status:**

**Source Feature Descriptor:** ID Confirmed: Yes

**Source Feature Locator:**

**Ditigizing Comments:** This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

**Mapping Comments:** The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

### **Source Feature Data:**

**Observation Date:**

**Observer:**

**Observation Data:**

2016-09-17

Herps of Texas iNaturalist project

iNaturalist observation ID: 4150718; Description: Turtle was walking around a water faucet emplacement. when it got to the shady side it stopped. Seemed to be it good shape. about 1 inches long; Count of individuals observed: 1; Air temp (f): 95

**Reference Code:**

**Full Citation:**

W17INA01TXUS

iNaturalist Herps of Texas Project. 2017. <http://www.inaturalist.org/projects/herps-of-texas> (data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

## Source Feature Record

**Scientific Name:** Gopherus berlandieri

**Source Feature ID:** 32315

**Common Name:** Texas tortoise

**State Conservation Rank:** S2

**Global Conservation Rank:** G4

**Texas Protection Status:** T

**Federal Protection Status:**

**Source Feature Descriptor:** ID Confirmed: Yes

**Source Feature Locator:**

**Digitizing Comments:** This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

**Mapping Comments:** The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

### Source Feature Data:

**Observation Date:**

**Observer:**

**Observation Data:**

2016-09-16

Herps of Texas iNaturalist project

iNaturalist observation ID: 4133507

**Reference Code:**

**Full Citation:**

W17INA01TXUS

iNaturalist Herps of Texas Project. 2017. <http://www.inaturalist.org/projects/herps-of-texas> (data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

## Source Feature Record

**Scientific Name:** Ophisaurus attenuatus

**Source Feature ID:** 32372

**Common Name:** slender glass lizard

**State Conservation Rank:** S3

**Global Conservation Rank:** G5

**Texas Protection Status:**

**Federal Protection Status:**

**Source Feature Descriptor:** ID Confirmed: Yes

**Source Feature Locator:**

**Digitizing Comments:** This feature was mapped as a point with the estimated error equaling the positional accuracy given in the record

**Mapping Comments:** The iNaturalist observation this Source Feature is based on included the location (coordinates) and associated error.

### **Source Feature Data:**

**Observation Date:**

**Observer:**

**Observation Data:**

2015-02-19

Herps of Texas iNaturalist project

iNaturalist observation ID: 1243168

**Reference Code:**

**Full Citation:**

W17INA01TXUS

iNaturalist Herps of Texas Project. 2017. <http://www.inaturalist.org/projects/herps-of-texas> (data downloaded 14 Feb 2017; images downloaded 9 Feb 2017).

## Source Feature Record

**Scientific Name:** Paralichthys lethostigma

**Source Feature ID:** 30820

**Common Name:** southern flounder

**State Conservation Rank:** S5

**Global Conservation Rank:** G5

**Texas Protection Status:**

**Federal Protection Status:**

**Source Feature Descriptor:** ID Confirmed: Yes

**Source Feature Locator:**

**Digitizing Comments:** The waterway was delimited upstream and downstream from the Fishes of Texas georeferenced coordinates for AMNH 243712 to the extent of the VertNet calculated error.

**Mapping Comments:** Donor info: Oso Creek at SH 286 | FoTX georef remarks: | FoTX georef annotation: | VertNet georef calculator (<http://www.herpnet.org/herpnet/documents/GeoreferencingQuickGuide.pdf>) returned - Lat: 27.6974773969 | Long: -97.4507668389 | Error: 43.676 meters

### **Source Feature Data:**

**Observation Date:**

**Observer:**

**Observation Data:**

2007-10-17

J.L. Van Tassell, D.R. Robertson, Frank  
L. Pezold, L. Tornabene, L. George, D.  
Boseto, A. Leiva, R. Schmidt

1 specimen was collected (AMNH 243712).

**Reference Code:**

**Full Citation:**

U15FIS01TXUS

Fishes of Texas. 2015. Database download from the Fishes of Texas online database (<http://www.fishesoftexas.org/home/>) of SGCN species on 11 May 2015. University of Texas, Texas Natural History Collections, Excel spreadsheet.



## Source Feature Record

**Appendix E**  
**Habitat Photos**



**Figure E-1. Representative habitat at photo station 1, facing North.**



**Figure E-2. Representative habitat at photo station 1, facing South.**





**Figure E-3. Representative habitat at photo station 1, facing East.**



**Figure E-4. Representative habitat at photo station 1, facing West.**





**Figure E-5. Representative habitat at photo station 2, facing North.**



**Figure E-6. Representative habitat at photo station 2, facing South.**





**Figure E-7. Representative habitat at photo station 2, facing East.**



**Figure E-8. Representative habitat at photo station 2, facing West.**





**Figure E-9. Representative habitat at photo station 3, facing North.**



**Figure E-10. Representative habitat at photo station 3, facing South.**





**Figure E-11. Representative habitat at photo station 3, facing East.**



**Figure E-12. Representative habitat at photo station 3, facing West.**





**Figure E-13. Representative habitat at photo station 4, facing North.**



**Figure E-14. Representative habitat at photo station 4, facing South.**





**Figure E-15. Representative habitat at photo station 4, facing East.**

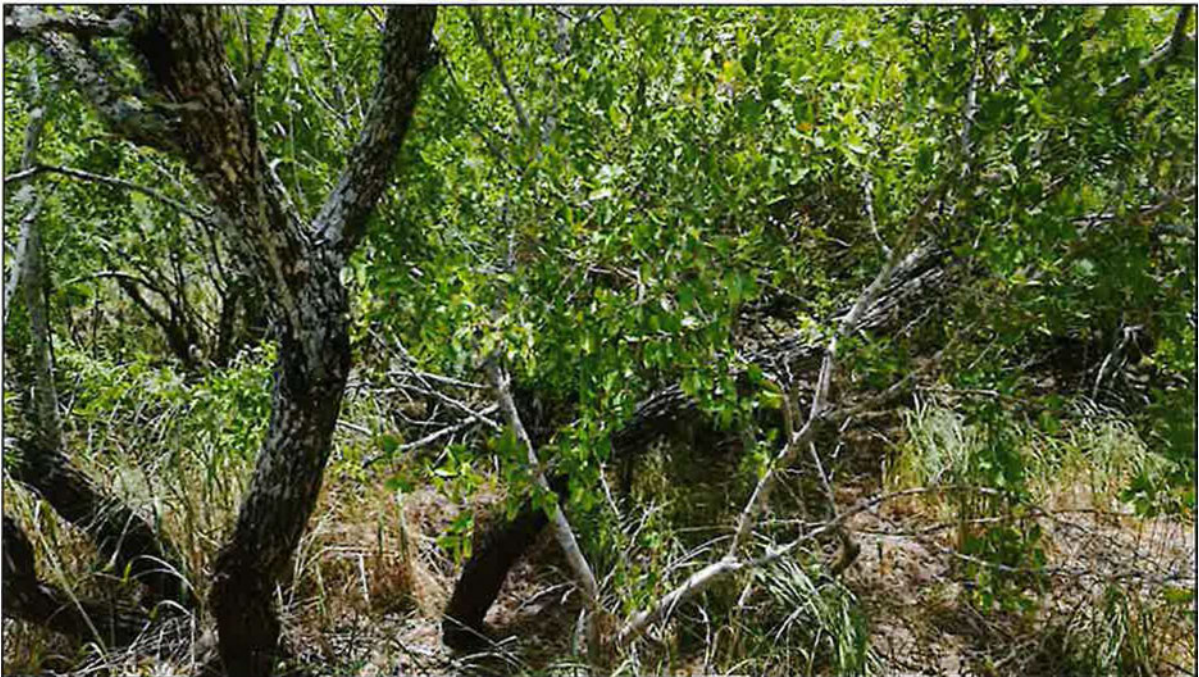


**Figure E-16. Representative habitat at photo station 4, facing West.**





**Figure E-17. Representative habitat at photo station 5, facing North.**



**Figure E-18. Representative habitat at photo station 5, facing South.**





**Figure E-19. Representative habitat at photo station 5, facing East.**



**Figure E-20. Representative habitat at photo station 5, facing West.**





**Figure E-21. Representative habitat at photo station 6, facing North.**



**Figure E-22. Representative habitat at photo station 6, facing South.**





**Figure E-23. Representative habitat at photo station 6, facing East.**

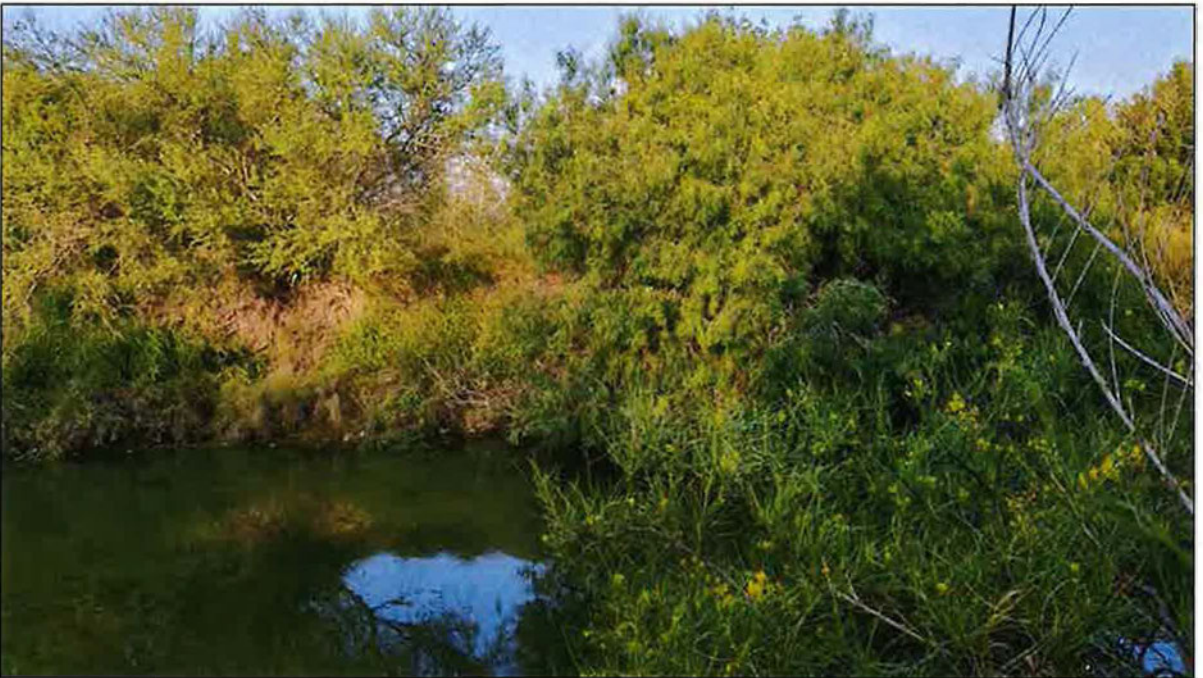


**Figure E-24. Representative habitat at photo station 6, facing West.**





**Figure E-25. Representative habitat at photo station 7, facing North.**



**Figure E-26. Representative habitat at photo station 7, facing South.**





**Figure E-27. Representative habitat at photo station 7, facing East.**



**Figure E-28. Representative habitat at photo station 7, facing West.**





**Figure E-29. Representative habitat at photo station 8 (southeast property corner), facing North.**

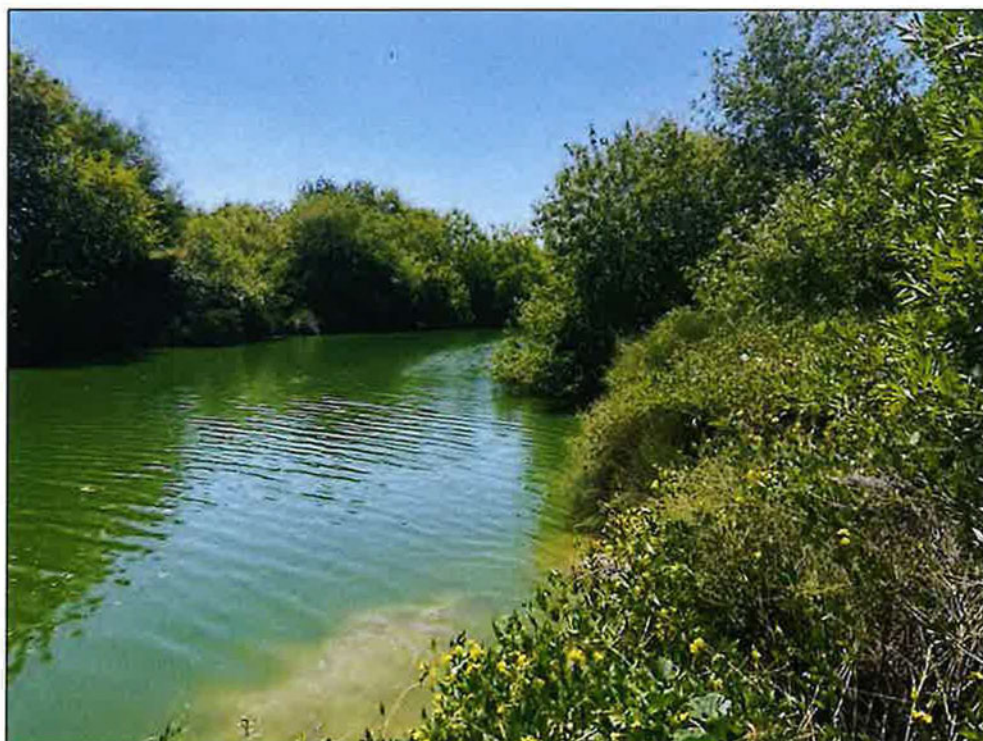


**Figure E-30. Representative habitat at photo station 8 (southeast property corner), facing South.**





**Figure E-31. Representative habitat at photo station 8 (southeast property corner), facing East.**



**Figure E-32. Representative habitat at photo station 8 (southeast property corner), facing West.**





**Figure E-33. Representative habitat at photo station 9, facing North.**



**Figure E-34. Representative habitat at photo station 9, facing South.**





**Figure E-35. Representative habitat at photo station 9, facing East.**



**Figure E-36. Representative habitat at photo station 9, facing West.**





**Figure E-37. Representative habitat at photo station 10, facing North.**



**Figure E-38. Representative habitat at photo station 10, facing South.**





**Figure E-39. Representative habitat at photo station 10, facing East.**



**Figure E-40. Representative habitat at photo station 10, facing West.**





**Figure E-41. Representative habitat at photo station 11, facing North.**



**Figure E-42. Representative habitat at photo station 11, facing South.**





**Figure E-43. Representative habitat at photo station 11, facing East.**



**Figure E-44. Representative habitat at photo station 11, facing West.**





**Figure E-45. Representative habitat at photo station 12, facing North.**



**Figure E-46. Representative habitat at photo station 12, facing South.**





**Figure E-47. Representative habitat at photo station 12, facing East.**



**Figure E-48. Representative habitat at photo station 12, facing West.**





**Figure E-49. Representative habitat at photo station 13, facing North.**



**Figure E-50. Representative habitat at photo station 13, facing South.**





**Figure E-51. Representative habitat at photo station 13, facing East.**



**Figure E-52. Representative habitat at photo station 13, facing West.**





**Figure E-53. Representative habitat at photo station 14, facing North.**



**Figure E-54. Representative habitat at photo station 14, facing South.**





**Figure E-55. Representative habitat at photo station 14, facing East.**



**Figure E-56. Representative habitat at photo station 14, facing West.**





**Figure E-57. Representative habitat at photo station 15, facing North.**



**Figure E-58. Representative habitat at photo station 15, facing South.**





**Figure E-59. Representative habitat at photo station 15, facing East.**



**Figure E-60. Representative habitat at photo station 15, facing West.**





**Figure E-61. Representative habitat at photo station 16, facing North.**



**Figure E-62. Representative habitat at photo station 16, facing South.**





**Figure E-63. Representative habitat at photo station 16, facing East.**



**Figure E-64. Representative habitat at photo station 16, facing West.**





**Figure E-65. Representative habitat at photo station 17, facing North.**



**Figure E-66. Representative habitat at photo station 17, facing South.**





**Figure E-67. Representative habitat at photo station 17, facing East.**



**Figure E-68. Representative habitat at photo station 17, facing West.**





**Figure E-69. Representative habitat at photo station 18, facing North.**



**Figure E-70. Representative habitat at photo station 18, facing South.**





**Figure E-71. Representative habitat at photo station 18, facing East.**



**Figure E-72. Representative habitat at photo station 18, facing West.**





**Figure E-73. Representative habitat at photo station 19, facing North.**



**Figure E-74. Representative habitat at photo station 19, facing South.**





**Figure E-75. Representative habitat at photo station 19, facing East.**

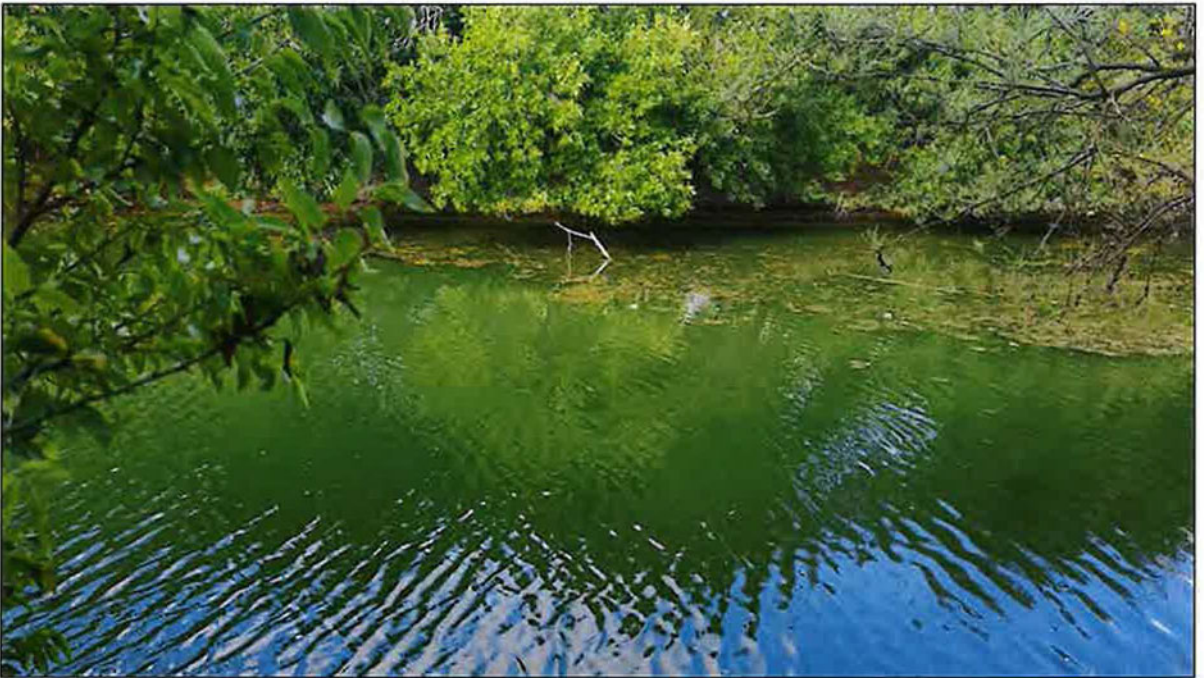


**Figure E-76. Representative habitat at photo station 19, facing West.**





**Figure E-77. Representative habitat at photo station 20, facing North.**



**Figure E-78. Representative habitat at photo station 20, facing South.**





**Figure E-79. Representative habitat at photo station 20, facing East.**



**Figure E-80. Representative habitat at photo station 20, facing West.**





**Figure E-81. Representative habitat at photo station 21, facing North.**



**Figure E-82. Representative habitat at photo station 21, facing South.**





**Figure E-83. Representative habitat at photo station 21, facing East.**



**Figure E-84. Representative habitat at photo station 21, facing West.**





**Figure E-85. Representative habitat at photo station 22, facing South.**



**Figure E-86. Representative habitat at photo station 22, facing Southwest.**





Figure E-87. Representative habitat at photo station 22, facing West.



Figure E-88. Representative habitat at photo station 23, facing North.





**Figure E-89. Representative habitat at photo station 23, facing Northeast.**



**Figure E-90. Representative habitat at photo station 23, facing East.**

**APPENDIX I/II-C**  
**WELL LOCATION SUMMARY**

FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Permit Application  
J.C. Elliott Transfer Station

## **APPENDIX I/II-C.1**

### **WATER WELL LOCATION MAP AND WELL IDENTIFICATION**



**Prepared for:**

SCS ENGINEERS- Houston  
12651 Briar Forest #205  
Houston, TX 77077



# Water Well Report

City of Corpus Christi Transfer  
Station

7001 Ayers Street

Corpus Christi, TX 78415

Nueces County

Tuesday, September 19, 2023

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## Geographic Summary



### Location

Nueces County, TX

Target location is 0.039 square miles and has a 0.81 mile perimeter

### Coordinates

Longitude & Latitude in Degrees Minutes Seconds

NA

Longitude & Latitude in Decimal Degrees

NA

X and Y in UTM

NA

### Elevation

NA

### Zip Codes Searched

Search Distance

Zip Codes (historical zip codes included)

Target Property

78415, 78347

1 mile

78415, 78347, 78417

### Topos Searched

Search Distance

Topo Name

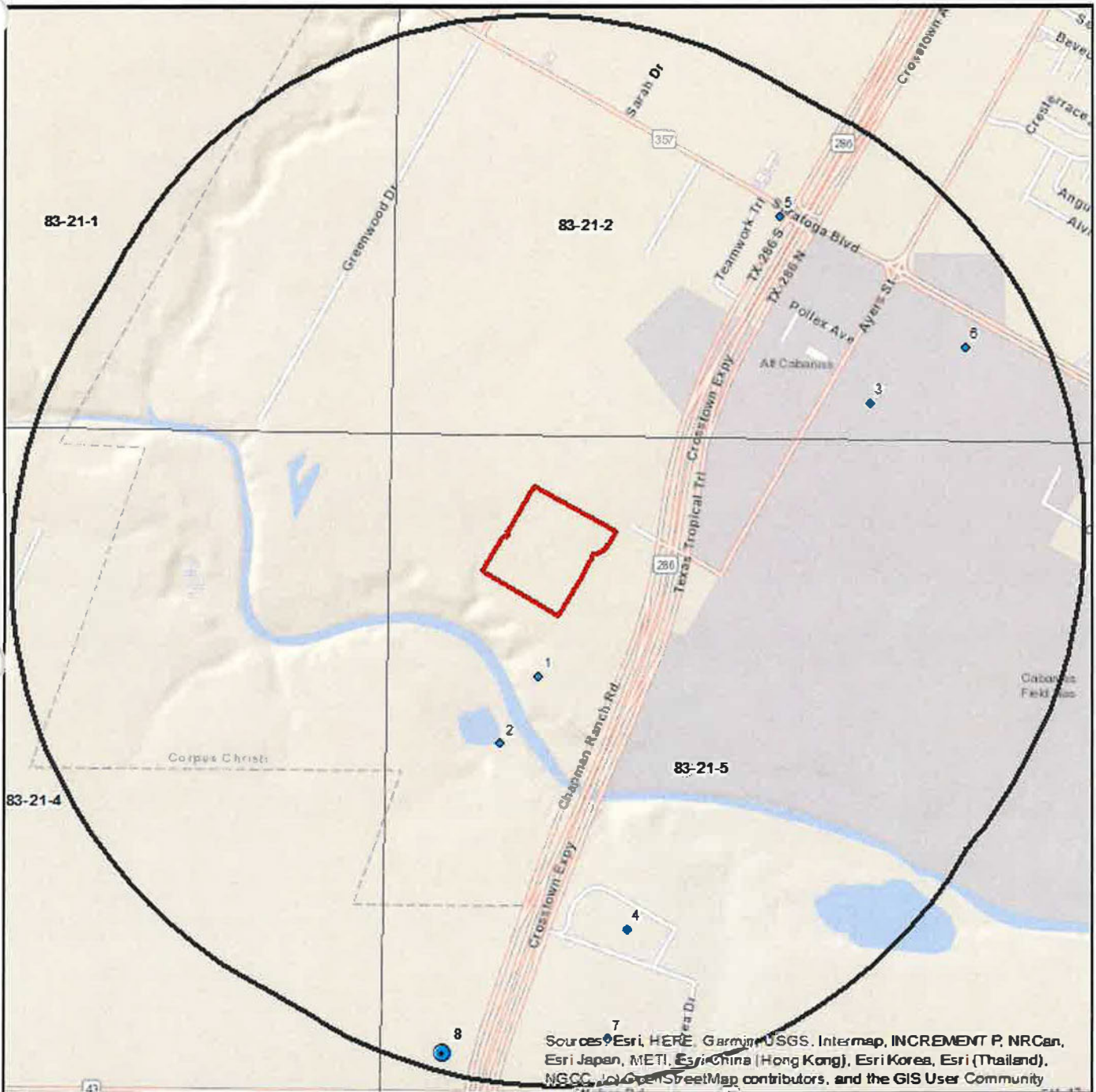
Target Property

Oso Creek NW (1977)

1 mile

Oso Creek NW (1977)

## Summary Map - 1 Mile Buffer



## City of Corpus Christi Transfer Station

- Well
- Well Cluster

- Target Property
- Search Buffer
- Texas Quad Index

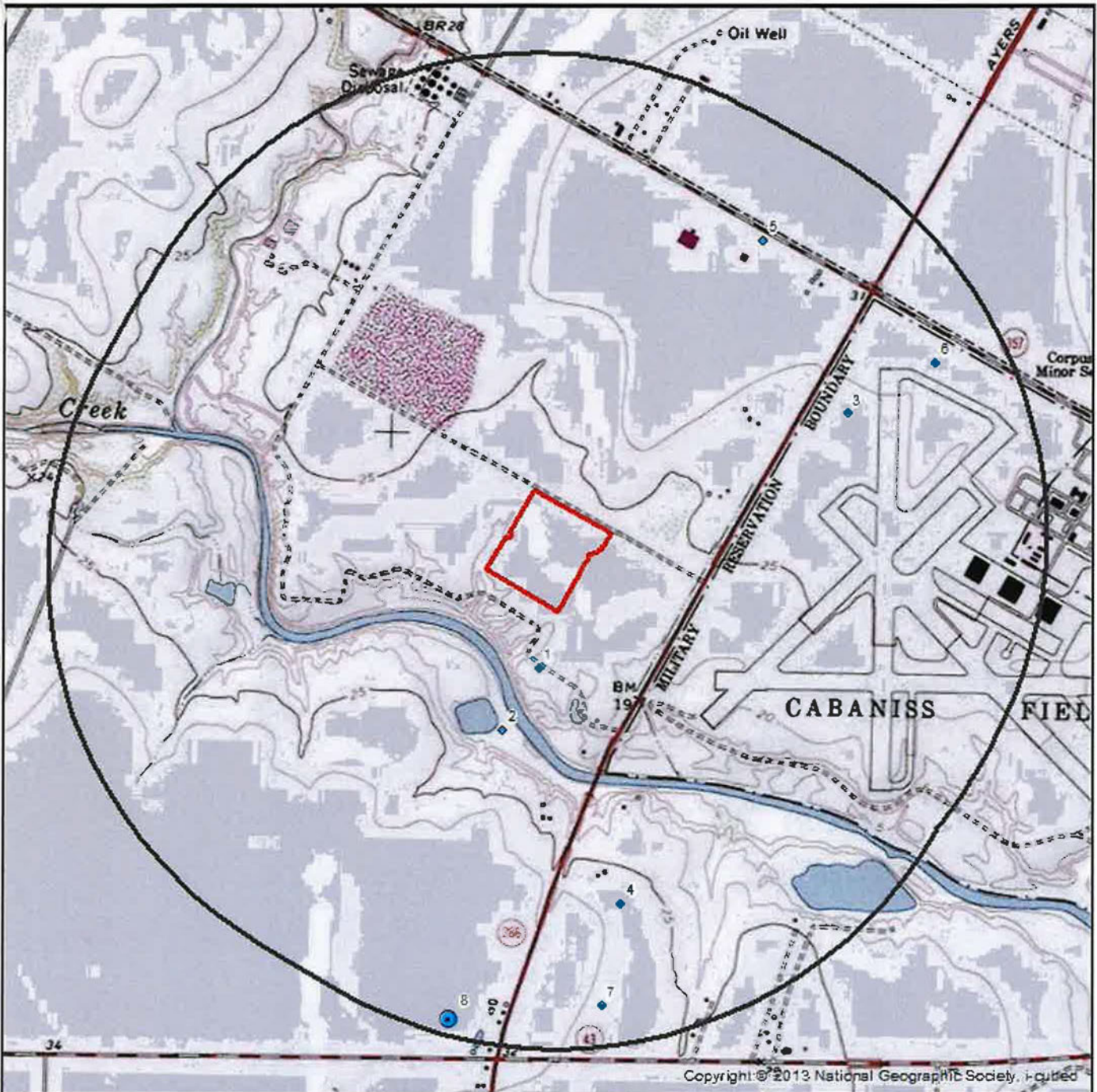
1 : 19,500  
1 inch = 0.308 miles  
1 inch = 1625 feet  
1 centimeter = 0.195 kilometers  
1 centimeter = 195 meters

Lambert Conformal Conic Projection  
1983 North American Datum  
First Standard Parallel: 33° 0' 00" North  
Second Standard Parallel: 45° 0' 00" North  
Central Meridian: 96° 0' 00" West  
Latitude of Origin: 39° 0' 00" North





# Topographic Overlay Map - 1 Mile Buffer



## City of Corpus Christi Transfer Station

- Well
- Well Cluster

- Target Property
- Search Buffer

Target Property Quad Name(s)  
Oso Creek NW (1977)

1 : 21,000  
1 inch = 0.331 miles  
1 inch = 1750 feet

Lambert Conformal Conic Projection  
1983 North American Datum  
First Standard Parallel: 33° 00' 00" North  
Second Standard Parallel: 45° 00' 00" North  
Central Meridian: 96° 00' 00" West  
Latitude of Origin: 39° 00' 00" North





## Current Imagery Overlay Map - 1 Mile Buffer



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

### City of Corpus Christi Transfer Station



Well



Well Cluster



Target Property



Search Buffer

1 : 21,000

1 inch = 0.331 miles

1 inch = 1750 feet

1 centimeter = 0.210 kilometers

1 centimeter = 210 meters

Lambert Conformal Conic Projection  
1983 North American Datum  
First Standard Parallel: 33° 00' 00" North  
Second Standard Parallel: 45° 00' 00" North  
Central Meridian: 96° 00' 00" West  
Latitude of Origin: 38° 00' 00" North



## Water Well Details



Map ID	Source ID	Dataset	Owner of Well	Type of Well	Depth Drilled	Completion Date	Longitude	Latitude	Elevation	Driller's Logs
1	83-21-5B	TX TCEQ HIST	Macario Luis, Jr	Domestic	562	07/10/1973	-97.453144	27.700951	20 ft	<a href="#">View</a>
2	8321501	TX TWDB GW	D.L. Smith well 1	N/A	4677	N/A	-97.4544	27.6989	9 ft	<a href="#">View</a>
3	208292	TX TWDB SDR	Oscar de los Santos	Domestic	180	3/22/2007	-97.441952	27.70945	30 ft	<a href="#">View</a>
4	83-21-5D	TX TCEQ HIST	EW Free	Domestic	555	08/14/1984	-97.449979	27.693298	30 ft	<a href="#">View</a>
5	83-29-2	TX TCEQ HIST	M B Chiles	Domestic	184	04/09/1974	-97.445154	27.715078	30 ft	<a href="#">View</a>
6	83-21-5A	TX TCEQ HIST	Ernest Starry, Sr	Domestic	264	07/22/1971	-97.438736	27.711172	31 ft	<a href="#">View</a>
7	83-21-5	TX TCEQ HIST	William Bell	Domestic	218	07/29/1997	-97.450601	27.689942	28 ft	<a href="#">View</a>
8	222758	TX TWDB SDR	Roy Ortega	Domestic	172	8/17/2007	-97.456119	27.68945	30 ft	<a href="#">View</a>
8	83-21-5D	TX TCEQ HIST	Robert Harmon	Domestic	200	05/17/1984	-97.455816	27.689973	30 ft	<a href="#">View</a>

## Well Summary

Water Well Dataset	# of Wells
TX TCEQ HIST	6
TX TWDB GW	1
TX TWDB SDR	2
<b>Total Count</b>	<b>9</b>

5B

Send original copy by  
certified mail to the  
Texas Water Development Board  
P. O. Box 13087  
Austin, Texas 78711

State of Texas

## WATER WELL REPORT

For TWDB use only  
Well No. 83-21-58  
Located on map  
Received: 24 Jan 78  
dlb

1) OWNER: Person having well drilled <u>Macario Luna, Jr.</u> Address <u>706 Blucher Apt. 6</u> (Name) (Street or RFD) (City) (State)																																					
Landowner <u>Same</u> Address <u>Corpus Christi, Tex. 78401</u> (Name) (Street or RFD) (City) (State)																																					
2) LOCATION OF WELL: County <u>Nueces</u> <u>20</u> miles in <u>S.E.</u> direction from <u>Robstown</u> (N., S., E., W., etc.) (Town)																																					
Locate by sketch map showing landmarks, roads, creeks, highway number, etc. * <u>2 mi. So. of Hongo Lin</u> 																																					
Give legal location with distances and directions from adjacent sections or survey lines. Labor _____ League _____ Block _____ Survey _____ Abstract No. _____ (NW 1/4 NE 1/4 SW 1/4 SE 1/4) of Section _____																																					
3) TYPE OF WORK (Check): <input checked="" type="checkbox"/> New Well      Deepening Reconditioning      Plugging	4) PROPOSED USE (Check): <input checked="" type="checkbox"/> Domestic      Industrial      Municipal Irrigation      Test Well      Other																																				
5) TYPE OF WELL (Check): <input checked="" type="checkbox"/> Rotary      Driven      Dug Cable      Jetted      Bored																																					
6) WELL LOG: Diameter of hole <u>6</u> in. Depth drilled <u>562</u> ft. Depth of completed well <u>520</u> ft. Date drilled <u>7-10-73</u> All measurements made from <u>0</u> ft. above ground level.																																					
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>From (ft.)</th> <th>To (ft.)</th> <th>Description and color of formation material</th> </tr> </thead> <tbody> <tr><td></td><td><u>3</u></td><td><u>top soil 480-502 shale</u></td></tr> <tr><td><u>3</u></td><td><u>13</u></td><td><u>shale 502-520 sand</u></td></tr> <tr><td><u>13</u></td><td><u>20</u></td><td><u>sand 520-532 shale</u></td></tr> <tr><td><u>20</u></td><td><u>46</u></td><td><u>shale 532-542 sand</u></td></tr> <tr><td><u>46</u></td><td><u>70</u></td><td><u>sand 542-553 shale</u></td></tr> <tr><td><u>70</u></td><td><u>166</u></td><td><u>shale 553-562 sand</u></td></tr> <tr><td><u>166</u></td><td><u>188</u></td><td><u>sand</u></td></tr> <tr><td><u>188</u></td><td><u>202</u></td><td><u>shale</u></td></tr> <tr><td><u>202</u></td><td><u>223</u></td><td><u>sand</u></td></tr> <tr><td><u>223</u></td><td><u>460</u></td><td><u>shale</u></td></tr> <tr><td><u>460</u></td><td><u>480</u></td><td><u>sand</u></td></tr> </tbody> </table>	From (ft.)	To (ft.)	Description and color of formation material		<u>3</u>	<u>top soil 480-502 shale</u>	<u>3</u>	<u>13</u>	<u>shale 502-520 sand</u>	<u>13</u>	<u>20</u>	<u>sand 520-532 shale</u>	<u>20</u>	<u>46</u>	<u>shale 532-542 sand</u>	<u>46</u>	<u>70</u>	<u>sand 542-553 shale</u>	<u>70</u>	<u>166</u>	<u>shale 553-562 sand</u>	<u>166</u>	<u>188</u>	<u>sand</u>	<u>188</u>	<u>202</u>	<u>shale</u>	<u>202</u>	<u>223</u>	<u>sand</u>	<u>223</u>	<u>460</u>	<u>shale</u>	<u>460</u>	<u>480</u>	<u>sand</u>	9) Casing: Type: Old <input checked="" type="checkbox"/> New      Steel <input checked="" type="checkbox"/> Plastic      Other _____ Cemented from _____ ft. to _____ ft. Diameter (inches) _____ Setting From (ft.) _____ To (ft.) _____ Casing _____ <u>4 1/2 od</u> 0      562      Schedule 40
From (ft.)	To (ft.)	Description and color of formation material																																			
	<u>3</u>	<u>top soil 480-502 shale</u>																																			
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<u>460</u>	<u>480</u>	<u>sand</u>																																			
7) COMPLETION (Check): <input checked="" type="checkbox"/> Straight well      Gravel packed      Other _____ Under reamed      Open Hole	10) SCREEN: Type _____ Perforated _____ <input checked="" type="checkbox"/> Slotted Diameter (inches) _____ Setting From (ft.) _____ To (ft.) _____ Slot Size _____ <u>4 1/2 od</u> 502      520      0.16																																				
8) WATER LEVEL: Static level <u>40</u> ft. below land surface Date <u>7-14-73</u> Artesian pressure _____ lbs. per square inch Date _____ Depth to pump bowls, cylinder, jet, etc., _____ ft. below land surface.	11) WELL TESTS: Was a pump test made?      Yes      No      If yes, by whom? _____ Yield: _____ gpm with _____ ft. drawdown after _____ hrs. Bailer test _____ gpm with _____ ft. drawdown after _____ hrs. Artesian flow _____ gpm Temperature of water _____																																				
12) WATER QUALITY: Was a chemical analysis made?      Yes      No Did any strata contain undesirable water?      Yes <input checked="" type="checkbox"/> No Type of water? _____ depth of strata <u>18 ft.</u>																																					
I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.																																					
NAME <u>Ben W. Welty</u> (Type or Print)	Water Well Drillers' Registration No. <u>543</u>																																				
ADDRESS <u>318 Kissling</u> (Street or RFD)	<u>Robstown, Tex. 78380</u> (City) (State)																																				
(Signed) <u>Ben W. Welty</u> (Water Well Driller)	<u>Welty Water Wells</u> (Company Name)																																				

Please attach electric log, chemical analysis, and other pertinent information, if available.

\*Additional instructions on reverse side.



## CROSS REFERENCE SHEET

Name or Subject

CR-GWTD  
NUECES

Located Well Data  
UB 83-21-501

Date

Regarding

Electric Log

**SEE**

Name or Subject

GW-SC  
ELECTRIC LOG FILE Q-131

B-152(62-1)

## STATE OF TEXAS WELL REPORT for Tracking #208292

Owner:	<b>Oscar de los Santos</b>	Owner Well #:	<b>No Data</b>
Address:	<b>4742 Blundell Corpus Christi, TX 78415</b>	Grid #:	<b>83-21-2</b>
Well Location:	<b>Ayers St Corpus Christi, TX 78415</b>	Latitude:	<b>27° 42' 34" N</b>
Well County:	<b>Nueces</b>	Longitude:	<b>097° 26' 31" W</b>
		Elevation:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Domestic</b>

Drilling Start Date: **3/22/2007**      Drilling End Date: **3/22/2007**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>7.875</b>	<b>0</b>	<b>10</b>
	<b>6.75</b>	<b>10</b>	<b>180</b>

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>10</b>	<b>2</b>

Seal Method: **Poured**

Distance to Property Line (ft.): **No Data**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **n/a**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **No Data**

Surface Completion: **Surface Slab Installed**

Water Level: **9 ft. below land surface on 2007-03-22**      Measurement Method: **Unknown**

Packers: **rubber, 140'**

Type of Pump: **No Data**

Well Tests: **Jetted**      **No Test Data Specified**

---

	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
Water Quality:	<b>No Data</b>	<b>No Data</b>
		Chemical Analysis Made: <b>No</b>
	Did the driller knowingly penetrate any strata which contained injurious constituents?: <b>No</b>	

---

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Martin Water Wells**  
**2151 N Hwy 77**  
**Robstown, TX 78380**

Driller Name: **Amos Martin** License Number: **1669**

Comments: **No pump installed. Well location is based on well address, not grid number, on original report. \$scd**

---

Lithology:			Casing:			
DESCRIPTION & COLOR OF FORMATION MATERIAL			BLANK PIPE & WELL SCREEN DATA			
<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>	<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>0</b>	<b>60</b>	<b>clay</b>	<b>4 N PVC casing 0-160</b>			
<b>60</b>	<b>65</b>	<b>sand</b>	<b>4 N PVC screen 160-180 12</b>			
<b>65</b>	<b>70</b>	<b>clay</b>				
<b>70</b>	<b>100</b>	<b>sand</b>				
<b>100</b>	<b>150</b>	<b>clay</b>				
<b>150</b>	<b>180</b>	<b>sand</b>				

---

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

**Texas Department of Licensing and Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 334-5540**

Please use black ink.  
Send original copy by  
certified mail to the  
Texas Department of Water Resources  
P. O. Box 13087  
Austin, Texas 78711

State of Texas  
WATER WELL REPORT

Texas Water Well Drillers Board  
P. O. Box 13087  
Austin, Texas 78711

ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

1) OWNER E. W. Free (Name) Address 3802 Rountree Road Corpus Christi, TX 78415 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL:  
County Queen 1/2 miles in S.W. direction from Calvese N.A.L.F. (N.E., S.W., etc.) (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description:

Section No. \_\_\_\_\_ Block No. \_\_\_\_\_ Township \_\_\_\_\_

Abstract No. \_\_\_\_\_ Survey Name \_\_\_\_\_

Distance and direction from two intersecting section or survey lines \_\_\_\_\_

Map on 83-19-6D See attached map. Well No 8 - Queen Co.

3) TYPE OF WORK (Check):

☒ New Well ☐ Deepening  
☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):

☒ Domestic ☐ Industrial ☐ Public Supply  
☐ Irrigation ☐ Test Well ☐ Other \_\_\_\_\_

5) DRILLING METHOD (Check):

☒ Mud Rotary ☐ Air Hammer ☐ Driven ☐ Bored  
☐ Air Rotary ☐ Cable Tool ☐ Jetted ☐ Other \_\_\_\_\_

6) WELL LOG:

DIAMETER OF HOLE

Dia. (in.) From (ft.) To (ft.)

Surface

Date drilled Aug 14-84

6 3/4 0 555

7) BOREHOLE COMPLETION:

☐ Open Hole ☒ Straight Wall ☐ Underreamed  
☐ Gravel Packed ☐ Other \_\_\_\_\_

If Gravel Packed give interval ... from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.

From (ft.) To (ft.)

Description and color of formation material

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:

From (ft.)	To (ft.)	Description and color of formation material	Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casing Screen
						From	To	
0	3	Top soil						
3	54	Red clay						
54	78	Fine red sand	4	New	Plastic	2' above	555	Set
78	132	" Clay						
132	155	Med " sand	4	"	Slotted Plastic	534	554	0.06
155	160	" Clay						
160	185	Med. " sand						
185	326	" clay						
326	348	Med " sand						
348	395	" Clay						
395	410	Fine " sand						
410	523	" Clay						
523	554	Coarse " sand						
554	555	Red clay T.D.						

9) CEMENTING DATA [Rule 319.44(b)]

Cemented from 0 ft. to 15 ft.

Method used \_\_\_\_\_

Cemented by \_\_\_\_\_

10) SURFACE COMPLETION

☐ Specified Surface Slab Installed [Rule 319.44(c)]

☐ Pitless Adapter Used [Rule 319.44(d)]

☒ Approved Alternative Procedure Used [Rule 319.71]

11) WATER LEVEL:

Static level 46 ft. below land surface Date Aug 14-84

Artesian flow \_\_\_\_\_ gpm. Date \_\_\_\_\_

12) PACKERS:

Type \_\_\_\_\_ Depth \_\_\_\_\_

13) TYPE PUMP:

☐ Turbine ☐ Jet ☐ Submersible ☐ Cylinder

☐ Other \_\_\_\_\_

Depth to pump bowls, cylinder, jet, etc., \_\_\_\_\_ ft.

15) WATER QUALITY:

Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No

If yes, submit "REPORT OF UNDESIRABLE WATER"

Type of water? Fair Depth of strata 31'

Was a chemical analysis made? ☐ Yes ☒ No

14) WELL TESTS:

Type Test: ☐ Pump ☐ Bailor ☒ Jetted ☐ Estimated

Yield: 70 gpm with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 12 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME B. T. SIKES (Type or Print)

Water Well Driller's License No. 215

ADDRESS RT. 2 Box 52 (Street or RFD)

MATHIS TEXAS 78368 (City) (State) (Zip)

(Signed) B. T. Sikes (Licensed Water Well Driller)

(Signed) B. T. Sikes Water Well Driller (Registered Office Province)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TDWR use only  
Well No. W-215D  
Located on map W-215D



Send original copy by  
certified mail to the  
Texas Water Development Board  
P. O. Box 13087  
Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only

Well No. 21  
Located on map 112  
Received: 11/1/74

1) OWNER:  
Person having well drilled N. B. Chiles Address 3402 Brushwood  
(Name) (Street or RFD) (City) (State)  
Landowner Same Address Corpus Christi, Tex 78415  
(Name) (Street or RFD) (City) (State)

2) LOCATION OF WELL:  
County Texas or in direction from (Town)  
(N.E., S.W., etc.)

Locate by sketch map showing landmarks, roads, creeks,  
highway number, etc.\*

at Saratoga + Chapman Ranch Rd  
Corpus Christi, Tex North  
↑

(Use reverse side if necessary)

Give legal location with distances and directions from  
adjacent sections or survey lines.

Labor \_\_\_\_\_ League \_\_\_\_\_

Block \_\_\_\_\_ Survey \_\_\_\_\_

Abstract No. \_\_\_\_\_

(NW 1/4 NE 1/4 SW 1/4 SE 1/4) of Section \_\_\_\_\_

3) TYPE OF WORK (Check):  
☒ New Well Deepening  
Reconditioning Plugging  
4) PROPOSED USE (Check):  
☒ Domestic Industrial Municipal  
Irrigation Test Well Other  
5) TYPE OF WELL (Check):  
☒ Rotary Driven Dug  
Cable Jetted Bored

6) WELL LOG:  
Diameter of hole 6 1/8 in. Depth drilled 184 ft. Depth of completed well 184 ft. Date drilled 4-9-74  
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material	9) Casing: Type: Old <input checked="" type="checkbox"/> New Steel <input checked="" type="checkbox"/> Plastic Other	Cemented from _____ ft. to _____ ft.
4	10	soil	Diameter (inches)	Setting From (ft.) To (ft.) Case
4	23	shale	<u>4 1/2 in</u>	<u>0</u> <u>184</u> <u>shd-40</u>
23	50	sand		
50	85	shale		
85	95	sand		
95	143	shale		
143	184	sand		
			10) SCREEN: Type	
			Perforated <input checked="" type="checkbox"/> Slotted	
			Diameter (inches)	Setting From (ft.) To (ft.) Slot Size
			<u>4 1/2 in</u>	<u>144</u> <u>184</u> <u>.016</u>

(Use reverse side if necessary)

7) COMPLETION (Check):  
☒ Straight wall Gravel packed Other  
Under reamed Open Hole

8) WATER LEVEL:  
Static level 19 ft. below land surface Date 4-9-74  
Artesian pressure \_\_\_\_\_ lbs. per square inch Date \_\_\_\_\_  
Depth to pump bowls, cylinder, jet, etc., \_\_\_\_\_ ft.  
below land surface.

11) WELL TESTS:  
Was a pump test made? Yes No If yes, by whom?  
Yield: \_\_\_\_\_ gpm with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
Bailer test \_\_\_\_\_ gpm with \_\_\_\_\_ ft. drawdown after \_\_\_\_\_ hrs.  
Artesian flow \_\_\_\_\_ gpm  
Temperature of water \_\_\_\_\_

12) WATER QUALITY:  
Was a chemical analysis made? Yes No  
Did any strata contain undesirable water? Yes No  
Type of water? \_\_\_\_\_ depth of strata 40 ft

I hereby certify that this well was drilled by me (or under my supervision) and that  
each and all of the statements herein are true to the best of my knowledge and belief.

NAME BEN H. WELTY Water Well Drillers Registration No. 543  
(Type or Print)  
ADDRESS 318 KISSLING ROASTOWN, TEXAS 78380  
(Street or RFD) (City) (State)  
(Signed) B. H. Welty Netty Water Wellers  
(Water Well Driller) (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

\*Additional instructions on reverse side.

5A

Send original copy by certified mail to the Texas Water Development Board, P. O. Box 12386, Austin, Texas 78711

State of Texas  
WATER WELL REPORT

For TWDB use only  
Well No. 83 31-5A  
Located on map 2-3  
Received: 4-71  
Weld

1) OWNER:  
Person having well drilled Ernest Starry, Sr. (Name) Address Rt. 1 Box 104 (Street or RFD) (City) (State)  
Landowner Same (Name) Address Corpus Christi, Tex. 78415 (Street or RFD) (City) (State)

2) LOCATION OF WELL:  
County Texas 6 miles in W direction from Flour Bluff (N.E., S.W., etc.) (Town)  
Locate by sketch map showing landmarks, roads, creeks, highway number, etc.\*  
44  
CORPUS CHRISTI  
FLOUR BLUFF  
286  
WELL  
CHAPMAN RANCH  
(Use reverse side if necessary)

3) TYPE OF WORK (Check):  
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):  
☒ Domestic ☐ Industrial ☐ Municipal ☐ Irrigation ☐ Test Well ☐ Other

5) TYPE OF WELL (Check):  
☒ Rotary ☐ Driven ☐ Cable ☐ Jetted ☐ Bored

6) WELL LOG:  
Diameter of hole 6 1/2 in. Depth drilled 264 ft. Depth of completed well 264 ft. Date drilled 7-22-71  
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
	<u>3</u>	<u>Top soil 159-241 shale</u>
<u>3</u>	<u>35</u>	<u>shale 241-264 sand</u>
<u>35</u>	<u>40</u>	<u>sand</u>
<u>40</u>	<u>76</u>	<u>shale</u>
<u>76</u>	<u>86</u>	<u>sand</u>
<u>86</u>	<u>108</u>	<u>shale</u>
<u>108</u>	<u>119</u>	<u>sand</u>
<u>119</u>	<u>123</u>	<u>shale</u>
<u>123</u>	<u>138</u>	<u>sand</u>
<u>138</u>	<u>146</u>	<u>shale</u>
<u>146</u>	<u>159</u>	<u>sand</u>

(Use reverse side if necessary)

7) COMPLETION (Check):  
☐ Straight wall ☐ Gravel packed ☐ Other  
☐ Under reamed ☐ Open Hole

8) WATER LEVEL:  
Static level 18 ft. below land surface Date 7-22-71  
Artesian pressure      lbs. per square inch Date       
Depth to pump bowls, cylinder, jet, etc.,      ft. below land surface.

9) Casing:  
Type: Old ☒ New ☐ Steel ☒ Plastic ☐ Other  
Cemented from      ft. to      ft.  
Diameter (inches) 4 Setting From (ft.) 0 To (ft.) 264 Gage Sched 40

10) SCREEN:  
Type       
Perforated ☐ Slotted ☐  
Diameter (inches) 4 Setting From (ft.) 241 To (ft.) 264 Slot Size 1.020

11) WELL TESTS:  
Was a pump test made? Yes ☐ No ☒ If yes, by whom?  
Yield:      gpm with      ft. drawdown after      hrs.  
Bailer test      gpm with      ft. drawdown after      hrs.  
Artesian flow      gpm  
Temperature of water     

12) WATER QUALITY:  
Was a chemical analysis made? Yes ☐ No ☒  
Did any strata contain undesirable water? Yes ☐ No ☒  
Type of water? good depth of strata 23 ft

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME BEN H. WELTY (Type or Print) Water Well Drillers Registration No. 543  
ADDRESS 318 KISSLING (Street or RFD) ROBSTOWN, TEX. 78380 (City) (State)  
(Signed) B. H. Welty (Water Well Driller) Wolff Water Wells (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

\*Additional instructions on reverse side.

ATTENTION OWNER: Confidentiality  
 Privilege Notice on on reverse side  
 (Well Owner's copy (pink))

# State of Texas WELL REPORT

Texas Water Well Drillers Advisory Council  
 MC 177  
 P.O. Box 13087  
 Austin, TX 78711-3087  
 512-239-0530

1) OWNER <u>William Bell</u> (Name)		ADDRESS <u>13245 S.P.I.D. C.C. TX 78418</u> (Street or RFD) (City) (State) (Zip)																					
2) ADDRESS OF WELL: County <u>Murces</u> <u>FM 43 East C.C. TX 78415</u> (Street, RFD or other) (City) (State) (Zip)		GRID # <u>P3-21-5</u>																					
3) TYPE OF WORK (Check): <input checked="" type="checkbox"/> New Well <input type="checkbox"/> Deepening <input type="checkbox"/> Reconditioning <input type="checkbox"/> Plugging		4) PROPOSED USE (Check): <input type="checkbox"/> Monitor <input type="checkbox"/> Environmental Soil Boring <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Industrial <input type="checkbox"/> Irrigation <input type="checkbox"/> Injection <input type="checkbox"/> Public Supply <input type="checkbox"/> De-watering <input type="checkbox"/> Testwell If Public Supply well, were plans submitted to the TNRCC? <input type="checkbox"/> Yes <input type="checkbox"/> No																					
5) WELL LOG: Date Drilling: _____ Started <u>7-28-97</u> Completed <u>7-29-97</u>		6) DIAMETER OF HOLE <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Dia. (in.)</th> <th>From (ft.)</th> <th>To (ft.)</th> </tr> <tr> <td><u>6 3/4</u></td> <td>Surface</td> <td><u>218</u></td> </tr> </table>		Dia. (in.)	From (ft.)	To (ft.)	<u>6 3/4</u>	Surface	<u>218</u>														
Dia. (in.)	From (ft.)	To (ft.)																					
<u>6 3/4</u>	Surface	<u>218</u>																					
7) DRILLING METHOD (Check): <input type="checkbox"/> Driven <input type="checkbox"/> Air Rotary <input checked="" type="checkbox"/> Mud Rotary <input type="checkbox"/> Bored <input type="checkbox"/> Air Hammer <input type="checkbox"/> Cable Tool <input type="checkbox"/> Jetted <input type="checkbox"/> Other _____		8) Borehole Completion (Check): <input type="checkbox"/> Open Hole <input checked="" type="checkbox"/> Straight Wall <input type="checkbox"/> Underreamed <input type="checkbox"/> Gravel Packed <input type="checkbox"/> Other _____ If Gravel Packed give interval ... from _____ ft. to _____ ft.																					
9) CASING, BLANK PIPE, AND WELL SCREEN DATA: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th rowspan="2">Dia. (in.)</th> <th rowspan="2">New or Used</th> <th rowspan="2">Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial</th> <th colspan="2">Setting (ft.)</th> <th rowspan="2">Gage Casing Screen</th> </tr> <tr> <th>From</th> <th>To</th> </tr> <tr> <td><u>4</u></td> <td><u>N</u></td> <td><u>PVC Casing</u></td> <td><u>0</u></td> <td><u>198</u></td> <td></td> </tr> <tr> <td><u>4</u></td> <td><u>N</u></td> <td><u>PVC Screen</u></td> <td><u>198</u></td> <td><u>218</u></td> <td></td> </tr> </table>		Dia. (in.)	New or Used	Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casing Screen	From	To	<u>4</u>	<u>N</u>	<u>PVC Casing</u>	<u>0</u>	<u>198</u>		<u>4</u>	<u>N</u>	<u>PVC Screen</u>	<u>198</u>	<u>218</u>		10) CEMENTING DATA (Rule 338.44(1)) Cemented from <u>0</u> ft. to <u>10</u> ft. No. of sacks used <u>2</u> _____ ft. to _____ ft. No. of sacks used _____ Method used <u>poured</u> Cemented by <u>Amos Martin</u> Distance to septic system field lines or other concentrated contamination <u>154</u> Method of verification of above distance <u>measured</u>	
Dia. (in.)	New or Used				Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial	Setting (ft.)		Gage Casing Screen															
		From	To																				
<u>4</u>	<u>N</u>	<u>PVC Casing</u>	<u>0</u>	<u>198</u>																			
<u>4</u>	<u>N</u>	<u>PVC Screen</u>	<u>198</u>	<u>218</u>																			
11) TYPE PUMP: <input type="checkbox"/> Turbine <input type="checkbox"/> Jet <input checked="" type="checkbox"/> Submersible <input type="checkbox"/> Cylinder <input type="checkbox"/> Other _____ Depth to pump bowls, cylinder, jet, etc., <u>LED</u> ft.		12) SURFACE COMPLETION <input checked="" type="checkbox"/> Specified Surface Slab Installed [Rule 338.44(2)(A)] <input type="checkbox"/> Specified Steel Sleeve Installed [Rule 338.44(3)(A)] <input type="checkbox"/> Pitless Adapter Used [Rule 338.44(3)(b)] <input type="checkbox"/> Approved Alternative Procedure Used [Rule 338.71]																					
13) WELL TESTS: Type test: <input type="checkbox"/> Pump <input type="checkbox"/> Bailer <input checked="" type="checkbox"/> Jetted <input type="checkbox"/> Estimated Yield: _____ gpm with _____ ft. drawdown after _____ hrs.		14) WATER LEVEL: FILE ID Static level <u>6</u> ft. below surface    Date <u>7-29-97</u> Artesian flow _____ gpm.    Date _____																					
15) WATER QUALITY: Did you knowingly penetrate any strata which contained undesirable constituents? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No    If yes, submit "REPORT OF UNDESIRABLE WATER" Type of water? _____ Depth of strata _____ Was a chemical analysis made? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		16) PACKERS: <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>EMP #</th> <th>DATE</th> <th>TYPE</th> <th>DEPTH</th> </tr> <tr> <td><u>12</u></td> <td><u>SEP 26 1997</u></td> <td><u>Rubber</u></td> <td><u>140'</u></td> </tr> </table>		EMP #	DATE	TYPE	DEPTH	<u>12</u>	<u>SEP 26 1997</u>	<u>Rubber</u>	<u>140'</u>												
EMP #	DATE	TYPE	DEPTH																				
<u>12</u>	<u>SEP 26 1997</u>	<u>Rubber</u>	<u>140'</u>																				

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief. I understand that failure to complete items 1 thru 15 will result in the log(s) being returned for completion and resubmittal.

COMPANY NAME <u>Martin Water Wells</u> (Type or print)	WELL DRILLER'S LICENSE NO. <u>FILE ID 1469</u>	SEQ # _____
ADDRESS <u>2151 N. Hwy 77</u> (Street or RFD)	<u>Robstown</u> (City)	<u>Texas</u> (State)
(Signed) <u>Amos Martin</u> (Licensed Well Driller)	(Signed) _____	78380 <u>78380</u> OCT 20 1997 Register Driller Trainee WG

Please attach electric log, chemical analysis, and other pertinent information, if available.

## STATE OF TEXAS WELL REPORT for Tracking #222758

Owner:	<b>Roy Ortega</b>	Owner Well #:	<b>No Data</b>
Address:	<b>P. O. Box 270355 Corpus Christi, TX 78267</b>	Grid #:	<b>83-21-5</b>
Well Location:	<b>2399 CR 47 Chapman Ranch, TX 78347</b>	Latitude:	<b>27° 41' 22" N</b>
Well County:	<b>Nueces</b>	Longitude:	<b>097° 27' 22" W</b>
		Elevation:	<b>No Data</b>
Type of Work:	<b>New Well</b>	Proposed Use:	<b>Domestic</b>

Drilling Start Date: **8/17/2007**      Drilling End Date: **8/17/2007**

	<i>Diameter (in.)</i>	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>
Borehole:	<b>7.875</b>	<b>0</b>	<b>10</b>
	<b>6.75</b>	<b>10</b>	<b>172</b>

Drilling Method: **Mud (Hydraulic) Rotary**

Borehole Completion: **Straight Wall**

	<i>Top Depth (ft.)</i>	<i>Bottom Depth (ft.)</i>	<i>Description (number of sacks &amp; material)</i>
Annular Seal Data:	<b>0</b>	<b>10</b>	<b>2</b>

Seal Method: **Poured**

Distance to Property Line (ft.): **No Data**

Sealed By: **Driller**

Distance to Septic Field or other  
concentrated contamination (ft.): **150**

Distance to Septic Tank (ft.): **No Data**

Method of Verification: **Measured**

Surface Completion: **Surface Slab Installed**

Water Level: **14 ft. below land surface on 2007-08-17**      Measurement Method: **Unknown**

Packers: **Rubber 100'**

Type of Pump: **Submersible**      Pump Depth (ft.): **80**

Well Tests: **Jetted**      **No Test Data Specified**



---

	<i>Strata Depth (ft.)</i>	<i>Water Type</i>
Water Quality:	<b>No Data</b>	<b>No Data</b>
		Chemical Analysis Made: <b>No</b>
	Did the driller knowingly penetrate any strata which contained injurious constituents?: <b>No</b>	

---

Certification Data: The driller certified that the driller drilled this well (or the well was drilled under the driller's direct supervision) and that each and all of the statements herein are true and correct. The driller understood that failure to complete the required items will result in the report(s) being returned for completion and resubmittal.

Company Information: **Martin Water Wells**  
**2151 N. Highway 77**  
**Robstown, TX 78380**

Driller Name: **Amos Martin** License Number: **1669**

Comments: **\$dfs**

---

Lithology:			Casing:			
DESCRIPTION & COLOR OF FORMATION MATERIAL			BLANK PIPE & WELL SCREEN DATA			
<i>Top (ft.)</i>	<i>Bottom (ft.)</i>	<i>Description</i>	<i>Dia. (in.)</i>	<i>New/Used</i>	<i>Type</i>	<i>Setting From/To (ft.)</i>
<b>0</b>	<b>75</b>	<b>Clay</b>	<b>4</b>	<b>New</b>	<b>PVC Casing</b>	<b>0 132</b>
<b>75</b>	<b>80</b>	<b>Sand</b>	<b>4</b>	<b>New</b>	<b>PVC Screen</b>	<b>132 172 10</b>
<b>80</b>	<b>110</b>	<b>Clay</b>				
<b>110</b>	<b>172</b>	<b>Sand</b>				

---

**IMPORTANT NOTICE FOR PERSONS HAVING WELLS DRILLED CONCERNING CONFIDENTIALITY**

TEX. OCC. CODE Title 12, Chapter 1901.251, authorizes the owner (owner or the person for whom the well was drilled) to keep information in Well Reports confidential. The Department shall hold the contents of the well log confidential and not a matter of public record if it receives, by certified mail, a written request to do so from the owner.

Please include the report's Tracking Number on your written request.

**Texas Department of Licensing and Regulation**  
**P.O. Box 12157**  
**Austin, TX 78711**  
**(512) 334-5540**

Send original copy by certified mail to the Texas Department of Water Resources P. O. Box 13087 Austin, Texas 78711

State of Texas  
WATER WELL REPORT  
ATTENTION OWNER: Confidentiality Privilege Notice on Reverse Side

Texas Water Well Drillers Board  
P. O. Box 13087  
Austin, Texas 78711

1) OWNER Robert Harmon (Name) Address 4410 Hannigan, Corpus Christi, Tx 78413 (Street or RFD) (City) (State) (Zip)

2) LOCATION OF WELL: County Nueces 2 miles in E direction from London Gin (N.E., S.W., etc.) (Town)

Driller must complete the legal description to the right with distance and direction from two intersecting section or survey lines, or he must locate and identify the well on an official Quarter- or Half-Scale Texas County General Highway Map and attach the map to this form.

☐ Legal description: Section No. Block No. Township Abstract No. Survey Name Distance and direction from two intersecting section or survey lines

☒ See attached map.

3) TYPE OF WORK (Check):  
☒ New Well ☐ Deepening ☐ Reconditioning ☐ Plugging

4) PROPOSED USE (Check):  
☒ Domestic ☐ Industrial ☐ Public Supply ☐ Irrigation ☐ Test Well ☐ Other

5) DRILLING METHOD (Check):  
☒ Mud Rotary ☐ Air Hammer ☐ Driven ☐ Bored ☐ Air Rotary ☐ Cable Tool ☐ Jetted ☐ Other

6) WELL LOG:  
Date drilled 5-17-84

DIAMETER OF HOLE  
Dia. (in.) From (ft.) To (ft.)  
6 3/4 Surface 200

7) BOREHOLE COMPLETION:  
☐ Open Hole ☒ Straight Wall ☐ Underreamed  
☐ Gravel Packed ☐ Other  
If Gravel Packed give interval . . . from ft. to ft.

From To Description and color of formation material

0- 46 Clay and caliche  
46- 65 Fine sand  
65-102 Shale  
102-125 Sand  
125-169 shale  
169-200 Sand

8) CASING, BLANK PIPE, AND WELL SCREEN DATA:  
Dia. (in.) New or Used Steel, Plastic, etc. Perf., Slotted, etc. Screen Mfg., if commercial Setting (ft.) From To Gauge Casing Screen  
4 N PVC Casing 0-180  
4 N PVC Screen 180-200

CEMENTING DATA  
Cemented from 15 ft. to surface  
Method used  
Cemented by Mart in Water Wells (Company or Individual)

9) WATER LEVEL:  
Static level 14 ft. below land surface Date 5-17-84  
Artesian flow gpm. Date

10) PACKERS: Type Depth  
Rubber 160'

11) TYPE PUMP:  
☐ Turbine ☐ Jet ☒ Submersible ☐ Cylinder  
☐ Other  
Depth to pump bowls, cylinder, jet, etc., 80' ft.

12) WELL TESTS:  
☐ Type Test: ☐ Pump ☐ Boiler ☒ Jetted ☐ Estimated  
Yield: gpm with ft. drawdown after hrs.

13) WATER QUALITY:  
Did you knowingly penetrate any strata which contained undesirable water? ☐ Yes ☒ No  
If yes, submit "REPORT OF UNDESIRABLE WATER"  
Type of water? Depth of strata  
Was a chemical analysis made? ☐ Yes ☒ No

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

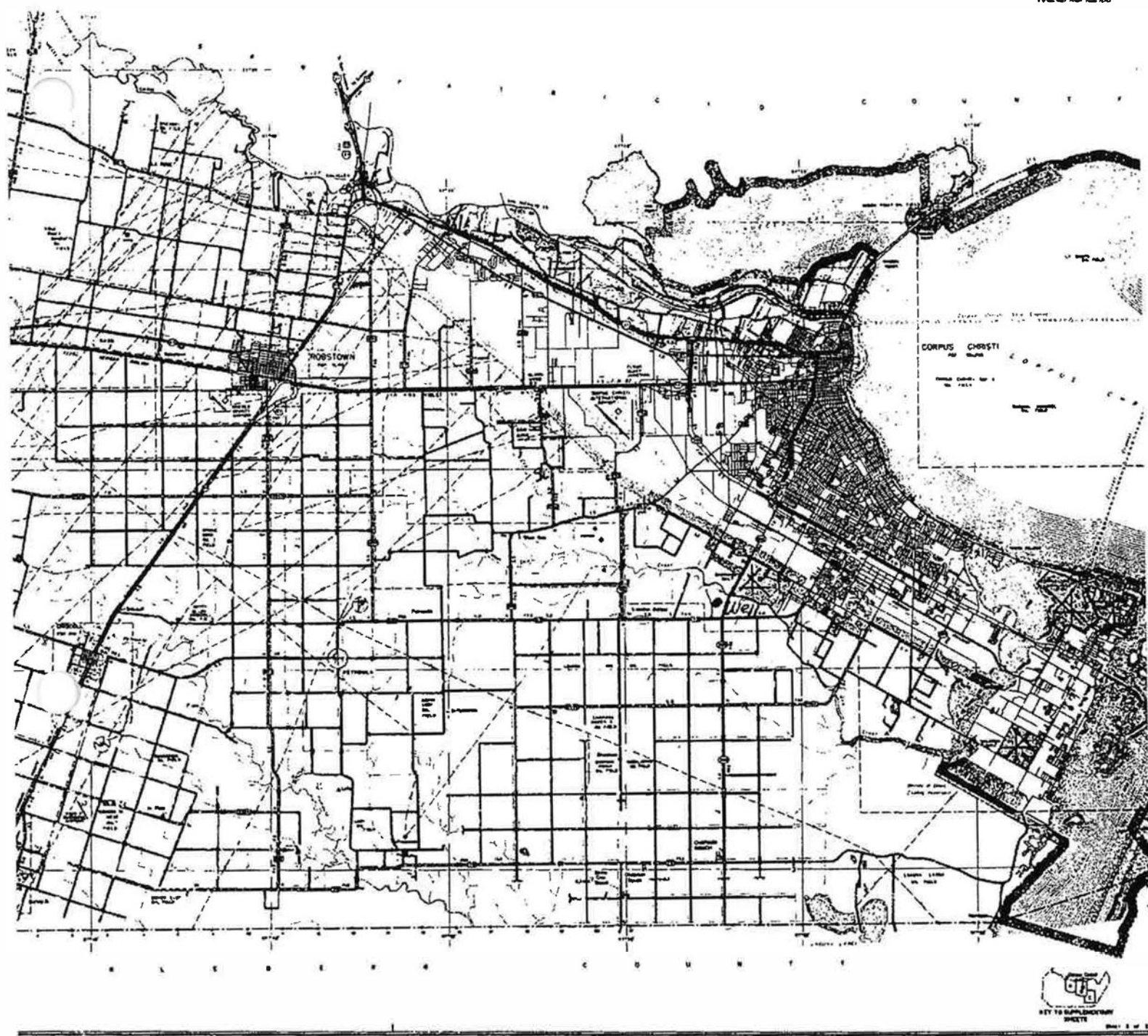
COMPANY NAME Martin Water Wells (Type or Print) Water Well Driller's License No. 1669

ADDRESS Hwy 77 North Robstown Texas 78380 (Street or RFD) (City) (State) (Zip)

(Signed) [Signature] (Signed) [Signature] (Licensed Water Well Driller) (Registered Driller Trainee)

Please attach electric log, chemical analysis, and other pertinent information, if available.

For TDWR use only  
Well No. 8531-SD  
Located on map Yes DLE



CORPUS CHRISTI  
TEXAS



KEY TO SUPPLEMENTARY  
SHEET

Sheet 1 of 2  
NUECES

## Dataset Descriptions and Sources



Dataset	Source	Dataset Description	Update Schedule	Data Requested	Data Obtained	Data Updated	Source Updated
TX HGSD - Texas HGSD	Harris Galveston Subsidence District/Fort Bend Subsidence District	This dataset contains all groundwater well records compiled by Harris Galveston Subsidence District/Fort Bend Subsidence District.	Quarterly	08/30/2023	09/01/2023	09/05/2023	08/31/2023
TX TCEQ HIST - Texas TCEQ Historical	Texas Commission on Environmental Quality	This dataset contains all historical water well records searched from the TCEQ Public Water Well Viewer. Banks Environmental Data plots each well record based on location information found on the log.	As requested	N/A	N/A	N/A	N/A
TX TCEQ PWS - Texas TCEQ PWS	Texas Commission on Environmental Quality	This dataset contains a collection of records from Texas Water Districts, Public Drinking Water Systems and Water and Sewer Utilities who submit information to the TCEQ.	Quarterly	06/26/2023	06/27/2023	06/27/2023	06/27/2023
TX TWDB GW - Texas TWDB Groundwater Database	Texas Water Development Board	This dataset contains water well records contained within Texas Water Development Board Groundwater Database.	Quarterly	07/27/2023	07/27/2023	07/27/2023	07/27/2023
TX TWDB SDR - Texas TWDB Submitted Drillers Reports	Texas Water Development Board	This dataset contains water well records from the Texas Water Development Board Submitted Drillers Reports Database.	Quarterly	07/27/2023	07/27/2023	07/27/2023	07/27/2023
USGS WW - USGS Water Wells	U.S. Geological Survey	This dataset contains groundwater well records from the U.S. Geological Survey.	Semi-annually	04/05/2023	04/05/2023	04/05/2023	04/05/2023



## Disclaimer



The Banks Environmental Data Water Well Report was prepared from existing state water well databases and/or additional file data/records research conducted at the state agency and the U.S. Geological Survey. Banks Environmental Data has performed a thorough and diligent search of all groundwater well information provided and recorded. All mapped locations are based on information obtained from the source. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the records and mapped well locations could possibly be traced to the appropriate regulatory authority or the actual driller. It may be possible that some water well schedules and logs have never been submitted to the regulatory authority by the water driller and, thus, may explain the possible unaccountability of privately drilled wells. It is uncertain if the above listing provides 100% of the existing wells within the area of review. Therefore, Banks Environmental Data cannot fully guarantee the accuracy of the data or well location(s) of those maps and records maintained by the regulatory authorities.

FOR PERMITTING PURPOSES ONLY

Parts I & II  
Type V Transfer Station Permit Application  
JC Elliott Transfer Station

**APPENDIX I/II-C.2**

**OIL / GAS WELL LOCATION MAP AND WELL IDENTIFICATION**

**Prepared for:**

SCS ENGINEERS- Houston  
12651 Briar Forest #205  
Houston, TX 77077



# Oil and Gas Well Report

City of Corpus Christi Transfer  
Station

7001 Ayers Street

Corpus Christi, TX 78415

Nueces County

Tuesday, September 19, 2023

## Table of Contents

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<b>Current Imagery Overlay Map - 1 Mile Buffer</b>	<b>6</b>
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<b>Database Definitions and Sources</b>	<b>8</b>
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## Geographic Summary

**Location**

Nueces County, TX

Target location is 0.039 square miles and has a 0.81 mile perimeter

**Coordinates**

Longitude &amp; Latitude in Degrees Minutes Seconds

NA

Longitude &amp; Latitude in Decimal Degrees

NA

X and Y in UTM

NA

**Elevation**

NA

**Zip Codes Searched**

Search Distance

Zip Codes (historical zip codes included)

Target Property

78415, 78347

1 mile

78415, 78347, 78417

**Topos Searched**

Search Distance

Topo Name

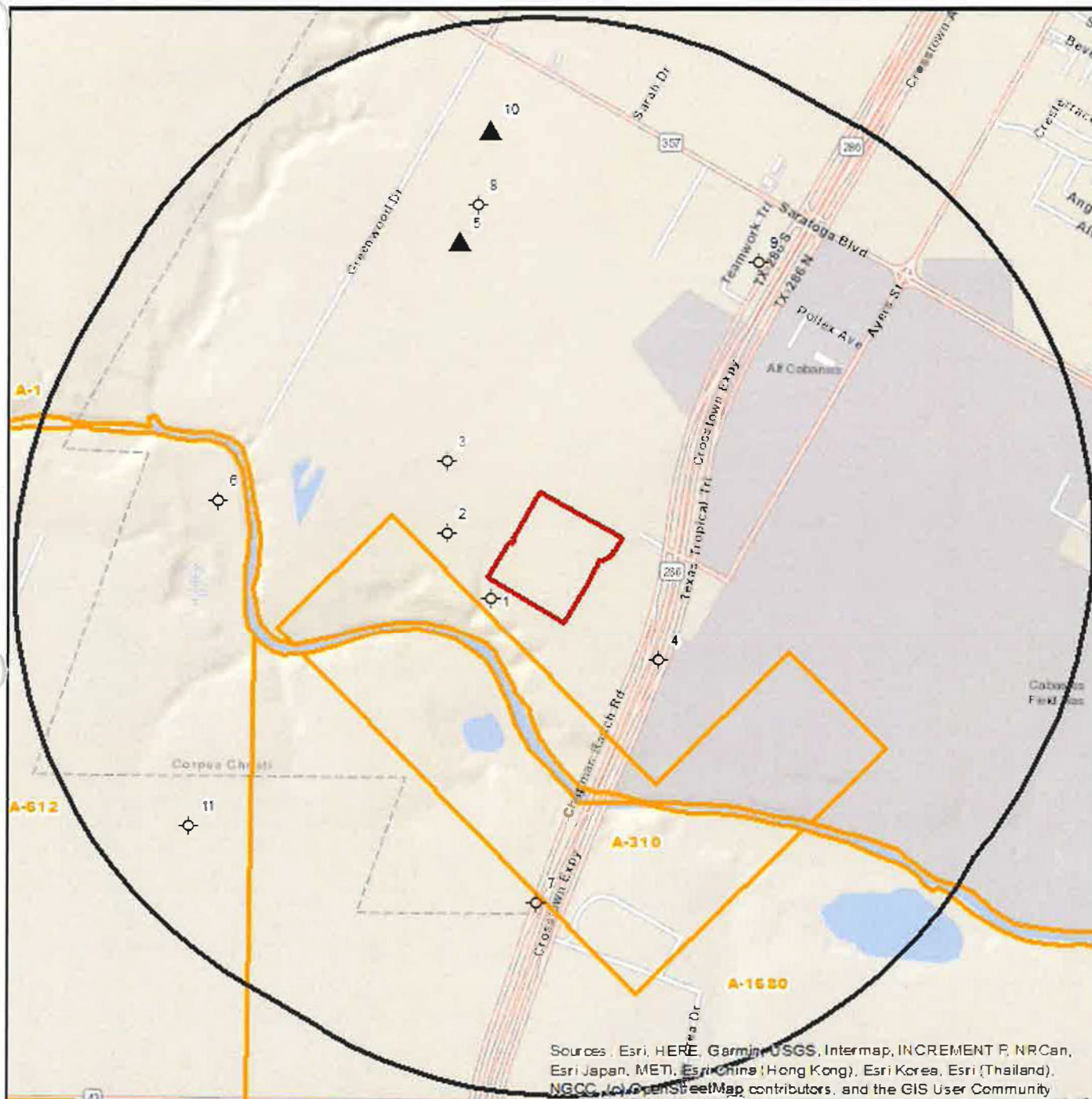
Target Property

Oso Creek NW (1977)

1 mile

Oso Creek NW (1977)

## Summary Map - 1 Mile Buffer



## City of Corpus Christi Transfer Station

▲ Well/Well Cluster	○ Permitted Location	○ Injection/Disposal	■ Target Property
● Oil	○ Shut-In Oil	○ Injection/Disposal from Oil	■ Search Buffer
☆ Gas	○ Shut-In Gas	○ Injection/Disposal from Gas	■ Texas Land Survey
★ Oil/Gas	○ Sidetrack Surf.	○ Injection/Disposal from Oil/Gas	
◇ Dry Hole	○ Core Test	○ Canceled/Abandoned Location	
○ Plugged Oil	○ Horz. Drainhole	○ Brine Mining/Oil	
★ Plugged Gas	○ Geothermal	○ Brine Mining/Gas	
★ Plugged Oil/Gas	○ Dir. Surf. Loc.		

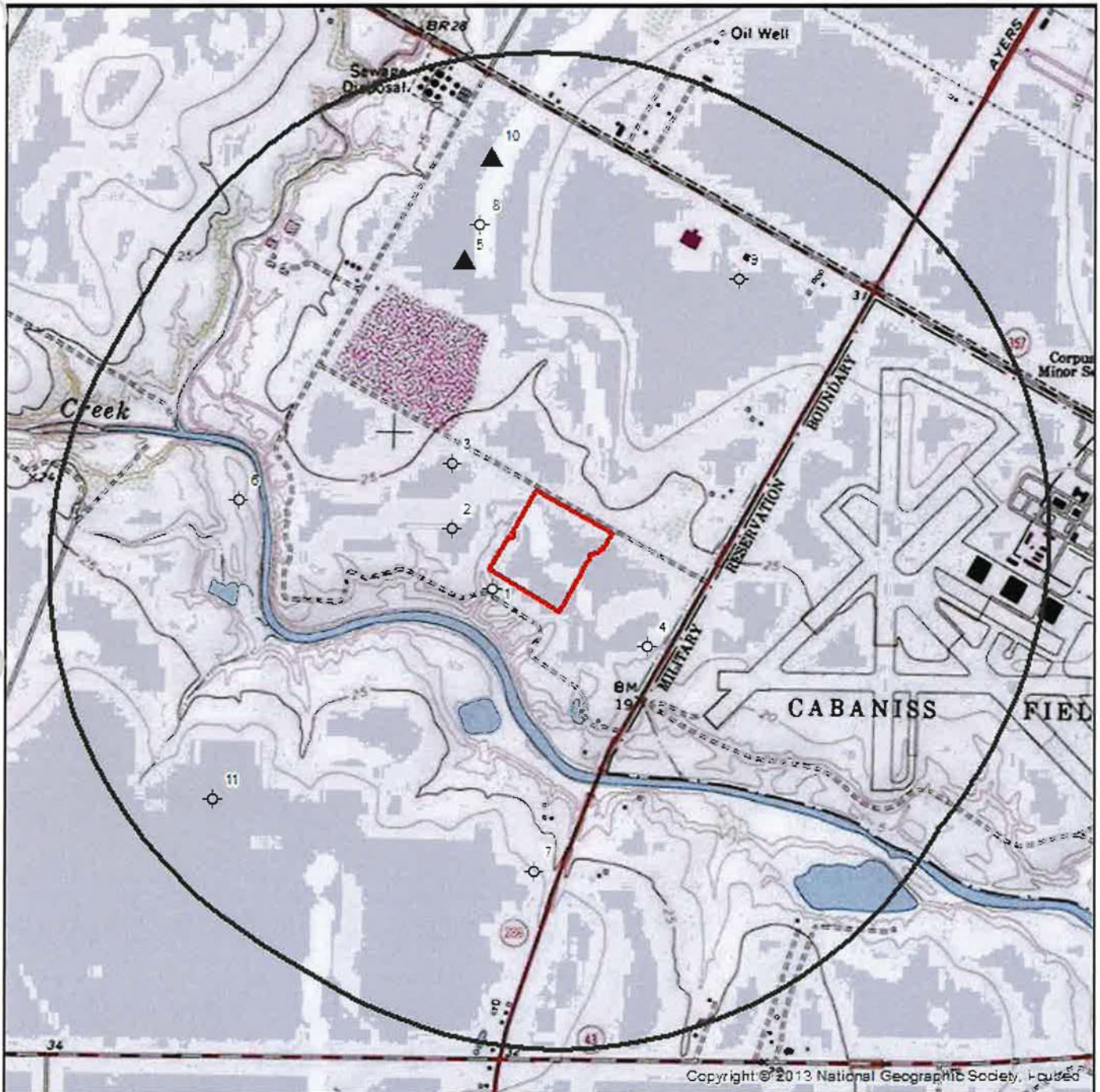
1 : 19,500  
 1 inch = 0.308 miles  
 1 inch = 1625 feet  
 1 centimeter = 0.195 kilometers  
 1 centimeter = 195 meters

Lambert Conformal Conic Projection  
 1983 North American Datum  
 First Standard Parallel: 33° 00' North  
 Second Standard Parallel: 45° 00' North  
 Central Meridian: 96° 00' West  
 Latitude of Origin: 36° 00' North





## Topographic Overlay Map - 1 Mile Buffer



Copyright © 2013 National Geographic Society. Licensed

## City of Corpus Christi Transfer Station

▲ Well/Well Cluster	○ Permitted Location	○ Injection/Disposal	■ Target Property
● Oil	○ Shut-in Oil	○ Injection/Disposal from Oil	■ Search Buffer
☆ Gas	○ Shut-in Gas	○ Injection/Disposal from Gas	
★ Oil/Gas	◇ Sldetrack Surf.	○ Injection/Disposal from Oil/Gas	
◇ Dry Hole	○ Core Test	○ Canceled/Abandoned Location	
● Plugged Oil	○ Horz. Drainhole	● Brine Mining/Oil	
● Plugged Gas	◇ Geothermal	☆ Brine Mining/Gas	
★ Plugged Oil/Gas	○ Dir. Surf. Loc.		

Target Property Quad Name(s)  
Oso Creek NW (1977)

1 : 21,000

1 inch = 0.331 miles  
1 inch = 1750 feetLambert Conformal Conic Projection  
1883 North American Datum  
First Standard Parallel: 33° 00' 00" North  
Second Standard Parallel: 45° 00' 00" North  
Central Meridian: 96° 00' 00" West  
Latitude of Origin: 39° 00' 00" North



# Current Imagery Overlay Map - 1 Mile Buffer



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

## City of Corpus Christi Transfer Station

Well/Well Cluster	Permitted Location	Injection/Disposal	Target Property
Oil	Shut-In Oil	Injection/Disposal from Oil	Search Buffer
Gas	Shut-In Gas	Injection/Disposal from Gas	
Oil/Gas	Sidetrack Surf.	Injection/Disposal from Oil/Gas	
Dry Hole	Core Test	Canceled/Abandoned Location	
Plugged Oil	Horz. Drainhole	Brine Mining/Oil	
Plugged Gas	Geothermal	Brine Mining/Gas	
Plugged Oil/Gas	Dir. Surf. Loc.		

1 : 21,000  
 1 inch = 0.331 miles  
 1 inch = 1750 feet  
 1 centimeter = 0.210 kilometers  
 1 centimeter = 210 meters

Lambert Conformal Conic Projection  
 1983 North American Datum  
 First Standard Parallel: 33° 00' 00" North  
 Second Standard Parallel: 45° 00' 00" North  
 Central Meridian: 96° 00' 00" West  
 Latitude of Origin: 39° 00' 00" North





## Oil &amp; Gas Well Details



Map ID	Operator Name	Lease Name	Well #	Comp. Date	Plug Date	T.D.	API #	Longitude	Latitude	Status/Product	Elevation
1	WINN EXPLORATION	SIMCIK	1A		4/1/1997	4757	35533071	-97.454965	27.703537	Dry Hole	17 ft
2							355	-97.456507	27.705505	Dry Hole	77 ft
3							355	-97.456544	27.707644	Dry Hole	84 ft
4							355	-97.449218	27.701754	Dry Hole	28 ft
5	AMINOIL USA INC.	KURESKA, MARGARET ET AL	1		1/1/1982	0	35531929	-97.456222	27.714335	Dry Hole	30 ft
5	SAN PATRICIO CORPORATION	KURESKA	1ST		12/3/1983	0	35532165	-97.456592	27.71397		30 ft
6							355	-97.464309	27.70634	Dry Hole	11 ft
7	CENERGY EXPLORATION CO.	JOSLIN, ENNIS	1		8/25/1984	5700	35532341	-97.453241	27.694323	Dry Hole	29 ft
8							355	-97.455652	27.715452	Dry Hole	30 ft
9							355	-97.446073	27.713829	Dry Hole	31 ft
10	STARTEX ENERGY, INC.	RICHARDSON, D. L. UNIT -A-	1	7/1/1988	10/5/1995	11810	35532630	-97.455266	27.717686		31 ft
11							355	-97.465107	27.696505	Dry Hole	32 ft

\*UNKNOWN appears where digital data does not exist. Further research can be requested to obtain this data.

\*N/A (not applicable) appears in the Comp. Date row only when there is a Dry Hole because a Dry Hole does not constitute a completion.

\*NOT AVAILABLE appears where digital data does not exist. However, this data may exist within hard copy well files. Further research is required to obtain this data. Please call 512-478-0059 to request a file review.

\*THIS REPORT IDENTIFIES WELLHEAD SURFACE LOCATIONS ONLY AND IN NO WAY ATTEMPTS TO IDENTIFY ANY DEVIATED BOTTOM HOLE LOCATIONS.

## Well Summary

Oil Wells	Gas Wells	Injection Wells	Other Types of Wells*	Total Number of Wells
0	0	0	12	12

\*May include dry holes, abandoned locations, disposal, injection, domestic, water supply wells, surface locations, etc.

## Dataset Descriptions and Sources



Source	Update Schedule	Data Updated	Source Updated
Railroad Commission of Texas	Semi-annually	05/05/2023	N/A

## Disclaimer



The Banks Environmental Data Oil and Gas Well Report was prepared from existing state databases obtained from applicable state agencies. Banks Environmental Data (Banks) provides mapping data sets for informational purposes only. These datasets are continually being updated and refined. Although Banks performs quality assurance and quality control on all research projects, we recognize that any inaccuracies of the well locations and well data could possibly be traced to the appropriate regulatory authority. Therefore, Banks cannot guarantee the accuracy of the data or well location(s) of those maps and records maintained by the oil and gas regulatory agencies. Banks recommends obtaining the actual construction and abandonment records from the appropriate oil and gas regulatory agency to identify possible sources of surface or below surface contamination and/or identify any improperly plugged or abandoned wells that can contribute to the possible upward migration of subsurface drilling fluids. Obtaining the actual well records can provide closure for plugging questions, verify locations, or obtain missing information for many of the historical wells.

**APPENDIX I/II-D**  
**LAND OWNERSHIP LIST**



## **LANDOWNERS' LIST**

- 1 City of Corpus Christi  
PO Box 9277  
Corpus Christi, TX 78469
- 2 Thurman Ryan Elbridge  
6422 Crosstown Expy  
Corpus Christi, TX 78417
- 3 City of Corpus Christi  
1201 Leopard  
Corpus Christi, TX 78469

**PART III**  
**SITE DEVELOPMENT PLAN**  
**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**  
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**November 2024**  
**Revision 1 – December 2024**

**PART III****SITE DEVELOPMENT PLAN  
TYPE V PERMIT APPLICATION  
J.C. ELLIOTT TRANSFER STATION  
NUECES COUNTY, TEXAS  
TCEQ PERMIT NO. MSW-2423****TABLE OF CONTENTS**

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**ATTACHMENTS**

- 1 General Facility Design Plan
- 2 Closure Plan
- 3 Closure Cost Estimate

SCS Engineers  
TBPE Reg. #F-3407





## **1.0 INTRODUCTION**

In accordance with 30 TAC §330.63(a), the following sections include the applicable portions of Part III of a permit application that summarize the land use and zoning and the adequacy of access roads and highways surrounding the facility. Part III also provides information on the general design of the facility to safeguard the health, welfare, and physical property of the people and the environment.

### **1.1 Site Location and History**

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. The site location is shown on Figures I/II-1 and I/II-2 in Parts I/II of this permit application. Additionally, an aerial photograph showing the site and access roads is included as Part I/II, Figure I/II-3, and a general topographic map is included as Part I/II, Figure I/II-4.

At its peak, the new facility will have a waste intake capacity projected at approximately 2,500 tons/day. The location has not previously been used for solid waste operations.

The property, a 24.95-acre tract, is currently owned by the City of Corpus Christi. There is currently no physical address for the transfer station facility property. The physical address for the transfer station will be obtained upon Permit approval. The approximate coordinates of the property are North 27°42'16" latitude and West 97°27'11" longitude with an approximate elevation of 20.0' (NAVD 88 Vertical datum).

### **1.2 Land Use and Zoning**

A land use analysis, including field reconnaissance and review of maps, was performed for the J.C. Elliott Transfer Station for a one-mile radius surrounding the facility property. The surrounding area land use is shown on Figure I/II-8, Land Use Map. Portions of the land within a one-mile radius are developed with a wide variety of commercial and residential uses. Public works land represents the largest percentage of land use within a one-mile radius of the site. The next largest component of land use consists of agricultural properties. The breakdown of overall land use within the one-mile radius is shown on Table I/II-1.1. For a more detailed summary of the existing conditions of the facility and surrounding area, see Part I/II, Section 3.0.

**Table III-1.1 Land Use Within a One-Mile Radius**

<b>Land Use</b>	<b>Area (in acres)</b>	<b>Percentage of Total Area</b>
Industrial	95.35	4.7%
Commercial	32.79	1.6%
Public Works	1,141.1	55.5%
Institutional	33.82	1.6%
Schools	0.0	0.0%
Residential	10.18	0.5%
Water Bodies	16.68	0.8%
Park / Recreational Areas	14.25	0.7%
J.C. Elliott Transfer Station Facility	24.95	1.2%
Open Space / Ag Use	687.41	33.4%
<b>Total</b>	<b>2,056.53</b>	<b>100.0%</b>

The J.C. Elliott Transfer Station is located within the City of Corpus Christi in Nueces County, Texas. The zoning for the facility location, based on information from the City of Corpus Christi is “FR”, which is Farm Rural District. The City of Corpus Christi Guide to Permitted Uses in Zoning Districts states that the “FR” zoning district includes lands that are relatively undeveloped and agricultural in nature. The “FR” zoning district is intended to permit the continued use of the land for agricultural purposes and is also the default zoning district for newly-annexed land that has not yet been placed in an appropriate zoning classification for final use. The Corpus Christi Unified Development Code minimum requirements state that no land may be used except for a purpose permitted in the zoning district in which it is located. The facility is subject to land development permitting by the City of Corpus Christi for construction.

## **2.0 GENERAL FACILITY DESIGN**

In accordance with 30 TAC §330.63(b), the general facility design is discussed in the following sections.

### **2.1 Facility Access**

#### **2.1.1 Adequacy of Access Roads and Highways**

In accordance with 30 TAC §330.61(i), a transportation analysis was performed for the J.C. Elliott Transfer Station.

Public access to the facility will be provided by an existing entrance road located on the west side of State Highway 286 about 4,000 feet south of Saratoga Boulevard (State Highway 357). The existing entrance previously served the J.C. Elliott Landfill (MSW-423A) and currently serves the existing transfer station (Registration Number 40228) located within the J.C. Elliott Landfill permit boundary. City solid waste transport vehicles will utilize the existing entrance. Empty transfer trailers returning from Cefe F. Valenzuela Landfill may access the site by traveling on Greenwood Avenue to the back entrance to the J.C. Elliott Landfill and then internal J.C. Elliott Landfill paved roadways.

The existing site entrance/exit is a 60-foot-wide paved driveway. The driveway intersects the southbound frontage road of SH 286 at a three-way stop with no sight restrictions or conflicts that impair the turning of the vehicles or the view of drivers on SH 286. Vehicles that turn into the site entrance driveway (see Part I/II, Figure I/II-7 – Site Layout Plan) will have approximately 600 feet of staging room before they reach the gatehouse. This will prevent any traffic congestion on SH 286 due to vehicles waiting to access the facility. The existing driveway exit is controlled by a stop sign but may be modified in the future as recommended by TxDOT, the entity responsible for SH 286.

State Highway 286, Saratoga Boulevard, Greenwood Drive, and J.C. Elliott internal roadways consist of asphalt paving underlain by flexible base material. Access to the transfer station will be controlled by a gate and perimeter fencing as shown on Figure I/II-7 – Site Layout Plan. Based on the information above, the roadways that provide access to the facility are adequate in capacity and structure to continue to serve the needs of the owner or operator and the general public. The three main roadways, SH 286, SH 357, and Greenwood Drive are asphalt paved with 80,000 pound vehicle weight limits.

Based on the information above, the roadways that provide access to the facility are adequate in capacity and structure to continue to serve the needs of the owner or operator and the general public. The three main roadways, SH 286, SH 357, and Greenwood Drive are asphalt paved with 80,000 pound vehicle weight limits. Hanson has coordinated with TxDOT, the entity responsible for SH 286 and SH 357, to confirm the public roadways are adequate for the facility generated traffic. The City is responsible for the maintenance of Greenwood Drive.

#### **2.1.2 Fences and Access Control**

Public access to the facility will be controlled by means of a perimeter fence which encompasses the entire permit boundary. Access to the facility is limited to the gated site entrance located off SH 286 service road at Greenwood Drive that will serve the facility.

Site security measures are designed to prevent unauthorized persons from entering the site, to protect the facility and its equipment from possible damage caused by trespassers, and to prevent disruption of facility operations caused by unauthorized site entry. Unauthorized entry into the site is minimized by controlling

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access to the site with the perimeter fence and locking gates at the entrance and other site roads such as those used by transfer trucks. The perimeter fence will consist of a chain-link and/or wood fence. Part III, Attachment 1, Figure III-1.1 shows the location of the fencing and the gates.

During operating hours, the site personnel will continuously monitor the site entrance gate to prevent any unauthorized entry to facility. Entry to the active portion of the facility is restricted to designated personnel, approved waste haulers, and properly identified persons whose entry is authorized by site management.

A conspicuous sign measuring a minimum 4 feet by 4 feet will be maintained at the public entrance to the facility. The sign will state, in letters at least 3-inches high, the name of the site, the type of site, the permit number issued by the TCEQ, the hours and days of operation, an emergency 24-hour contact phone number(s), and the local emergency fire department phone number. The sign will be visible and readable from the facility entrance. Other signs stating rules will be posted throughout the site. A sign will state that certain wastes are prohibited from receipt at the facility, as discussed in the Part IV, Site Operating Plan.

## **2.2 Waste Movement**

### **2.2.1 Waste Flow Diagram**

A waste flow diagram indicating the processing and storage sequences for various types of wastes received is shown on Figure III-1.2 located in Part III, Attachment 1. The facility will not accept or store grease, oil, or sludge; therefore, the requirements of §330.63(b)(2)(G) do not apply.

### **2.2.2 Waste Process Schematic View**

A schematic view indicating the phases, waste processing and storage as applicable, is shown on Figures III-1.3 in Part III, Attachment 1. These figures include the Type V permit boundary and the traffic flow patterns.

### **2.2.3 Ventilation and Odor Control**

Ventilation will be provided and odors controlled in accordance with the current TCEQ MSW Air Permitting rules and regulations applicable to municipal solid waste facilities. The transfer station's fully-enclosed building design will include ample passive ventilation.

The transfer station structure is oriented with its walls perpendicular to the prevailing southern wind so any operational odors are less likely to be carried off site. Waste caught behind push walls or in push pits will be removed regularly to minimize odors. These design features reduce the likelihood of nuisance odor being created and then carried off the permit boundary. A minimum 50-foot buffer will be provided between the transfer building and the site boundaries. The neighboring property is owned by the City and consists of open land to the south, and a landfill and transfer station to the north. In addition to the building's design features and ample buffers, the City will take further steps to prevent and control potential odors being generated and migrating off site. These include:

- Prompt & efficient flow of waste through the building.
- Routine washing of the tipping floor.
- Closing overhead doors at the end of day in the event waste is stored overnight in the transfer station.
- The deployment of a deodorizing system, if necessary.



Solid waste processing operations will be conducted within the transfer station structure to prevent nuisance odors from developing outside. No waste tipping or processing will occur outside the building.

The site will be graded to prevent the ponding of water in improper locations which are not part of the drainage system. The on-site drainage structures will be maintained to prevent accumulation outside of required detention, and thus minimize any nuisance odors associated with stagnant water.

#### 2.2.4 Generalized Construction Details

The site will include the transfer station structure, a gatehouse with scale(s), and a perimeter fence with locking gates. The facility will include a water line servicing the transfer station. An inbound scale will be required as a minimum. Additional scale(s) may be added as volume or traffic conditions may dictate. The transfer station structure is a dual-level, fully-enclosed building with an above-grade processing floor (tipping floor). The fully-enclosed building footprint will be approximately 390 feet wide by 367 feet long with concrete floor an entry and exit with locking overhead doors, and a roof. A Site Layout Plan is included as Figures I/II-7. The general design and construction details for the fully enclosed building components are included in Part III, Attachment 1.

The transfer station building will be constructed all at once. The facility layout and building components are also shown in Part III, Attachment 1, Figures III-1.4, III-1.5, III-1.7, and III-1.8.

The processing area (tipping floor) is used for waste processing, holding, and storage. The effluent (i.e. wastewater) resulting from the processing operations will include incidental liquid within the waste brought in by the haul vehicles and washwater from the tipping floor cleaning activities. Wastewater will be directed toward at least one end of the tipping floor. The wastewater will be collected via a grated box drain and be pumped directly to a permitted wastewater plant. A contaminated water management plan, showing the layout of the grated box drain and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the contaminated water management components are included in Part III, Attachment 1, Figures III-1.7, and III-1.8

The transfer station features a impermeable roof structure that covers the reinforced concrete pad (tipping floor) used for waste processing and waste storage and truck loading and transfer. The building is enclosed on all sides with an approximate eave height on the entrance of 35 feet to provide passive ventilation. Vehicles enter the building on its northwest side, with trucks exiting the building on its northeast side. The fully-enclosed building is set near the south central portion of the permit boundary with an open land buffer to the east and south, J.C. Elliott Landfill to the west and north, the existing city transfer station to the north. The building is enclosed on all sides to obscure visibility of the waste processing operations within building.

#### 2.2.5 Noise Pollution Control and Visual Screening

The site will be designed to minimize the potential noise pollution and visual impact to neighboring landowners and the public. Waste processing operations will be conducted within the transfer station structure, thereby minimizing noise pollution and screening operations. The fully-enclosed building is set near the south central portion of the permit boundary with an open land buffer to the east and south, J.C. Elliott Landfill to the west and north, the existing city transfer station to the north. The building is enclosed on all sides to obscure visibility of the waste processing operations within building.

## **2.3 Sanitation and Water Pollution Control**

All liquids resulting from the operation of the transfer station will be disposed of in a manner that will not cause surface water or groundwater pollution. An implemented storm water management plan designed to minimize and route storm water away from the waste processing area will provide surface water protection, thus minimizing the amount of contaminated water generated by the site.

Uncontaminated water is any water that has not come into contact with waste (referred to as storm water, clean storm water, surface water, and uncontaminated surface water). Contaminated water is any water that has come into contact with waste (referred to as washwater or wastewater from the tipping floor).

The pavement and ground surface around the perimeter of the building will be graded to promote uncontaminated surface water drainage away from the structure and toward the surface drainage features (i.e. perimeter swales and channels). A contaminated water management plan and related details for the handling of the clean stormwater are included in Part III, Attachment 1, Figures III-1.7 and III-1.8.

Other than brush and tires, solid waste processing operations will be conducted on a concrete-paved area (tipping floor) inside the transfer station structure; therefore, contact of storm water with waste material is limited. Wastewaters will not be allowed to accumulate on the tipping floor. Wastewater will be directed toward at least one end of the sloped tipping floor. The wastewater will be collected via grated trenches and/or grated box drains and pumped directly to a permitted wastewater plant. A contaminated water management plan, showing the layout of the grated trenches and box drains and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the contaminated water management components are included in Part III, Attachment 1, Figures III-1.7, and III-1.8.

### **2.3.1 Surface Water and Groundwater Protection**

The facility design complies with the requirements of 30 TAC §330.303, relating to Surface Water Drainage for Municipal Solid Waste Facilities.

The facility will be constructed, maintained, and operated to manage run-on and runoff during the peak discharge of a 25-year rainfall event and will prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water in and around the facility will be controlled to minimize surface water running onto, into, and off of the processing area.

Since all contaminated water will be managed in a controlled manner as discussed in this section, groundwater will be protected.

For additional information on surface water and groundwater protection, see Part III, Attachment 1, Appendix A, Surface Water Drainage Plan.

### **2.3.2 Floor Wash Down**

The processing area (tipping floor) is used for waste processing, holding, and storage. The only effluent resulting from the processing operations will be the washwater from the tipping floor cleaning activities. Washwater will be directed toward at least one end of the tipping floor. The washwater will be collected via a grated box drain and pumped directly to a permitted wastewater plant. A contaminated water management plan, showing the layout of the grated trenches and box drains and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the

contaminated water management components are included in Part III, Attachment 1, Figures III-1.7, and III-1.8.

A public water supply line will provide the water supply required for the gatehouse and to clean the concrete tipping floor and will also be used for fire suppression. A spray nozzle, such as a standard wash-down gun product, will be used to hose down the concrete tipping floor. The firewater/fresh water tanks will be supplied by a water well to be located on the property or fresh water will be trucked to the site. These fresh water supply tanks are optional if a water supply line is brought directly to the gatehouse and/or transfer station building.

## **2.4 Protection of Endangered Species**

CEI performed a threatened and endangered species assessment for the property. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings in accordance with the requirements of 30 TAC §330.61(n). Through field efforts and searches for electronic records of RTE species on or near the property resulted in only one observation from the property (a Wood Stork flying high along Oso Creek) and three from the near vicinity of the property (two White-tailed Hawk sightings at the adjacent landfill and a Texas tortoise across the highway. CEI concluded the project is not likely to adversely affect threatened and endangered species. The CEI report is included in Appendix I/II-B.2.

The United States Fish and Wildlife Service (USFWS) was contacted in accordance with 30 TAC 330.61(n)(2). A request for verification of threatened and endangered species assessment was submitted to the Texas Parks and Wildlife Department (TPWD) by CEI. Supporting documentation provided by TPWD and a copy of the threatened and endangered species assessment conducted by CEI and coordination with the USFWS is included in Part I/II, Appendix I/II-B.2.

### **3.0 SURFACE WATER DRAINAGE REPORT**

In accordance with §330.63(c), the drainage and floodplain criteria applicable to this facility are summarized in the following sections.

#### **3.1 Drainage Design**

The facility was designed and will be constructed/operated to comply with the requirements of §330.303. The design of the facility will manage run-on and runoff during the peak discharge of a 25-year rainfall event and will prevent the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility will be controlled to minimize surface water running onto, into, and off of the processing area.

#### **3.2 Floodplain Considerations**

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the site area (Nueces County, Texas and Incorporated Areas: Map No. 48355C0505G, Effective Date October 13, 2022) was reviewed and is included as Figure I/II-15. According to the published FEMA map, no portion of the facility property is located within the 100-year floodway. However, a portion of the transfer station road system and building will be located within the 100-year floodplain. Although these facilities are located on a small portion of the floodplain, the roads and building will be elevated to at least 1 foot above the floodplain elevations shown on Figure I/II-15, therefore there will not be washout of solid waste in the event of a flood.

The City's Floodplain Management Division (FMD) manages development within FEMA-designated floodplains located in the City of Corpus Christi. The FMD will issue a floodplain development permit for non-residential construction provided the lowest floor is elevated to at least 1 foot above the base flood elevation. As mentioned above, the roads and building elevations will be at least 1 foot above the base flood elevation.

There are approximately 2.25 acres within the transfer station permit boundary that are designated as floodplain. There is a total of approximately 51 acres of floodplain located on the north side of Oso Creek between Greenwood Drive and SH 286 on property owned by the City, including the transfer station property. There will be about 0.6 acres of roadway located in the floodplain and 0.11 acres of the southwest corner of the transfer station building located in the floodplain. The small portion of the floodplain in which construction of the transfer station roads and building will be located should not significantly restrict the flow of a 100-year frequency flood nor significantly reduce the temporary water storage capacity of the 100-year floodplain.



## **4.0 WASTE MANAGEMENT UNIT DESIGN**

In accordance with §330.63(d), the general design and waste operations and storage are summarized in the following sections.

### **4.1 Waste Operations**

The J.C. Elliott Transfer Station is designed for efficient waste processing. All solid waste capable of creating public health hazards or nuisances will be stored on the fully-enclosed building tipping floor only and processed or transferred promptly and will not be allowed to result in nuisances or public health hazards.

General operations will be conducted in a manner that allows for the prompt and efficient unloading of waste. The waste will be discharged from the collection vehicles onto the facility processing floor (tipping floor). Waste will be loaded into an open-top transfer trailer, covered, and transferred to an authorized disposal facility.

As shown on Part III, Attachment 1, Figures III-1.3, the collection trucks will enter the site and will weigh-in at the gate house. The trucks will proceed to the tipping floor. The trucks will deposit the waste onto the tipping floor for processing and then proceed to exit the building. The trucks will proceed to the exit scale, if needed, and then leave the site. After the waste has been processed, the waste will be loaded into transfer trailers waiting in the loading shoot(s) below the tipping floor. Waste will be pushed into the loading hoppers and drop into the awaiting waste transfer vehicle(s). After the transfer trailers are full, they will be tarped and proceed to the waste transfer trailer exit. Empty transfer trucks that are awaiting loading will queue up on the paved area leading to the building.

### **4.2 Spill Prevention and Control**

The storage and processing areas of the facility are designed to control and contain spills and contaminated water from leaving the facility. Since the tipping floor is covered by a roof and enclosed on all sides, the “worst case spill or release” will occur when the entire tipping floor is being washed down. Based on manufacturer’s data, a standard pressurized nozzle that provides a maximum flow rate of 10 gallons per minute may be used to wash down the tipping floor and will generate approximately 600 gallons of washwater per hour. Based on manufacturer’s data that one person could washdown approximately 8,400 square feet of floor surface per hour with this nozzle and based on the size of the floor area, it will take approximately 17 hours for one person to wash down the entire tipping floor area (143,130 square feet), generating approximately 10,500 gallons of washwater. The generated contaminated water will be collected and discharged directly to a permitted wastewater plant. There are no unenclosed containment areas at the facility; therefore, the rainfall design requirements in §330.63(d)(1)(B) do not apply.

### **4.3 Waste Storage Period**

The projected peak amount of solid waste to be received daily and annually for the facility is approximately 2,500 tons per day and 912,500 tons per year, respectively. The maximum volume of waste that will be stored overnight (defined as sunset to sunrise) at the facility at any given time is 1,000 tons or less, which includes the waste in any partially-loaded or fully-loaded, covered transfer vehicles parked at the facility and waiting to haul waste off-site the following day. These peak amounts and maximum volumes were developed in accordance with the requirements of the Closure Cost Estimate as further described in Part III, Attachment 3. These maximums will also consist of unprocessed materials on the tipping floor or processed waste materials being held or stored on the tipping floor in the event of equipment breakdown.

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Waste storage or holding will occur on the tipping floor, including partially-filled transfer vehicles at the end of the operating day. The maximum volume of waste that will be stored overnight at the facility at any given time is 1,000 tons or less, which includes the waste in fully loaded, covered transfer vehicles waiting to haul waste off-site. Except for brush and tires, no storage of waste materials will occur off the tipping floor, except for waste in fully loaded, covered transfer trailers waiting to be hauled off-site. Solid waste will generally be processed within an average of 4 to 6 hours. The solid waste will not be allowed to accumulate on-site for such a period that will allow the creation of a nuisance or public health hazard due to odors, fly breeding, or harborage of other vectors. Storage periods significantly above average are as a result of equipment breakdown or acts of God, and will only be permitted for the time required to repair or replace the malfunctioning equipment or to allow any exigent circumstances to subside. The maximum volume of waste that can be stored at the facility under these circumstances is 1,000 tons which includes the waste in loaded transfer vehicles waiting to haul waste off-site. The maximum holding time under these circumstances will not exceed 48 hours with an average holding time of 24 hours. These holding times apply to both processed and unprocessed wastes. No waste tipping or processing will occur off the tipping floor. The processed solid waste will be transported off-site and disposed of at the Cefe Valenzuela Landfill or another TCEQ-permitted landfill.

During time periods including holidays, the solid waste may be temporarily stored at the site not to exceed a time period of 72 hours. If waste remains on the tipping floor during these periods, cover tarps will be used to control potential odors, flies and other vectors.

## **5.0 CLOSURE PLAN**

A closure plan is included as Part III, Attachment 2.

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## **6.0 COST ESTIMATE FOR CLOSURE**

A cost estimate for the final closure of the facility is included as Part III, Attachment 3. The estimated cost in 2024 dollars is \$130,800.



**PART III – ATTACHMENT 1**

**GENERAL FACILITY DESIGN PLAN**  
**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**

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**November 2024**  
**Revision 1 – December 2024**

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**PART III – ATTACHMENT 1**

**GENERAL FACILITY DESIGN PLAN  
TYPE V PERMIT APPLICATION  
J.C. ELLIOTT TRANSFER STATION  
NUECES COUNTY, TEXAS  
TCEQ PERMIT NO. MSW-2423**

**FIGURES**

Figure III-1.1	Site Layout Plan
Figure III-1.2	Waste Movement Flow Chart
Figure III-1.3	Waste Process Schematic View
Figure III-1.4	Fully-Enclosed Building Layout
Figure III-1.5	Fully-Enclosed Building Elevations
Figure III-1.6	Contaminated Water Management Plan
Figure III-1.7	General Construction Details I
Figure III-1.8	General Construction Details II
Figure III-1.9	General Construction Details III

**APPENDICES**

Appendix A – Surface Water Drainage Plan

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TBPE Reg. #F-3407



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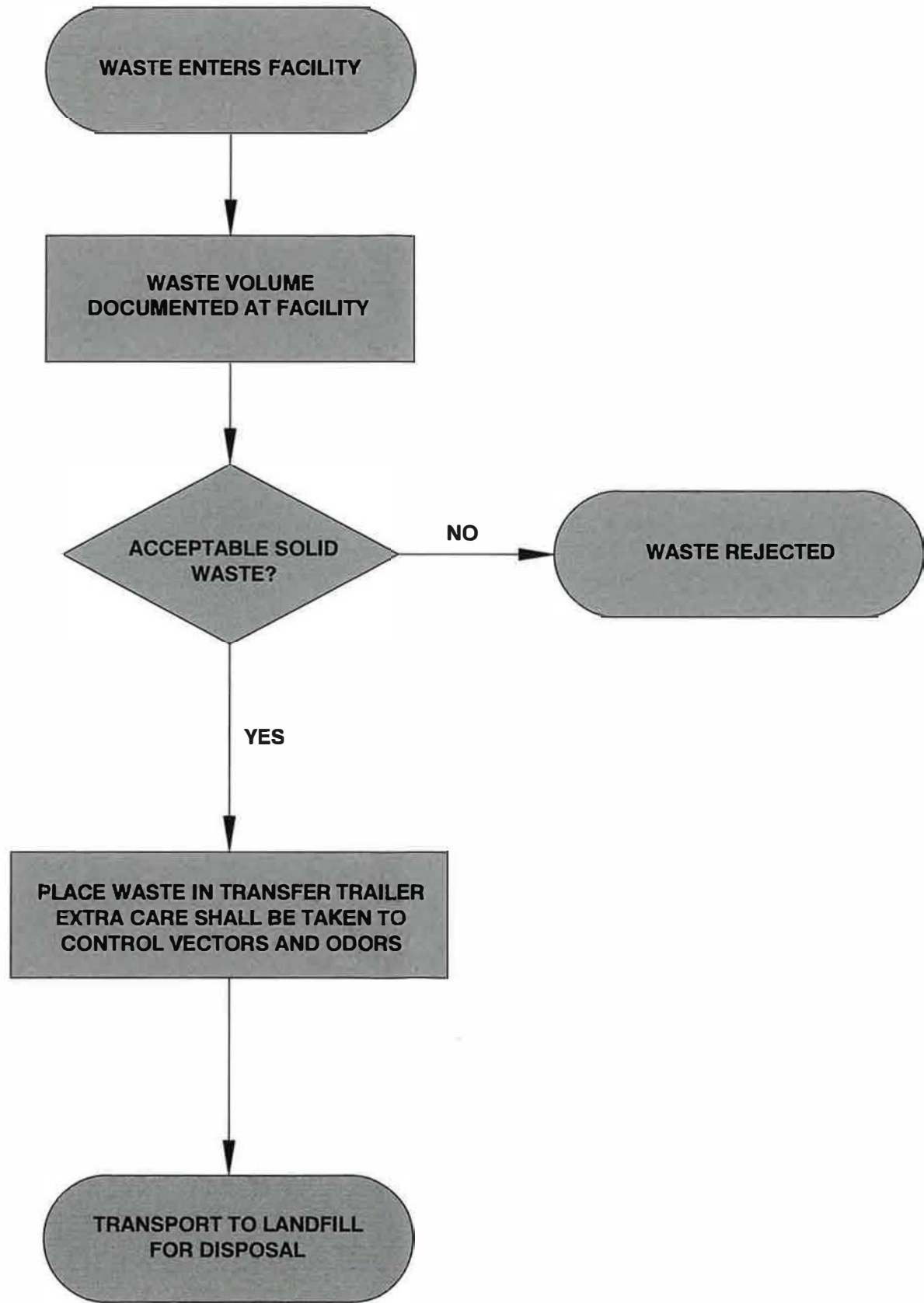
## **FIGURES**







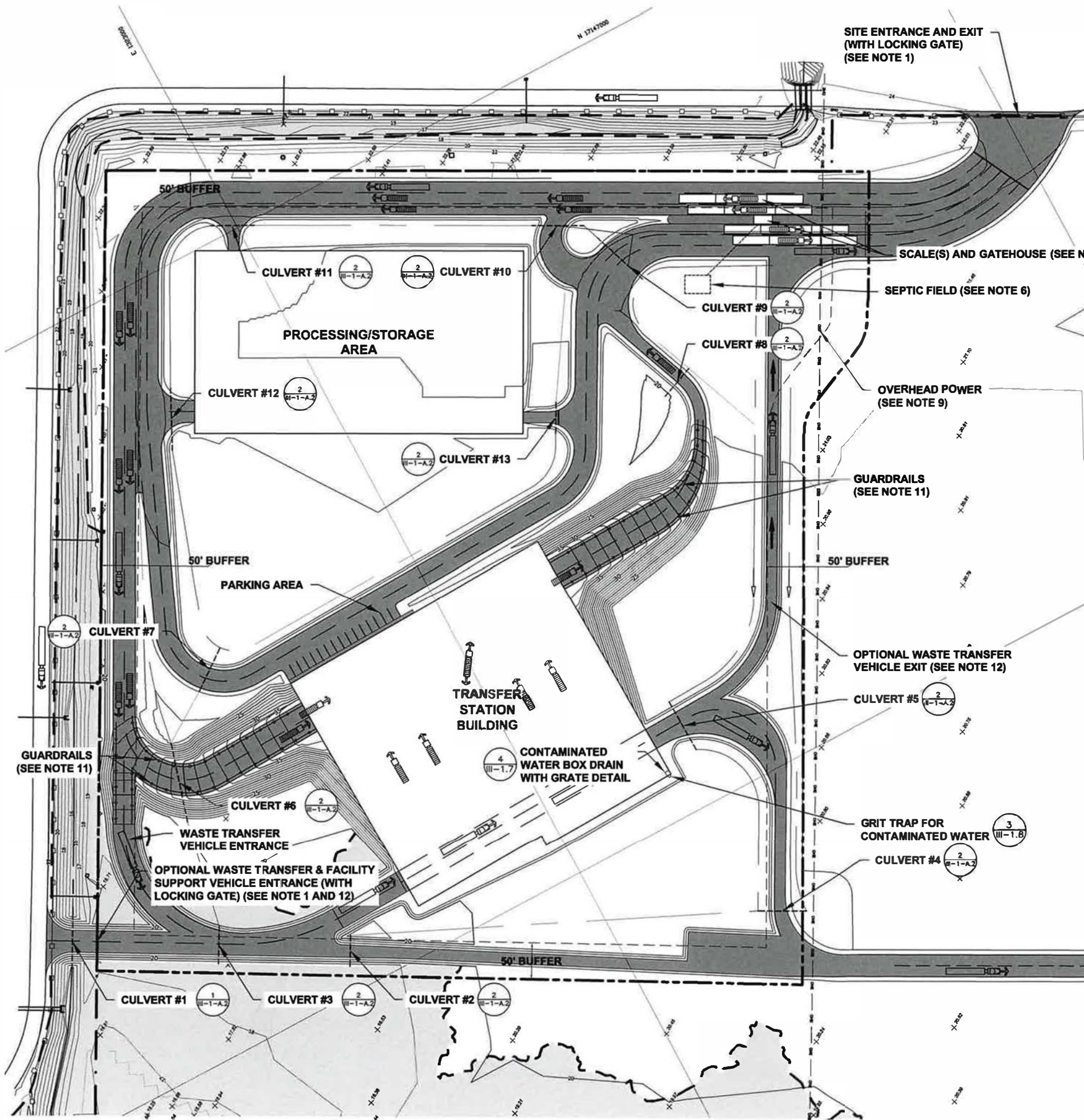
11/16/2024 7:53 AM Z:\Users\ProjectA\1021088-00\Drawings\CA0\Permit\III-Miscellaneous\III-1.2 Waste Movement Flow Chart



CADD FILE: FIGURE III-1.2 WASTE MOVEMENT FLOW CHART		FIGURE III-1.2 WASTE MOVEMENT FLOW CHART		REV. DATE		DESCRIPTION		BY	
DATE: 11/2024		SCALE: AS SHOWN		FIGURE NO. III-1.2		DRAWING TITLE WASTE MOVEMENT FLOW CHART		PROJECT TITLE TYPE V PERMIT APPLICATION	
FIGURE III-1.2		SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 12651 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077 PH (281) 253-4494 FAX NO. (281) 253-7878		CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS		CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS		TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407	



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SITE ENTRANCE AND EXIT  
(WITH LOCKING GATE)  
(SEE NOTE 1)

SCALE

0 150 300 FEET

LEGEND

- PERMIT BOUNDARY (SEE NOTE 1)
- PROPERTY BOUNDARY
- EXISTING FENCE
- GUARDRAILS
- EXISTING CONTOUR
- SPOT ELEVATION
- OVERHEAD ELECTRICAL (SEE NOTE 9)
- PROPOSED CONTOUR
- 100-YEAR FLOODPLAIN (SEE NOTE 10)
- PAVED ROADS (SEE NOTE 4)
- 50' BUFFER
- DIRECTION OF TRAFFIC FLOW
- TRANSFER TRUCK
- WASTE COLLECTION TRUCK
- TEXAS STATE PLANE COORDINATES



NOTES:

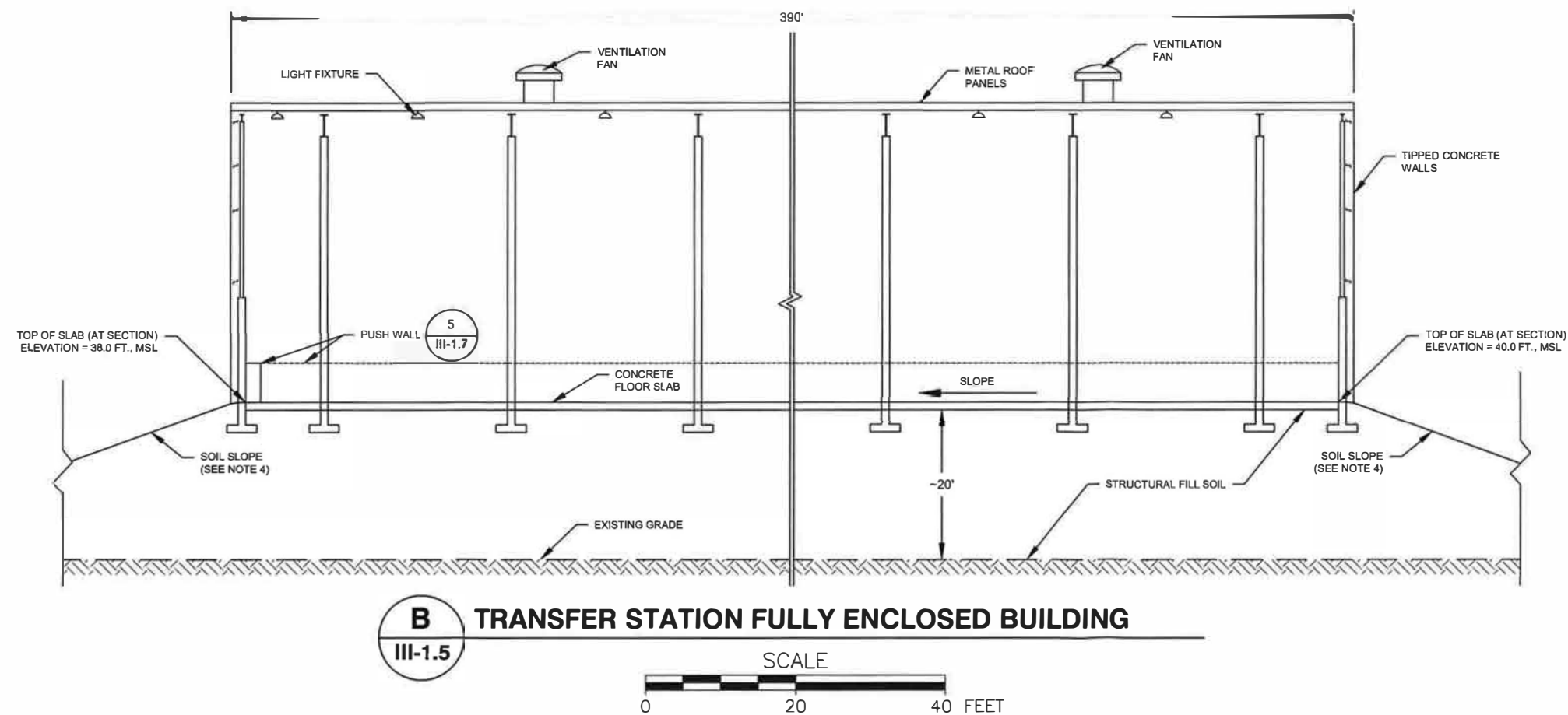
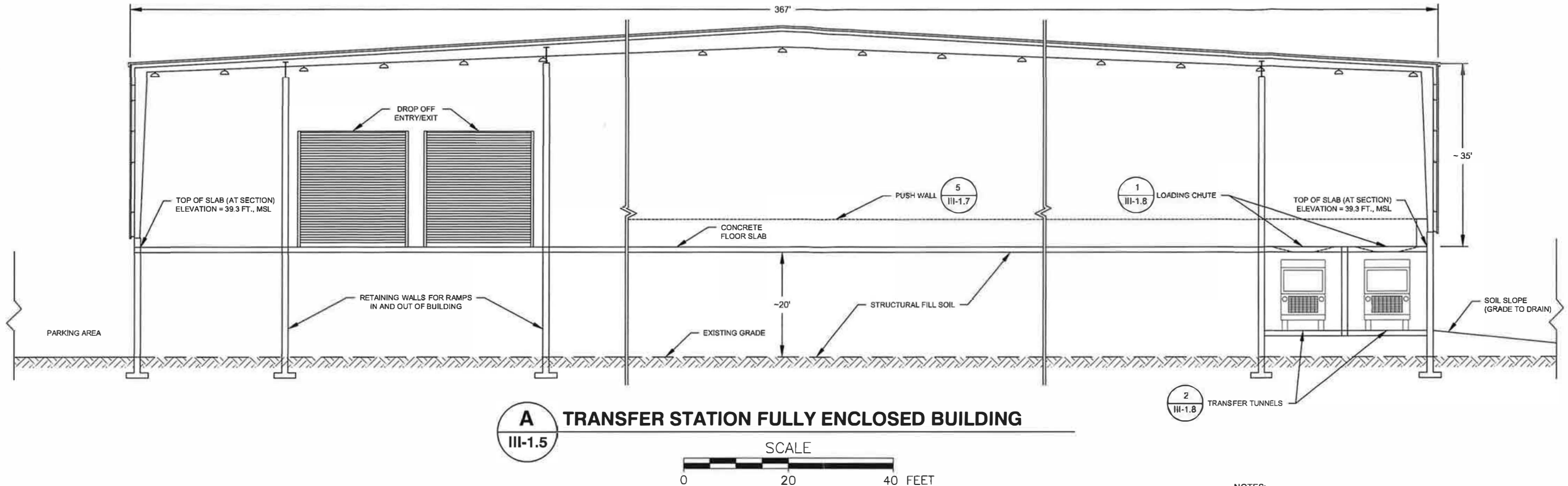
- A PERIMETER FENCE AND NATURAL BARRIERS ENCOMPASSING THE PROPERTY BOUNDARY WILL CONTROL PUBLIC ACCESS TO THE FACILITY. THE PERIMETER FENCING WILL BE CHAIN LINK OR WOOD FENCE TO PROVIDE SECURITY. GATES WILL BE PROVIDED AT ENTRANCE AND EXITS.
- THERE ARE NO KNOWN WASTE DISPOSAL ACTIVITIES OR UNITS (PAST, PRESENT, OR FUTURE) WITHIN THE PERMIT BOUNDARY.
- INTERNAL ACCESS ROADS (NOT SHOWN) SHALL BE CRUSHED STONE, GRAVEL, OR AN EQUIVALENT ALL-WEATHER SURFACE. THE INTERNAL ACCESS ROADS MAY BE RELOCATED AS SITE OPERATIONS DICTATE.
- PAVED ROADS WITHIN THE FACILITY WILL CONSIST OF EITHER:
  - AGGREGATE PAVEMENT - MINIMUM 2" COMPACTED FINES, 12" THICK AGGREGATE BASE, GEOTEXTILE, COMPACTED SUBBASE.
  - ASPHALT PAVEMENT - MINIMUM 2" THICK ASPHALT SURFACE, 12" THICK ASPHALT BASE, 4" THICK SUBGRADE COMPACTED TO 95% MODIFIED PROCTOR OR 98% STANDARD PROCTOR
  - CONCRETE PAVEMENT - 9" THICK REINFORCED CONCRETE, 6" THICK AGGREGATE BASE, 4" THICK SUBGRADE COMPACTED TO 95% MODIFIED PROCTOR OR 98% STANDARD PROCTOR
  - ALTERNATE ASPHALT, CONCRETE OR OTHER ROAD BUILDING MATERIAL AT THE FACILITY'S DISCRETION
- TOPOGRAPHIC FEATURES, AND PERMIT BOUNDARY GROUND SURVEY CONDUCTED BY HANSON PROFESSIONAL SERVICES INC, DATE AUGUST 9, 2021.
- SCALE(S), PARKING AREA, AND GATEHOUSE SIZE AND LOCATION ARE APPROXIMATE. ONE INBOUND SCALE WILL BE REQUIRED. ADDITIONAL INBOUND AND OUTBOUND SCALE ARE OPTIONAL. SEPTIC FIELD LOCATION MAY VARY AND IS OPTIONAL IF TANK OR DIRECT SANITARY SEWER LINE IS USED.
- A DIRECT TIE-IN TO A WATER SERVICE LINE WILL BE USED WITHIN THE PROPERTY.
- CONTAMINATED WATER WILL BE PUMPED DIRECTLY TO A PERMITTED WASTEWATER PLANT.
- OVERHEAD POWER SERVICE LINE AND POWER POLES MAY BE RELOCATED PRIOR TO TRANSFER STATION FACILITY CONSTRUCTION, IF NECESSARY.
- FLOODPLAIN BOUNDARIES WERE OBTAINED FROM FEMA.
- GUARDRAIL ON RAMPS LENGTH AND LOCATION MAY VARY. ADDITIONAL WASHWATER SUMPS MAY BE ADDED AS DEEMED NECESSARY BY FACILITY OPERATIONS.
- OPTIONAL WASTE TRANSFER AND FACILITY SUPPORT VEHICLE ENTRANCE AND EXIT MAY BE USED IN CONJUNCTION OR IN LIEU OF PRIMARY ENTRANCE/EXIT.

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DRAWING TITLE <b>WASTE PROCESS SCHEMATIC VIEW</b>		PROJECT TITLE <b>TYPE V PERMIT APPLICATION</b>	
CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS		SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 12831 BRIAR FOREST, SUITE 206, HOUSTON, TX 77077 PH (281) 285-9494 FAX (281) 285-7878	
DATE 11/2024	SCALE AS SHOWN	FIGURE NO. III-1.3	TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407







**NOTES:**

1. SEE PART III, ATTACHMENT 1, FIGURE III-1.6 FOR THE CONTAMINATED WATER MANAGEMENT PLAN.
2. ELEVATIONS FOR THE TIPPING FLOOR ARE APPROXIMATE AND MAY BE ADJUSTED AT THE TIME OF CONSTRUCTION.
3. BUILDING IS CONCEPTUAL ONLY. DIMENSIONS AND STRUCTURAL DETAILS MAY VARY. BUILDING IS FULLY ENCLOSED.
4. RETAINING WALL MAY BE USED IN LIEU OF SOIL BERM.



REV	DATE	DESCRIPTION
1		
2		
3		
4		
5		

DRAWING TITLE	FULLY ENCLOSED BUILDING ELEVATIONS
PROJECT TITLE	TYPE V PERMIT APPLICATION

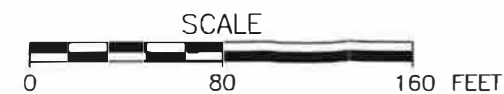
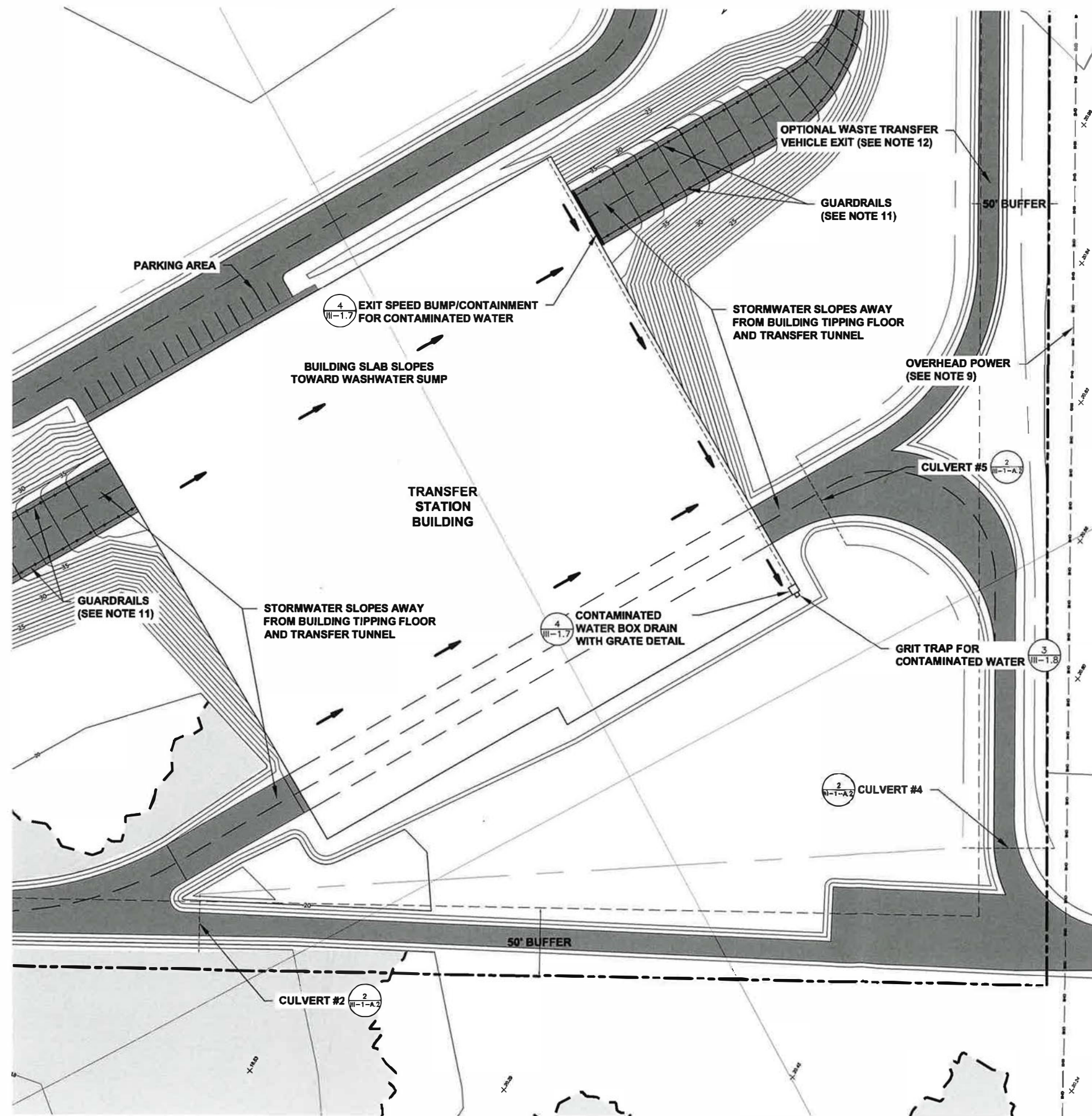
CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS
---

SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 12801 BRIAR FOREST, SUITE 200, HOUSTON, TX 77077 PH (281) 555-6644 FAX NO. (281) 555-6676
PROJ. NO. 16221088-00 DATE 11/2024 DRAWN BY RJE CHECKED BY RJE APP. BY CE INCH. BY CE














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DATE: 11/2024
SCALE: AS SHOWN
FIGURE NO. III-1.5

INTENDED FOR PERMITTING PURPOSES ONLY





### LEGEND

- |   |                                      |
|---|--------------------------------------|
|    | PERMIT BOUNDARY (SEE NOTE 1)         |
|    | PROPERTY BOUNDARY                    |
|    | EXISTING FENCE                       |
|    | GUARDRAILS                           |
|    | EXISTING CONTOUR                     |
|    | SPOT ELEVATION                       |
|    | OVERHEAD ELECTRICAL (SEE NOTE 9)     |
|    | PROPOSED CONTOUR                     |
|    | 100-YEAR FLOODPLAIN<br>(SEE NOTE 10) |
|    | PAVED ROADS<br>(SEE NOTE 4)          |
|    | 50' BUFFER                           |
|   | FLOW DIRECTION                       |
|  | TEXAS STATE PLANE<br>COORDINATES     |



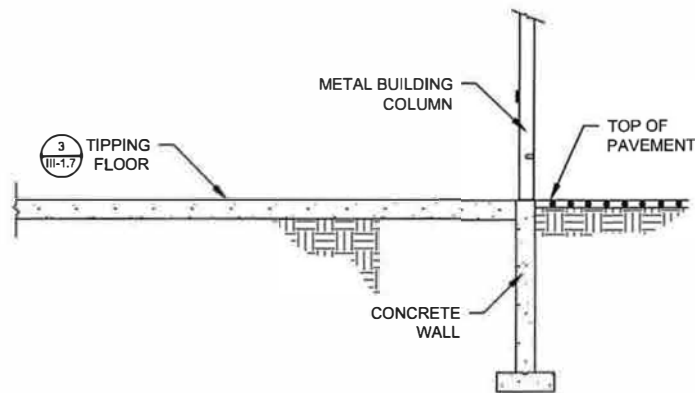
**NOTES:**

1. A PERIMETER FENCE AND NATURAL BARRIERS ENCOMPASSING THE PROPERTY BOUNDARY WILL CONTROL PUBLIC ACCESS TO THE FACILITY. THE PERIMETER FENCING WILL BE CHAIN LINK OR WOOD FENCE TO PROVIDE SECURITY. GATES WILL BE PROVIDED AT ENTRANCE AND EXITS.
2. THERE ARE NO KNOWN WASTE DISPOSAL ACTIVITIES OR UNITS (PAST, PRESENT, OR FUTURE) WITHIN THE PERMIT BOUNDARY.
3. INTERNAL ACCESS ROADS (NOT SHOWN) SHALL BE CRUSHED STONE, GRAVEL, OR AN EQUIVALENT ALL-WEATHER SURFACE. THE INTERNAL ACCESS ROADS MAY BE RELOCATED AS SITE OPERATIONS DICTATE.
4. PAVED ROADS WITHIN THE FACILITY WILL CONSIST OF EITHER:
  - AGGREGATE PAVEMENT - MINIMUM 2" COMPACTED FINES, 12" THICK AGGREGATE BASE, GEOTEXTILE, COMPACTED SUBBASE.
  - ASPHALT PAVEMENT - MINIMUM 2" THICK ASPHALT SURFACE, 12" THICK ASPHALT BASE, 4" THICK SUBGRADE COMPACTED TO 95% MODIFIED PROCTOR OR 98% STANDARD PROCTOR
  - CONCRETE PAVEMENT - 9" THICK REINFORCED CONCRETE, 6" THICK AGGREGATE BASE, 4" THICK SUBGRADE COMPACTED TO 95% MODIFIED PROCTOR OR 98% STANDARD PROCTOR
  - ALTERNATE ASPHALT, CONCRETE OR OTHER ROAD BUILDING MATERIAL AT THE FACILITY'S DISCRETION
5. TOPOGRAPHIC FEATURES, AND PERMIT BOUNDARY GROUND SURVEY CONDUCTED BY HANSON PROFESSIONAL SERVICES INC, DATE AUGUST 9, 2021.
6. SCALE(S), PARKING AREA, AND GATEHOUSE SIZE AND LOCATION ARE APPROXIMATE. ONE INBOUND SCALE WILL BE REQUIRED. ADDITIONAL INBOUND AND OUTBOUND SCALE ARE OPTIONAL. SEPTIC FIELD LOCATION MAY VARY AND IS OPTIONAL IF TANK OR DIRECT SANITARY SEWER LINE IS USED.
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9. OVERHEAD POWER SERVICE LINE AND POWER POLES MAY BE RELOCATED PRIOR TO TRANSFER STATION FACILITY CONSTRUCTION, IF NECESSARY.
10. FLOODPLAIN BOUNDARIES WERE OBTAINED FROM FEMA.
11. GUARDRAIL ON RAMPS LENGTH AND LOCATION MAY VARY. ADDITIONAL WASHWATER SUMPS MAY BE ADDED AS DEEMED NECESSARY BY FACILITY OPERATIONS.
12. OPTIONAL WASTE TRANSFER AND FACILITY SUPPORT VEHICLE ENTRANCE AND EXIT MAY BE USED IN CONJUNCTION OR IN LIEU OF PRIMARY ENTRANCE/EXIT.
13. TRENCHES, BOX DRAINS, OR AN COMBINATION OF BOTH MAY BE UTILIZED IN THE TIPPING FLOOR AREA TO COLLECT CONTAMINATED WATER.
14. THE DESIGN OF THE FACILITY WILL MANAGE RUN-ON AND RUNOFF DURING THE PEAK DISCHARGE OF A 25-YEAR RAINFALL EVENT AND WILL PREVENT THE OFF-SITE DISCHARGE OF WASTE AND FEEDSTOCK MATERIALS. SURFACE WATER DRAINAGE IN AND AROUND THE FACILITY WILL BE CONTROLLED TO MINIMIZED SURFACE WATER RUNNING ONTO AND OFF THE TREATMENT AREA.

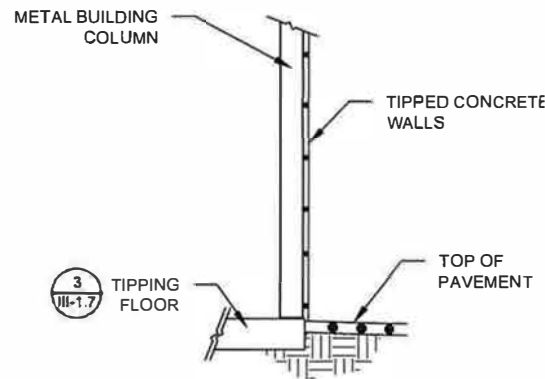
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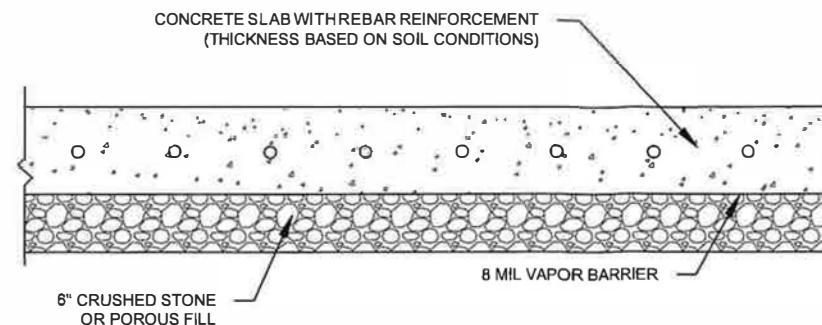




**1 FLOOR/WALL DETAIL**  
III-1.7 NOT TO SCALE



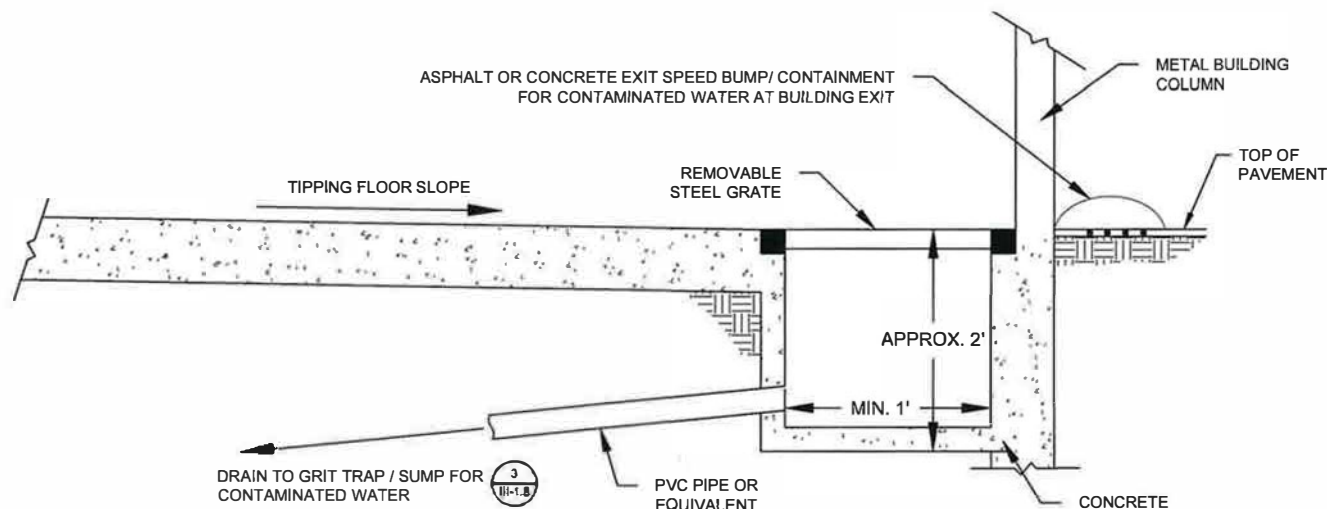
**2 WALL DETAIL**  
III-1.7 NOT TO SCALE



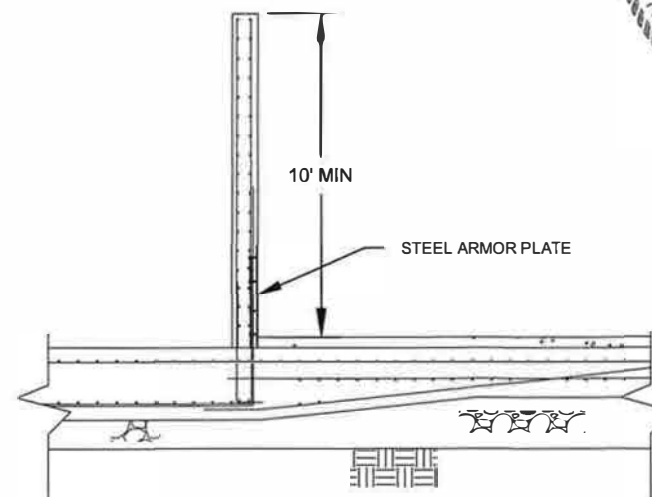
**3 TIPPING FLOOR DETAIL**  
III-1.7 NOT TO SCALE

**NOTES:**

- FLOOR/WALL DETAILS MAY VARY AT TIME OF CONSTRUCTION. BUILDING DETAILS ARE CONCEPTUAL. DIMENSION AND STRUCTURAL DETAILS MAY VARY.
- TRENCHES, BOX DRAINS, OR A COMBINATION OF BOTH MAY BE UTILIZED IN THE TIPPING FLOOR AREA TO COLLECT CONTAMINATED WATER.
- REINFORCEMENT AND THICKNESS SHALL BE DESIGNED BY STRUCTURAL ENGINEER.



**4 CONTAMINATED WATER BOX DRAIN WITH GRATE DETAIL**  
III-1.7 NOT TO SCALE



**5 PUSH WALL DETAIL**  
III-1.7 NOT TO SCALE

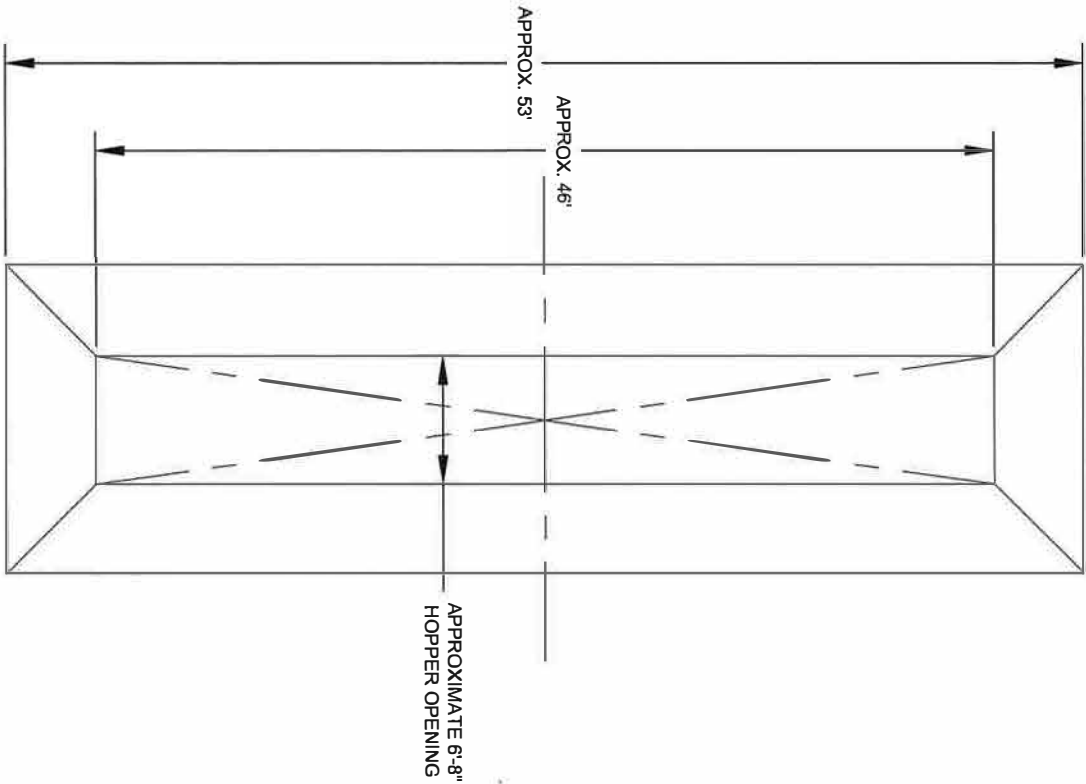
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DRAWING TITLE	GENERAL CONSTRUCTION DETAILS I
PROJECT TITLE	TYPE V PERMIT APPLICATION

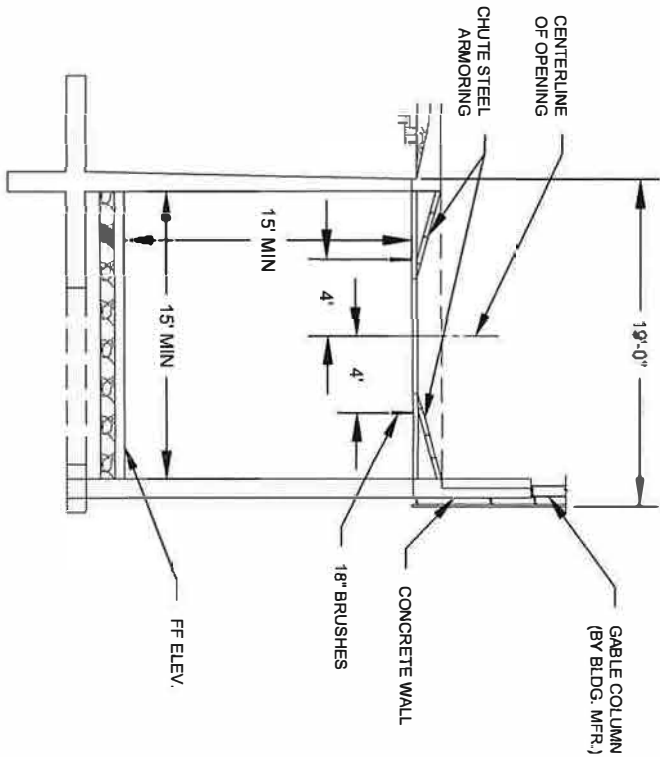
CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS
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SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 10451 BRUIER FOREST, SUITE 200, HOUSTON, TX 77077 PH (281) 293-6404 FAX (281) 293-7878	PROJ. NO. 16221088-00	DATE 11/2024	SCALE AS SHOWN	FIGURE NO. III-1.7
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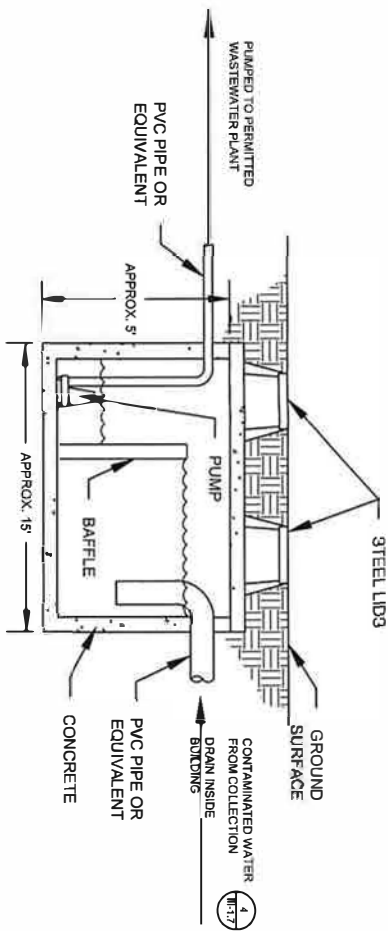
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DATE: 11/2024
SCALE: AS SHOWN
FIGURE NO. III-1.7



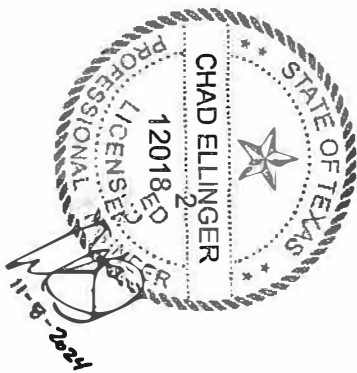
1  
LOADING CHUTE PLAN DETAIL  
III-1.8 NOT TO SCALE



2  
TUNNEL CROSS SECTION DETAIL  
III-1.8 NOT TO SCALE



3  
GRIT TRAP / SUMP FOR  
CONTAMINATED WATER DETAIL  
III-1.8 NOT TO SCALE



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TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407			

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DSN. BY: RJE	CHK. BY: CF	APP. BY: JKR

PROJ. NO. 16221088.00	DATE 11/2024
SCALE: AS SHOWN	FIGURE NO. III-1.8

SCS ENGINEERS STEARNS, CONRAD AND SCHMIDT CONSULTING ENGINEERS 12851 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077 PH (281) 293-6494 FAX NO. (281) 293-7878	CITY OF CORPUS CHRISTI J.C. ELLIOTT TRANSFER STATION CORPUS CHRISTI, NUECES COUNTY, TEXAS	DRAWING TITLE GENERAL CONSTRUCTION DETAILS II PROJECT TITLE TYPE V PERMIT APPLICATION
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## **APPENDICES**



**PART III – ATTACHMENT 1 – APPENDIX A**

**SURFACE WATER DRAINAGE PLAN  
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  
Houston, TX 77077  
(281) 293-8494**

**November 2024  
Revision 1 – December 2024**

III-1-A



PART III – ATTACHMENT 1 – APPENDIX A

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

TABLE OF CONTENTS

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2.0 HYDROLOGIC AND HYDRAULIC ANALYSIS .....3

APPENDICES

Appendix III-1-A-1      Drainage Calculations

FIGURES

Figure III-1-A.1      Drainage Plan  
Figure III-1-A.2      Off-site Drainage Area Map  
Figure III-1-A.3      Drainage Details



SCS Engineers  
TBPE Reg. # F-3407

## 1.0 INTRODUCTION

This Surface Water Drainage Plan was prepared as a part of this Type V permit application for the J.C. Elliott Transfer Station. The surface water drainage design presented in this appendix was prepared consistent with 30 TAC §330.63(c) and §330.303. The facility is not a landfill or compost unit; therefore, a surface water drainage report to satisfy the requirements of 30 TAC, Subchapter G, and 30 TAC §330.63(c)(1) and §330.63(c)(2) is not required.

Drawings provided in this appendix depict the facility layout and drainage plans for the J.C. Elliott Transfer Station. The permit boundary of the J.C. Elliott Transfer Station facility is approximately 24.95 acres. The J.C. Elliott Transfer Station is located on undeveloped farmland consisting of flat land generally sheet flows towards the southwest and directly into Oso Creek. The transfer station facility only takes off-site water from a 1.98-acre unimproved area with black soil with 0 to 3 percent slopes to the east side of the facility.

A perimeter ditch for the adjacent closed J.C. Elliott landfill conveys water from off-site areas to the north and west of the transfer station around the north and west of the transfer station outside of the permit boundary and inside the closed landfill permit boundary. A box culvert will be installed in the perimeter channel to provide optional ingress access for the transfer station transfer trucks. This Culvert is labelled as Culvert 1 and consists of three six-foot by six-foot box culverts with wingwalls.

The J.C. Elliott Transfer Station facility will be constructed, maintained, and operated to manage stormwater run-on and runoff during the peak discharge of a 25-year rainfall event and prevents the discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials.

Surface water drainage in and around the facility is controlled to minimize surface water running onto, into, and off the treatment area. The J.C. Elliott Transfer Station, facility roads, scalehouse and scale(s) will be constructed on elevated fill material. Water falling outside the elevated fill material will be directed around the waste facility, away from the waste facility, or to on-site culverts. The J.C. Elliott Transfer Station will include a roofed building. All waste handling procedures will be conducted within the roofed building. Rainwater that falls onto the roofed building, facility roads, scalehouse and scales will be graded to flow off the site. All stormwater that flows off the J.C. Elliott Transfer Station facility is not contaminated water. Contaminated water will not flow off the J.C. Elliott Transfer Station facility.

The J.C. Elliott Transfer Station is being developed as part of a City of Corpus Christi master planned Solid Waste Facility Complex. The drainage within and through the transfer station's permit boundary is coordinated with the drainage planning for the master planned development. Calculations for this application have been prepared to show the transfer station facility's permit is in compliance with applicable TCEQ regulations.

The property adjacent to the east side of the J.C. Elliott Transfer Station is currently conceptually planned for other solid waste facilities, including administrative buildings, car and waste truck and other vehicle parking, and a large vehicle wash station. Stormwater flows off this property will be discharged onto and through the transfer permit area and into a planned stormwater detention pond adjacent to the south side of the transfer station facility. The stormwater detention pond is for the overall Master Planned development and it is not necessary for the transfer station permit to be compliant with the relevant TCEQ regulations. Hydrologic and hydraulic calculations have been provided assuming that the conceptual development is constructed as currently planned and is not developed at all. The developed as currently planned condition is the conservative, worst-case scenario.

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The J.C. Elliott Transfer Station discharges water at five locations. Three of the locations are sheet flow to the property line. These include SF-1 to the northern permit boundary, SF-2 to the western permit boundary and SF-3 to the southern permit boundary. There are two point source discharge locations, Discharge Study Points A and B. Both of these discharge study points discharge to the southern permit boundary into a topographic low that drains to the southeast and Oso Creek.

The hydrologic and hydraulic analysis methods used for calculating the rainfall intensity and peak flow rates are described in the following section of this appendix.

The proposed facility and boundary of the J.C. Elliott Transfer Station is presented on Figures III-1-A.1, Drainage Plan.

The J.C. Elliott Transfer Station facility is located predominantly outside of the FEMA 100-year floodplain and floodway. Most of the facility is located in the Flood Zone X (other flood areas, areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood). Approximately 2.4 acres in the southwest corner of the facility are located in Flood Zone AE (special flood hazard areas subject to inundation by the 1% annual chance flood). The 100-year flood elevations on the site range from elevation 20.0 to 20.2. This is shown in Part I/II, Figure I/II-15, Floodplain Map. The J.C. Elliott Transfer Station facility is located outside of the FEMA 100-year regulatory floodway.



## 2.0 HYDROLOGIC AND HYDRAULIC ANALYSIS

The rational method was utilized to compute the peak 25 year flowrates for the design of all on-site channels and culverts as all these items had maximum drainage areas of less than 200 acres. The peak flowrates were calculated using the TxDOT criteria, TxDOT Hydraulic Design Manual, September 2019.

The rational method equation is expressed as:

$$Q = C \cdot I \cdot A$$

where:

Q = Flowrate in cubic feet per second (cfs),

C = Run-off coefficient,

I = Rainfall intensity in inches per hour, and

A = Drainage area in acres.

The run-off coefficients (C) from the TxDOT criteria were selected based on the type of drainage area as follows:

- Unimproved areas, black or loessial soil, 0 – 3% = 0.2
- Lawns, heavy soil, flat 2% = 0.17
- Streets, asphaltic = 0.95
- Streets, concrete = 0.95
- Roofs = 0.95
- Landfill = 0.85

The rainfall intensity (I) from the TxDOT criteria is computed using the following equation:

$$I = b / (t_c + d)^e$$

where, for Nueces County (taken from TxDOT's ebdlkup-2019-vc6.2.10.xlsm):

### 25-Year Storm Event

$$e = 0.7633$$

$$b = 98.0172$$

$$d = 12.2672$$

The time of concentration ( $t_c$ ), in minutes, was computed by determining the time required for run-off to flow from the most hydraulically remote point in the watershed to the study point and was estimated using TxDOT Hydraulic Design Manual, September 2019, equations for sheet flow and shallow concentrated flow and by estimating hydraulic characteristics of open channel flow. A minimum time of concentration of 10 minutes was utilized.

The Time of Concentration is computed using the following formula:

$$T_c = T_c(\text{sheet flow}) + T_c(\text{shallow channel}) + T_c(\text{channel})$$

where:

$T_c$  = Time of Concentration, minutes;

$T_c$  (sheet flow) = Time of Concentration for Sheet Flow, minutes;

$$T_c \text{ (sheet flow)} = [0.007(N_{ol}L_{sh})^{0.8}]/[(P_2)^{0.5}S_{sh}^{0.4}] \times 60 \text{ min./hr., where:}$$

$N_{ol}$  = overland flow roughness coefficient;

- grass, short prairie = 0.15
- grass, Bermuda = 0.41
- smooth surfaces, concrete, asphalt, gravel or bare soil = 0.011

$L_{sh}$  = sheet flow length, feet, 100 feet maximum.

$P_2$  = 2-year, 24-hour rainfall depth, inches, provided in NOAA's Precipitation Frequency Data Server for Atlas 14; 4.52 inches.

$S_{sh}$  = sheet flow slope, feet/foot.

$T_c$  (shallow channel) = Time of Concentration for Shallow Channel Flow, minutes;

$$T_c \text{ (shallow channel)} = L_{sc}/(3600KS_{sc}^{0.5}) \times 60 \text{ min./hr., where:}$$

$L_{sc}$  = shallow concentrated flow length, feet.

$K$  = 16.13 for unpaved surfaces, 20.32 for paved surfaces.

$S_{sc}$  = shallow concentrated flow slope, feet/foot.

$T_c$  (channel) = Time of Concentration for Channel Flow, minutes

$$T_c \text{ (channel)} = (L/V) \times 60 \text{ sec./min., where:}$$

$L$  = length of channel, feet; and

$V$  = estimated flow velocity of channel using Manning's equation, feet per second.

Thirteen culverts have been incorporated into the facility design. The culverts have been designed with the Culvert Studio computer program by Hydrology Studio, Version 2.0.0.29. The Culvert Studio program analyzes culverts using the methods and equations described in the Federal Highway Administration report "Hydraulic Design of Highway Culverts" (FHWA, 1985).

Culvert locations are shown on Figure III-1-A.1. Culverts' inlets and the outlets are mitered at a 3:1 horizontal to vertical slope. The culverts were designed with either concrete box culverts or reinforced concrete pipe (RCP). The flow velocity at the culvert discharges were at or below 5.0 feet per second and considered non-erosive velocities.

A Manning's Roughness Coefficient of 0.013 was utilized for normal depth computations for concrete box culverts and RCP.

Culvert locations are shown on Figure III-1-A.1. Culvert details and typical cross sections are shown on Figure III-1-A.3. Calculations of the culverts are included in Appendix III-1-A-1.

FOR PERMITTING PURPOSES ONLY

**APPENDIX III-1-A-1  
DRAINAGE CALCULATIONS**



*Include sheets III-1-A-1.1  
Through III-1-A-1.63  
SCS Engineers  
TBPE Reg. # F-3407*

## Post-Development Weighted Runoff Coefficients

J. C. ELLIOTT TRANSFER STATION  
 NUECES COUNTY, TEXAS  
 PROJECT NO.: 16221088.00

Date:	7/26/2024
By:	JRM
Chkd:	RJE
Apprvd:	JKR

### Area Weighted C Value: POST-DEVELOPMENT HYDROLOGIC PARAMETERS

Unimproved areas, black or loessial soil, 0 - 3%	0.20
Lawns, heavy soil, flat 2%	0.17
Streets, roofs	0.95
Landfill	0.85

Subbasin ID	Unimproved Area (sf)	Lawn (sf)	Street, Roof (sf)	Landfill (sf)	C Weighted	Total Area (Ac)
1	0	10,370	40160	0	0.79	1.16
2	0	12,763	14680	0	0.59	0.63
3	0	19,535	9650	0	0.43	0.67
4	0	6,000	9246	0	0.64	0.35
5	0	20,750	49817	0	0.72	1.62
6	0	4,200	3641	0	0.53	0.18
7	0	36,283	53015	0	0.63	2.05
8	0	97231	31907	0	0.36	2.96
9	0	95700	98578	0	0.57	4.46
10	0	7000	12602	0	0.67	0.45
11	0	14040	13838	0	0.56	0.64
12	0	121200	103134	0	0.53	5.15
13	0	24813	20925	0	0.53	1.05
14	0	81040	13050	0	0.28	2.16
15		40755	63589	0	0.65	2.40
Off-site East Existing Land Use	86,360	0	0	0	0.20	1.98
Off-site East Conceptual Land Use	0	364,162	470448	0	0.61	19.16
Off-site Perimeter Ditch	3,113,316	0	0	5468440	0.61	197.01
<b>Subbasin ID</b>	<b>C Weighted</b>					
4, 5	0.71					
4, 5, 6	0.69					
4, 5, 6, 7, 8	0.54					
4, 5, 6, 7, 8, 9, 15, East	0.59					
10, 11, 12	0.54					
10, 11, 12, 13	0.54					
10, 11, 12, 13, 14	0.48					



# 25-Year Post-Development Rational Method Calculations

J. C. ELLIOTT TRANSFER STATION  
CITY OF CORPUS CHRISTI, NUECES COUNTY, TEXAS  
PROJECT NO.: 16221088.00

Commanche

2-yr, 24-hr storm depth = 4.52 (in), source: IAC 11

Discharge Study Item			Subbasin		Time of Concentration (Rel. A)						4% (25-YEAR)		
					Flow Type	Length	Slope	Surface Condition <sup>1</sup>	Manning's n	Runoff Velocity	Travel Time	Area Weighted <sup>2</sup>	Runoff Intensity
			ID	Area									
			(acres)		(ft)	(ft/ft)			(ft/s)	(min)	"C"	(in/hr)	(ft <sup>3</sup> /s)
SF 1	1 (Sheet Flow Off-Site to the North)	1.16	SF	60	0.0200	A	0.011	1.48	0.7	0.79	9.18	8.4	
			SCF	0	0.0000	U	---	0.00	0.0				
			CF	0	0.0000	GL	0.000	0.00	0.0				
			Time of Concentration <sup>3</sup> , S =						10.0				
SF 2	2 (Sheet Flow Off-Site to the West)	0.63	SF	70	0.0200	A	0.011	1.52	0.8	0.59	9.18	3.4	
			SCF	0	0.0000	U	---	0.00	0.0				
			CF	0	0.0000	GL	0.000	2.00	0.0				
			Time of Concentration <sup>3</sup> , S =						10.0				
SF 3	3 (Sheet Flow Off-Site to the South)	0.67	SF	30	0.0200	A	0.011	1.28	0.4	0.43	9.18	2.6	
			SCF	0	0.0000	U	---	0.00	0.0				
			CF	0	0.0000	GL	0.000	0.00	0.0				
			Time of Concentration <sup>3</sup> , S =						10.0				
	4 (Culvert 11)	0.35	SF	90	0.0200	A	0.011	1.60	0.9	0.64	9.18	2.1	
			SCF	20	0.0000	U	---	2.28	0.1				
			CF	20	0.0100	GL	0.030	2.00	0.2				
			Time of Concentration <sup>3</sup> , S =						10.0				
	4, 5 (Culvert 10)	1.97	SF	100	0.0200	A	0.011	1.63	1.0	0.71	9.18	12.8	
			SCF	30	0.0000	U	---	2.28	0.2				
			CF	400	0.0100	GL	0.030	2.00	3.3				
			Time of Concentration <sup>3</sup> , S =						10.0				
	4, 5, 6 (Culvert 9)	2.15	SF	100	0.0200	A	0.011	1.63	1.0	0.69	9.18	13.7	
			SCF	30	0.0000	U	---	2.28	0.2				
			CF	500	0.0100	GL	0.030	2.00	4.2				
			Time of Concentration <sup>3</sup> , S =						10.0				
	7 (Culvert 8)	2.05	SF	100	0.0400	A	0.011	2.16	0.8	0.63	9.18	11.9	
			SCF	200	0.0200	U	---	2.28	1.5				
			CF	300	0.0100	GL	0.030	2.00	2.5				
			Time of Concentration <sup>3</sup> , S =						10.0				
	4, 5, 6, 7, 8 (Culvert 5)	7.16	SF	100	0.0200	A	0.011	1.63	1.0	0.54	8.96	34.6	
			SCF	30	0.0200	U	---	2.28	0.2				
			CF	1130	0.0100	GL	0.030	2.00	9.4				
			Time of Concentration <sup>3</sup> , S =						10.0				
A	4, 5, 6, 7, 8, 9, 15, Off-Site East Conceptual Land Use (Culvert 2)	33.18	SF	100	0.0100	G	0.410	0.07	24.3	0.59	4.86	95.3	
			SCF	750	0.0030	P	---	1.11	11.2				
			CF	1630	0.0030	CONL	0.013	8.00	2.4				
			Time of Concentration <sup>3</sup> , S =						38.9				
	10 (Culvert 12)	0.45	SF	20	0.0200	A	0.011	1.52	0.8	0.67	9.18	2.8	
			SCF	30	0.0000	U	---	2.28	0.2				
			CF	100	0.0100	GL	0.030	2.00	0.8				
			Time of Concentration <sup>3</sup> , S =						10.0				
	11 (Culvert 13)	0.64	SF	60	0.0200	A	0.011	1.48	0.7	0.56	9.18	3.3	
			SCF	50	0.0200	U	---	2.28	0.4				
			CF	150	0.0100	GL	0.030	2.00	1.3				
			Time of Concentration <sup>3</sup> , S =						10.0				
	10, 11, 12 (Culvert 7)	6.24	SF	100	0.0200	A	0.011	1.63	1.0	0.54	9.18	31.0	
			SCF	70	0.0200	U	---	2.28	0.5				
			CF	500	0.0100	GL	0.030	2.00	4.2				
			Time of Concentration <sup>3</sup> , S =						10.0				
	10, 11, 12, 13 (Culvert 6)	7.29	SF	100	0.0200	A	0.011	1.63	1.0	0.54	9.18	36.1	
			SCF	70	0.0200	U	---	2.28	0.5				
			CF	650	0.0100	GL	0.030	2.00	5.8				
			Time of Concentration <sup>3</sup> , S =						10.0				
B	10, 11, 12, 13, 14 (Culvert 3)	9.45	SF	180	0.0200	A	0.011	1.63	1.0	0.48	9.18	41.6	
			SCF	70	0.0200	U	---	2.28	0.5				
			CF	960	0.0100	GL	0.030	2.00	7.3				
			Time of Concentration <sup>3</sup> , S =						10.0				
	Off-site East Existing Land Use (Culvert 4, not used for design)	1.98	SF	100	0.0010	E	0.150	0.06	27.3	0.20	5.51	2.2	
			SCF	120	0.0010	IF	---	0.51	3.9				
			CF	0	0.0000	GL	0.030	2.00	0.0				
			Time of Concentration <sup>3</sup> , S =						31.2				
	Off-site East Conceptual Land Use (Culvert 4, used for design)	19.16	SF	108	0.0100	G	0.410	0.07	24.3	0.61	4.95	57.8	
			SCF	750	0.0030	P	---	1.11	11.2				
			CF	1050	0.0030	CONL	0.013	8.00	2.4				
			Time of Concentration <sup>3</sup> , S =						37.7				
	Perimeter Ditch (Culvert 1)	197.01	SF	100	0.0100	E	0.150	0.15	10.0	0.61	3.19	386.0	
			SCF	2500	0.0100	U	---	1.61	25.8				
			CF	7200	0.0013	GL	0.030	3.00	46.0				
			Time of Concentration <sup>3</sup> , S =						76.7				

1) Surface Condition: A = sheet flow, smooth surface, paved; E = sheet flow, short grass, gravel; G = sheet flow, Bermuda grass; P = shallow concentrated flow, paved; U = shallow concentrated flow, unpaved; and GL = channel flow, grass-lined.

2) Rational method coefficients taken from Ref. A for "unimproved areas: Black or loessial soil, 0-3% slopes and >5% slopes.

3) Times of concentration less than 10 minutes were taken as  $T_c = 10.0$  min - see 30 TAC 330.55(b)(5)(4).

4) Flow Types: SF = Sheet Flow, SCF = Shallow Concentrated Flow, CF = Channel Flow, and PF = Pond Flow.

References:

A: Texas Department of Transportation (TxDOT), 2019, Hydraulic Design Manual, September 2019.

B: TR-55, June 1986, Urban Hydrology for Small Watersheds: Department of Commerce for U.S. Soil Conservation Service.

III-J-A-1.3

# Hydraulic Design Manual



Revised September 2019

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## Section 11 — Time of Concentration

Time of concentration ( $t_c$ ) is the time required for an entire watershed to contribute to runoff at the point of interest for hydraulic design; this time is calculated as the time for runoff to flow from the most hydraulically remote point of the drainage area to the point under investigation. Travel time and  $t_c$  are functions of length and velocity for a particular watercourse. A long but steep flow path with a high velocity may actually have a shorter travel time than a short but relatively flat flow path. There may be multiple paths to consider in determining the longest travel time. The designer must identify the flow path along which the longest travel time is likely to occur.

In watersheds with low (flat) topographic slope, the calculation of  $t_c$  using commonly accepted equations with slope in the denominator often results in unreasonably large values. That is, as the slope approaches zero, the travel time approaches infinity. In addition, since intensity is a function of depth divided by  $t_c$ , a long  $t_c$  produces a very small intensity and thus small flowrate. Cleveland et al. 2012 recommends an adjustment of 0.0005 to the slope in both the Kerby and Kirpich methods to allow more realistic results for low topographic slope watersheds.

- ◆ The adjusted slope becomes  $S_{\text{low slope}} = S_0 + 0.0005$  (dimensionless)
- ◆ If the slope is less than 0.002 ft/ft (0.2%), a low slope condition exists and the adjusted slope should be used.
- ◆ If the slope is between 0.002 ft/ft (0.2%) and 0.003 ft/ft (0.3%), the situation is transitional and the user must use judgment on whether or not to use the low slope adjustment.

When runoff is computed using the [rational method](#),  $t_c$  is the appropriate storm duration and in turn determines the appropriate precipitation intensity.

When peak discharge and streamflow timing are computed using the [hydrograph method](#),  $t_c$  is used to compute certain rainfall-runoff parameters for the watershed. The value of  $t_c$  is used as an input to define the appropriate storm duration and appropriate precipitation depth.

When applicable, the [Kerby-Kirpich method](#) (Roussel et al. 2005) can be used for estimating  $t_c$ . [The National Resources Conservation Service \(1986\) method](#) is also commonly used and acceptable. Both of these methods estimate  $t_c$  as the sum of travel times for discrete flow regimes. One good practice is to run both methods concurrently and compare results. Another good practice is to compare  $t_c$  values against either watershed length or area for multiple basins across each project to assess reasonableness of results.

### Kerby-Kirpich Method

Roussel et al. 2005 conclude that, in general, Kirpich-inclusive approaches, [and particularly] the Kerby-Kirpich approach, for estimating watershed time of concentration are preferable. The

Kerby-Kirpich approach requires comparatively few input parameters, is straightforward to apply, and produces readily interpretable results. The Kerby-Kirpich approach produces time of concentration estimates consistent with watershed time values independently derived from real-world storms and runoff hydrographs. Similar to other methods for calculation of  $t_c$ , the total time of concentration is obtained by adding the overland flow time (Kerby) and the channel flow time (Kirpich):

$$t_c = t_{ov} + t_{ch}$$

Equation 4-13.

Where:

$t_{ov}$  = overland flow time

$t_{ch}$  = channel flow time

The Kerby-Kirpich method for estimating  $t_c$  is applicable to watersheds ranging from 0.25 square miles to 150 square miles, main channel lengths between 1 and 50 miles, and main channel slopes between 0.002 and 0.02 (ft/ft) (Roussel et al. 2005).

Main channel slope is computed as the change in elevation from the watershed divide to the watershed outlet divided by the curvilinear distance of the main channel (primary flow path) between the watershed divide and the outlet.

No watersheds with low topographic slopes are available in the underlying database. Therefore, the Kerby and Kirpich methods are not usually applicable to watersheds with limited topographic slope. However, Cleveland et al. 2012 makes recommendations for adjustments to the method to allow more realistic results for low topographic slope watersheds. See Time of Concentration.

### The Kerby Method

For small watersheds where overland flow is an important component of overall travel time, the Kerby method can be used. The Kerby equation is

$$t_{ov} = K(L \times N)^{0.467} S^{-0.235}$$

Equation 4-14.

Where:

$t_{ov}$  = overland flow time of concentration, in minutes

$K$  = a units conversion coefficient, in which  $K = 0.828$  for traditional units and  $K = 1.44$  for SI units

$L$  = the overland-flow length, in feet or meters as dictated by  $K$

$N$  = a dimensionless retardance coefficient



$S$  = the dimensionless slope of terrain conveying the overland flow

In the development of the Kerby equation, the length of overland flow was as much as 1,200 feet (366 meters). Hence, this length is considered an upper limit and shorter values in practice generally are expected. The dimensionless retardance coefficient used is similar in concept to the well-known [Manning's roughness coefficient](#); however, for a given type of surface, the retardance coefficient for overland flow will be considerably larger than for open-channel flow. Typical values for the retardance coefficient are listed in Table 4-5. Roussel et al. 2005 recommends that the user should not interpolate the retardance coefficients in Table 4-5. If it is determined that a low slope condition or a transitional slope condition exists, the user should consider using an adjusted slope in calculating the time of concentration. See Time of Concentration.

**Table 4-5: Kerby Equation Retardance Coefficient Values**

Generalized terrain description	Dimensionless retardance coefficient (N)
Pavement	0.02
Smooth, bare, packed soil	0.10
Poor grass, cultivated row crops, or moderately rough packed surfaces	0.20
Pasture, average grass	0.40
Deciduous forest	0.60
Dense grass, coniferous forest, or deciduous forest with deep litter	0.80

### The Kirpich Method

For channel-flow component of runoff, the Kirpich equation is:

$$t_{ch} = KL^{0.770}S^{-0.385}$$

*Equation 4-15.*

**Where:**

$t_{ch}$  = the time of concentration, in minutes

$K$  = a units conversion coefficient, in which  $K = 0.0078$  for traditional units and  $K = 0.0195$  for SI units

$L$  = the channel flow length, in feet or meters as dictated by  $K$

$S$  = the dimensionless main-channel slope

If it is determined that a low slope condition or a transitional slope condition exists, the user should consider using an adjusted slope in calculating the time of concentration. See Time of Concentration.

### Application of the Kerby-Kirpich Method

An example (shown below) illustrating application of the Kerby-Kirpich method is informative. For example, suppose a hydraulic design is needed to convey runoff from a small watershed with a drainage area of 0.5 square miles. On the basis of field examination and topographic maps, the length of the main channel from the watershed outlet (the design point) to the watershed divide is 5,280 feet. Elevation of the watershed at the outlet is 700 feet. From a topographic map, elevation along the main channel at the watershed divide is estimated to be 750 feet. The analyst assumes that overland flow will have an appreciable contribution to the time of concentration for the watershed. The analyst estimates that the length of overland flow is about 500 feet and that the slope for the overland-flow component is 2 percent ( $S = 0.02$ ). The area representing overland flow is average grass ( $N = 0.40$ ). For the overland-flow  $t_{ov}$ , the analyst applies the Kerby equation,

$$t_{ov} = 0.828(500 \times 0.40)^{0.467}(0.02)^{-0.235}$$

from which  $t_{ov}$  is about 25 minutes. For the channel  $t_{ch}$ , the analyst applies the Kirpich equation, but first dimensionless main-channel slope is required,

$$S = \frac{750 - 700}{5,280} = 0.0095$$

or about 1 percent. The value for slope and the channel length are used in the Kirpich equation,

$$t_{ch} = 0.0078(5,280 - 500)^{0.770}(0.0095)^{-0.385}$$

from which  $t_{ch}$  is about 32 minutes. Because the overland flow  $t_{ov}$  is used for this watershed, the subtraction of the overland flow length from the overall main-channel length (watershed divide to outlet) is necessary and reflected in the calculation. Adding the overland flow and channel flow components gives total time of concentration for a watershed of about 57 minutes. Finally, as a quick check, the analyst can evaluate the  $t_c$  by using an ad hoc method representing  $t_c$ , in hours, as the square root of drainage area, in square miles. For the example, the square root of the drainage area yields a  $t_c$  estimate of about 0.71 hours or about 42 minutes, which is reasonably close to 57 minutes. However, 57 minutes is preferable. This example is shown in Figure 4-7.

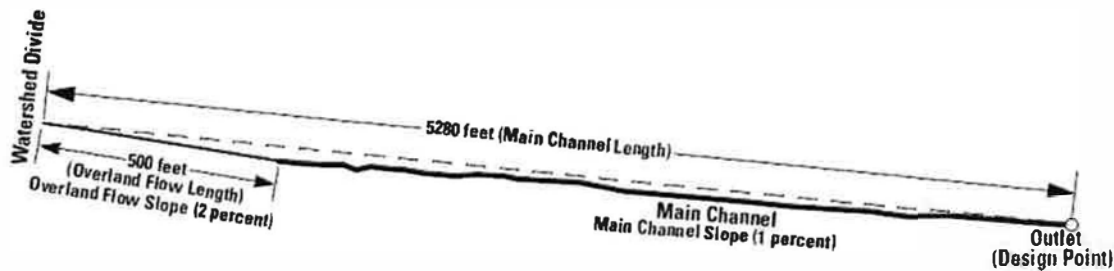


Figure 4-7. Example application of Kerby-Kirpich method

### Natural Resources Conservation Service (NRCS) Method for Estimating $t_c$

The [NRCS](#) method for estimating  $t_c$  is applicable for small watersheds, in which the majority of flow is overland flow such that timing of the peak flow is not significantly affected by the contribution flow routed through underground storm drain systems. With the NRCS method:

$$t_c = t_{sh} + t_{sc} + t_{ch}$$

Equation 4-16.

Where:

$t_{sh}$  = sheet flow travel time

$t_{sc}$  = shallow concentrated flow travel time

$t_{ch}$  = channel flow travel time

NRCS 1986 provides the following descriptions of these flow components:

Sheet flow is flow over plane surfaces, usually occurring in the headwater of streams. With sheet flow, the friction value is an effective roughness coefficient that includes the effect of raindrop impact; drag over the plane surface; obstacles such as litter, crop ridges, and rocks; and erosion and transportation of sediment.

Sheet flow usually becomes shallow concentrated flow after around 100 feet.

Open channels are assumed to begin where surveyed cross section information has been obtained, where channels are visible on aerial photographs, or where blue lines (indicating streams) appear on [USGS](#) quadrangle sheets.

For open channel flow, consider the uniform flow velocity based on bank-full flow conditions. That is, the main channel is flowing full without flow in the overbanks. This assumption avoids the significant iteration associated with rainfall intensity or discharges (because rainfall intensity and discharge are dependent on time of concentration).

For conduit flow, in a proposed storm drain system, compute the velocity at uniform depth based on the computed discharge at the upstream. Otherwise, if the conduit is in existence, determine full capacity flow in the conduit, and determine the velocity at capacity flow. You may need to compare this velocity later with the velocity calculated during conduit analysis. If there is a significant difference and the conduit is a relatively large component of the total travel path, recompute the time of concentration using the latter velocity estimate.

If it is determined that a low slope condition or a transitional slope condition exists, the user should consider using an adjusted slope in calculating the time of concentration. See Time of Concentration.

### Sheet Flow Time Calculation

Sheet flow travel time is computed as:

$$t_{sh} = \frac{0.007(n_{ol}L_{sh})^{0.8}}{(P_2)^{0.5}S_{sh}^{0.4}}$$

Equation 4-17.

Where:

$t_{sh}$  = sheet flow travel time (hr.)

$n_{ol}$  = overland flow roughness coefficient (provided in Table 4-6)

$L_{sh}$  = sheet flow length (ft) (100 ft. maximum)

$P_2$  = 2-year, 24-h rainfall depth (in.) (provided in - [NOAA's Precipitation Frequency Data Server for Atlas 14](#))

$S_{sh}$  = sheet flow slope (ft/ft)

**Table 4-6: Overland Flow Roughness Coefficients for Use in NRCS Method in Calculating Sheet Flow Travel Time (NRCS 1986)**

Surface description		$n_{ol}$
Smooth surfaces (concrete, asphalt, gravel, or bare soil)		0.011
Fallow (no residue)		0.05
Cultivated soils:	Residue <i>cover</i> ≤ 20 %	0.06
	Residue cover > 20%	0.17
Grass:	Short grass prairie	0.15
	Dense grasses	0.24
	Bermuda	0.41



**Table 4-6: Overland Flow Roughness Coefficients for Use in NRCS Method in Calculating Sheet Flow Travel Time (NRCS 1986)**

Surface description		$n_{ol}$
Range (natural):		0.13
Woods:	Light underbrush	0.40
	Dense underbrush	0.80

NOTE: 'n' values for overland flows ( $n_{ol}$ ) are not to be used in other channel or floodplain applications.

### Shallow Concentrated Flow

Shallow concentrated flow travel time is computed as:

$$t_{sc} = \frac{L_{sc}}{3600KS_{sc}^{0.5}}$$

Equation 4-18.

Where:

$t_{sc}$  = shallow concentrated flow time (hr.)

$L_{sc}$  = shallow concentrated flow length (ft)

$K$  = 16.13 for unpaved surface, 20.32 for paved surface

$S_{sc}$  = shallow concentrated flow slope (ft/ft)

### Channel Flow

Channel flow travel time is computed by dividing the channel distance by the flow rate obtained from Manning's equation. This can be written as:

$$t_{ch} = L_{ch} / \left( (3600 \frac{1.49}{n} R^{\frac{2}{3}} S_{ch}^{\frac{1}{2}}) \right)$$

Equation 4-19.

Where:

$t_{ch}$  = channel flow time (hr.)

$L_{ch}$  = channel flow length (ft)

$S_{ch}$  = channel flow slope (ft/ft)

$n$  = Manning's roughness coefficient

$R$  = channel hydraulic radius (ft), and is equal to  $\frac{a}{P_w}$ , where:  $a$  = cross sectional area (ft<sup>2</sup>) and  $P_w$  = wetted perimeter (ft), consider the uniform flow velocity based on bank-full flow conditions. That is, the main channel is flowing full without flow in the overbanks. This assumption avoids the significant iteration associated with other methods that employ rainfall intensity or discharges (because rainfall intensity and discharge are dependent on time of concentration).

### Manning's Roughness Coefficient Values

Manning's roughness coefficients are used to calculate flows using Manning's equation. Values from [American Society of Civil Engineers](#) (ASCE) 1992, [FHWA](#) 2001, and Chow 1959 are reproduced in Table 4-7, Table 4-8, and Table 4-9.

**Table 4-7: Manning's Roughness Coefficients for Open Channels**

Type of channel	Manning's n
<b>A. Natural streams</b>	
<b>1. Minor streams (top width at flood stage &lt; 100 ft)</b>	
a. Clean, straight, full, no rifts or deep pools	0.025-0.033
b. Same as a, but more stones and weeds	0.030-0.040
c. Clean, winding, some pools and shoals	0.033-0.045
d. Same as c, but some weeds and stones	0.035-0.050
e. Same as d, lower stages, more ineffective	0.040-0.055
f. Same as d, more stones	0.045-0.060
g. Sluggish reaches, weedy, deep pools	0.050-0.080
h. Very weedy, heavy stand of timber and underbrush	0.075-0.150
i. Mountain streams with gravel and cobbles, few boulders on bottom	0.030-0.050
j. Mountain streams with cobbles and large boulders on bottom	0.040-0.070
<b>2. Floodplains</b>	
a. Pasture, no brush, short grass	0.025-0.035
b. Pasture, no brush, high grass	0.030-0.050
c. Cultivated areas, no crop	0.020-0.040
d. Cultivated areas, mature row crops	0.025-0.045
e. Cultivated areas, mature field crops	0.030-0.050
f. Scattered brush, heavy weeds	0.035-0.070
g. Light brush and trees in winter	0.035-0.060
h. Light brush and trees in summer	0.040-0.080

Table 4-7: Manning's Roughness Coefficients for Open Channels

Type of channel	Manning's n
i. Medium to dense brush in winter	0.045-0.110
j. Medium to dense brush in summer	0.070-0.160
k. Trees, dense willows summer, straight	0.110-0.200
l. Trees, cleared land with tree stumps, no sprouts	0.030-0.050
m. Trees, cleared land with tree stumps, with sprouts	0.050-0.080
n. Trees, heavy stand of timber, few down trees, flood stage below branches	0.080-0.120
o. Trees, heavy stand of timber, few down trees, flood stage reaching branches	0.100-0.160
3. Major streams (top width at flood stage > 100 ft)	
a. Regular section with no boulders or brush	0.025-0.060
b. Irregular rough section	0.035-0.100
B. Excavated or dredged channels	
1. Earth, straight and uniform	
a. Clean, recently completed	0.016-0.020
b. Clean, after weathering	0.018-0.025
c. Gravel, uniform section, clean	0.022-0.030
d. With short grass, few weeds	0.022-0.033
2. Earth, winding and sluggish	
a. No vegetation	0.023-0.030
b. Grass, some weeds	0.025-0.033
c. Deep weeds or aquatic plants in deep channels	0.030-0.040
d. Earth bottom and rubble sides	0.028-0.035
e. Stony bottom and weedy banks	0.025-0.040
f. Cobble bottom and clean sides	0.030-0.050
g. Winding, sluggish, stony bottom, weedy banks	0.025-0.040
h. Dense weeds as high as flow depth	0.050-0.120
3. Dragline-excavated or dredged	
a. No vegetation	0.025-0.033
b. Light brush on banks	0.035-0.060
4. Rock cuts	

**Table 4-7: Manning's Roughness Coefficients for Open Channels**

Type of channel	Manning's n
a. Smooth and uniform	0.025-0.040
b. Jagged and irregular	0.035-0.050
5. Unmaintained channels	
a. Dense weeds, high as flow depth	0.050-0.120
b. Clean bottom, brush on sides	0.040-0.080
c. Clean bottom, brush on sides, highest stage	0.045-0.110
d. Dense brush, high stage	0.080-0.140
C. Lined channels	
1. Asphalt	0.013-0.016
2. Brick (in cement mortar)	0.012-0.018
3. Concrete	
a. Trowel finish	0.011-0.015
b. Float finish	0.013-0.016
c. Unfinished	0.014-0.020
d. Gunite, regular	0.016-0.023
e. Gunite, wavy	0.018-0.025
4. Riprap (n-value depends on rock size)	0.020-0.035
5. Vegetal lining	0.030-0.500

**Table 4-8: Manning's Coefficients for Streets and Gutters**

Type of gutter or pavement	Manning's n
Concrete gutter, troweled finish	0.012
Asphalt pavement: smooth texture	0.013
Asphalt pavement: rough texture	0.016
Concrete gutter with asphalt pavement: smooth texture	0.013
Concrete gutter with asphalt pavement: rough texture	0.015
Concrete pavement: float finish	0.014
Concrete pavement: broom finish	0.016
Table 4-8 note: For gutters with small slope or where sediment may accumulate, increase n values by 0.02 (USDOT, FHWA 2001).	



**Table 4-9: Manning's Roughness Coefficients for Closed Conduits (ASCE 1982, FHWA 2001)**

Material		Manning's n
Asbestos-cement pipe		0.011-0.015
Brick		0.013-0.017
Cast iron pipe		
	Cement-lined & seal coated	0.011-0.015
Concrete (monolithic)		
	Smooth forms	0.012-0.014
	Rough forms	0.015-0.017
	Concrete pipe	0.011-0.015
	Box (smooth)	0.012-0.015
Corrugated-metal pipe -- (2-1/2 in. x 1/2 in. corrugations)		
	Plain	0.022-0.026
	Paved invert	0.018-0.022
	Spun asphalt lined	0.011-0.015
	Plastic pipe (smooth)	0.011-0.015
Corrugated-metal pipe -- (2-2/3 in. by 1/2 in. annular)		0.022-0.027
Corrugated-metal pipe -- (2-2/3 in. by 1/2 in. helical)		0.011-0.023
Corrugated-metal pipe -- (6 in. by 1 in. helical)		0.022-0.025
Corrugated-metal pipe -- (5 in. by 1 in. helical)		0.025-0.026
Corrugated-metal pipe -- (3 in. by 1 in. helical)		0.027-0.028
Corrugated-metal pipe -- (6 in. by 2 in. structural plate)		0.033-0.035
Corrugated-metal pipe -- (9 in. by 2-1/2 in. structural plate)		0.033-0.037
Corrugated polyethylene		0.010-0.013
	Smooth	0.009-0.015
	Corrugated	0.018-0.025
Spiral rib metal pipe (smooth)		0.012-0.013
Vitrified clay		
	Pipes	0.011-0.015
	Liner plates	0.013-0.017
Polyvinyl chloride (PVC) (smooth)		0.009-0.011
Table 4-9 note: Manning's n for corrugated pipes is a function of the corrugation size, pipe size, and whether the corrugations are annular or helical (see USGS 1993).		

## Section 12 — Rational Method

The Rational method is appropriate for estimating peak discharges for small drainage areas of up to about 200 acres (80 hectares) with no significant flood storage. The method provides the designer with a peak discharge value, but does not provide a time series of flow nor flow volume.

### Assumptions and Limitations

Use of the rational method includes the following assumptions and limitations:

- ◆ The method is applicable if  $t_c$  for the drainage area is less than the duration of peak rainfall intensity.
- ◆ The calculated runoff is directly proportional to the rainfall intensity.
- ◆ Rainfall intensity is uniform throughout the duration of the storm.
- ◆ The frequency of occurrence for the peak discharge is the same as the frequency of the rainfall producing that event.
- ◆ Rainfall is distributed uniformly over the drainage area.
- ◆ The minimum duration to be used for computation of rainfall intensity is 10 minutes. If the time of concentration computed for the drainage area is less than 10 minutes, then 10 minutes should be adopted for rainfall intensity computations.
- ◆ The rational method does not account for storage in the drainage area. Available storage is assumed to be filled.

The above assumptions and limitations are the reason the rational method is limited to watersheds 200 acres or smaller. If any one of these conditions is not true for the watershed of interest, the designer should use an alternative method.

The rational method represents a steady inflow-outflow condition of the watershed during the peak intensity of the design storm. Any storage features having sufficient volume that they do not completely fill and reach a steady inflow-outflow condition during the duration of the design storm cannot be properly represented with the rational method. Such features include detention ponds, channels with significant volume, and floodplain storage. When these features are present, an alternate rainfall-runoff method is required that accounts for the time-varying nature of the design storm and/or filling/emptying of floodplain storage. In these cases, the [hydrograph method](#) is recommended.

The steps in developing and applying the rational method are illustrated in Figure 4-8.

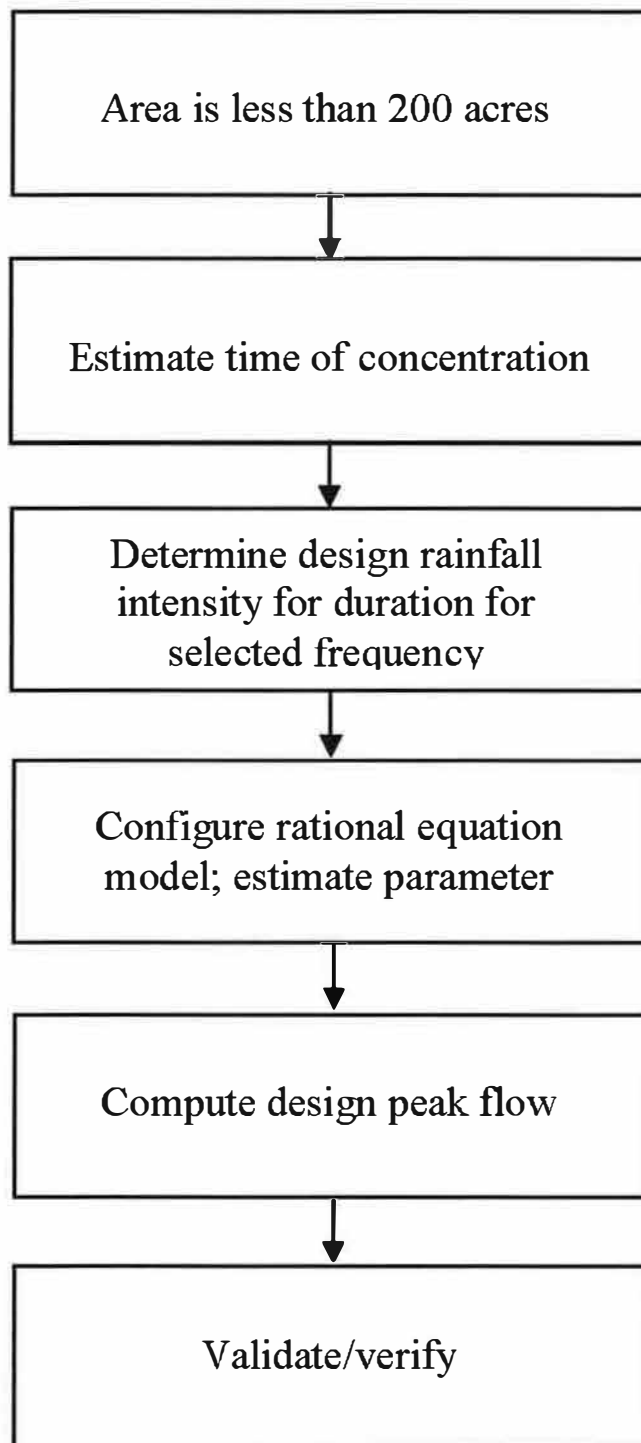


Figure 4-8. Steps in developing and applying the rational method

### Procedure for using the Rational Method

The rational formula estimates the peak rate of runoff at a specific location in a watershed as a function of the drainage area, runoff coefficient, and mean rainfall intensity for a duration equal to the time of concentration. The rational formula is:

$$Q = \frac{CIA}{Z}$$

Equation 4-20.

**Where:**

$Q$  = maximum rate of runoff (cfs or m<sup>3</sup>/sec.)

$C$  = runoff coefficient

$I$  = average rainfall intensity (in./hr. or mm/hr.)

$A$  = drainage area (ac or ha)

$Z$  = conversion factor, 1 for English, 360 for metric

### Rainfall Intensity

The rainfall intensity ( $I$ ) is the average rainfall rate in in./hr. for a specific rainfall duration and a selected frequency. The duration is assumed to be equal to the time of concentration. For drainage areas in Texas, you may compute the rainfall intensity using Equation 4-21, which is known as a rainfall intensity-duration-frequency (IDF) relationship (power-law model).

$$I = \frac{b}{(t_c + d)^e}$$

Equation 4-21.

**Where:**

$I$  = design rainfall intensity (in./hr.)

$t_c$  = time of concentration (min) as discussed in Section 11

$e, b, d$  = coefficients based on rainfall IDF data.

In September 2018, the National Oceanic and Atmospheric Administration (NOAA) released updated precipitation frequency estimates for Texas. These estimates are available through [NOAA's Precipitation Frequency Data Server](#) (PFDS) website and the report documenting the approach is also available at the same website - NOAA Atlas 14, Volume 11: Precipitation-Frequency Atlas of the United States. This new rainfall data is considered best available data and should be used for all projects. Tabular IDF data are



available from the PFDS, but linear interpolation or curve generation is needed to obtain intensity values between tabular durations. Ongoing TxDOT research will produce future e, b, d coefficients to better automate intensity calculations. However, barring significant project implementation concerns, Atlas 14 IDF data should be used. Exceptions must be approved by the DHE or DES HYD and noted on the plans or drainage report.

Currently, the coefficients in Equation 4-21 can be found in the [EBDLKUP-2015v2.1.xlsx](#) spreadsheet lookup tool (developed by Cleveland et al. 2015) for specific frequencies listed by county (See video/tutorial on the use of the EBDLKUP-2015v2.1.xlsx spreadsheet tool). This spreadsheet is based on prior rainfall frequency-duration data contained in the Atlas of Depth-Duration Frequency (DDF) of Precipitation of Annual Maxima for Texas (TxDOT 5-1301-01-1).

If a project is approved to use the older values from the [EBDLKUP-2015v2.1.xlsx](#) spreadsheet lookup tool or from existing functionality in design software like GEOPAK, they should still evaluate the new NOAA rainfall changes for their project area and, if there are increases for the design frequency, estimate an appropriate level of freeboard for use. The freeboard amount and a description of how it was generated should be noted in both the plans and the drainage report. Software that facilitates Rational Method calculations often has IDF curves from rainfall data embedded into the software. Location-specific IDF from the new NOAA rainfall data can be imported for each project into the software.

TxDOT is currently working with Texas Transportation Institute (TTI) staff, as part of research project 0-6980, to update the IDF curve relationships for the state of Texas based on the 2018 NOAA rainfall data. This work will include an update of the EBDLKUP-2015v2.1.xlsx file linked above and planned for inclusion in the next HDM update.

The general shape of a rainfall IDF curve is shown in Figure 4-9. As rainfall duration approaches zero, the rainfall intensity tends towards infinity. Because the rainfall intensity/duration relationship is assessed by assuming that the duration is equal to the time of concentration, small areas with exceedingly short times of concentration could result in design rainfall intensities that are unrealistically high. To minimize this likelihood, use a minimum time of concentration of 10 minutes. As the duration tends to infinity, the design rainfall tends towards zero. Usually, the area limitation of 200 acres for Rational Method calculations should result in rainfall intensities that are not unrealistically low. However, if the estimated time of concentration is

extremely long, such as may occur in extremely flat areas, it may be necessary to consider an upper threshold of time or use a different hydrologic method.

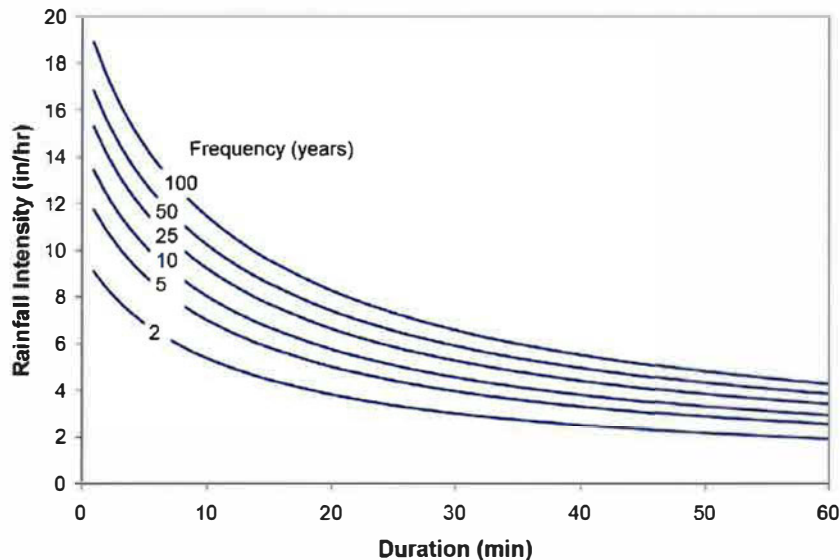


Figure 4-9. Typical Rainfall Intensity Duration Frequency Curve

In some instances alternate methods of determining rainfall intensity may be desired, especially for coordination with other agencies. Ensure that any alternate methods are applicable and documented.

## Runoff Coefficients

### Urban Watersheds

Table 4-10 suggests ranges of C values for urban watersheds for various combinations of land use and soil/surface type. This table is typical of design guides found in civil engineering texts dealing with hydrology.

Table 4-10: Runoff Coefficients for Urban Watersheds

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

Table 4-10: Runoff Coefficients for Urban Watersheds

Type of drainage area	Runoff coefficient
Heavy soil, steep 7%	0.25-0.35
Streets:	
Asphaltic	0.85-0.95
Concrete	0.90-0.95
Brick	0.70-0.85
Drives and walks	0.75-0.95
Roofs	0.75-0.95

**Rural and Mixed-Use Watershed**

Table 4-11 shows an alternate, systematic approach for developing the runoff coefficient. This table applies to rural watersheds only, addressing the watershed as a series of aspects. For each of four aspects, the designer makes a systematic assignment of a runoff coefficient “component.” Using Equation 4-22, the four assigned components are added to form an overall runoff coefficient for the specific watershed segment.

The runoff coefficient for rural watersheds is given by:

$$C = C_r + C_i + C_v + C_s$$

Equation 4-22.

**Where:**

$C$  = runoff coefficient for rural watershed

$C_r$  = component of coefficient accounting for watershed relief

$C_i$  = component of coefficient accounting for soil infiltration

$C_v$  = component of coefficient accounting for vegetal cover

$C_s$  = component of coefficient accounting for surface type

The designer selects the most appropriate values for  $C_r$ ,  $C_i$ ,  $C_v$ , and  $C_s$  from Table 4-11.



Table 4-11: Runoff Coefficients for Rural Watersheds

Watershed characteristic	Extreme	High	Normal	Low
Relief - $C_r$	0.28-0.35 Steep, rugged terrain with average slopes above 30%	0.20-0.28 Hilly, with average slopes of 10-30%	0.14-0.20 Rolling, with average slopes of 5-10%	0.08-0.14 Relatively flat land, with average slopes of 0-5%
Soil infiltration - $C_i$	0.12-0.16 No effective soil cover; either rock or thin soil mantle of negligible infiltration capacity	0.08-0.12 Slow to take up water, clay or shallow loam soils of low infiltration capacity or poorly drained	0.06-0.08 Normal; well drained light or medium textured soils, sandy loams	0.04-0.06 Deep sand or other soil that takes up water readily; very light, well-drained soils
Vegetal cover - $C_v$	0.12-0.16 No effective plant cover, bare or very sparse cover	0.08-0.12 Poor to fair; clean cultivation, crops or poor natural cover, less than 20% of drainage area has good cover	0.06-0.08 Fair to good; about 50% of area in good grassland or woodland, not more than 50% of area in cultivated crops	0.04-0.06 Good to excellent; about 90% of drainage area in good grassland, woodland, or equivalent cover
Surface Storage - $C_s$	0.10-0.12 Negligible; surface depressions few and shallow, drainageways steep and small, no marshes	0.08-0.10 Well-defined system of small drainageways, no ponds or marshes	0.06-0.08 Normal; considerable surface depression, e.g., storage lakes and ponds and marshes	0.04-0.06 Much surface storage, drainage system not sharply defined; large floodplain storage, large number of ponds or marshes
Table 4-11 note: The total runoff coefficient based on the 4 runoff components is $C = C_r + C_i + C_v + C_s$				

While this approach was developed for application to rural watersheds, it can be used as a check against mixed-use runoff coefficients computed using other methods. In so doing, the designer would use judgment, primarily in specifying  $C_s$ , to account for partially developed conditions within the watershed.

### Mixed Land Use

For areas with a mixture of land uses, a composite runoff coefficient should be used. The composite runoff coefficient is weighted based on the area of each respective land use and can be calculated as:

$$C_w = \frac{\sum_{j=1}^n C_j A_j}{\sum_{j=1}^n A_j}$$

Equation 4-23.

**Where:**

$C_w$  = weighted runoff coefficient

$C_j$  = runoff coefficient for area j

$A_j$  = area for land cover j (ft<sup>2</sup>)

$n$  = number of distinct land uses

# Custom Soil Resource Report Map—Hydrologic Soil Group



# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

#### Soil Rating Lines


-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

#### Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available

### Water Features

 Streams and Canals

### Transportation

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

### Background

 Aerial Photography

## MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Nueces County, Texas  
Survey Area Data: Version 22, Sep 5, 2023

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

Date(s) aerial images were photographed: Dec 17, 2020—Dec 24, 2020

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



## Custom Soil Resource Report

**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Gv	Gullied land, saline	D	2.8	9.6%
VcA	Victoria clay 0 to 1 percent slopes	C	21.7	73.1%
VcB	Victoria clay, 1 to 3 percent slopes	C	5.2	17.4%
Totals for Area of Interest			29.7	100.0%

### Rating Options—Hydrologic Soil Group

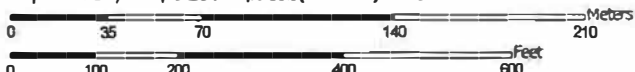
*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher

Soil Map may not be valid at this scale.

Map Scale: 1:2,640 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

III-1-A-1.27

# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

Area of Interest (AOI)



C



C/D



D



Not rated or not available

### Soils

#### Soil Rating Polygons



A



A/D



B



B/D



C



C/D



D



Not rated or not available

#### Soil Rating Lines



A



A/D



B



B/D



C



C/D



D



Not rated or not available

#### Soil Rating Points



A



A/D



B



B/D

### Water Features

Streams and Canals

### Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

### Background



Aerial Photography

## MAP INFORMATION

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

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

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

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

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

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

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

Soil Survey Area: Nueces County, Texas

Survey Area Data: Version 22, Sep 5, 2023

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

Date(s) aerial images were photographed: Dec 17, 2020—Dec 24, 2020

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

## Custom Soil Resource Report

**Table—Hydrologic Soil Group**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
VcA	Victoria clay 0 to 1 percent slopes	C	19.1	100.0%
<b>Totals for Area of Interest</b>			<b>19.1</b>	<b>100.0%</b>

### Rating Options—Hydrologic Soil Group

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher





NOAA Atlas 14, Volume 11, Version 2  
Location name: Corpus Christi, Texas, USA\*  
Latitude: 27.7046°, Longitude: -97.4503°  
Elevation: 21 ft\*\*  
\* source: ESRI Maps  
\*\* source: USGS



### POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

### PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.486 (0.368-0.642)	0.570 (0.433-0.741)	0.703 (0.535-0.923)	0.818 (0.614-1.09)	0.980 (0.715-1.35)	1.11 (0.789-1.57)	1.24 (0.857-1.80)	1.37 (0.922-2.04)	1.54 (1.00-2.38)	1.67 (1.06-2.64)
10-min	0.771 (0.584-1.02)	0.906 (0.688-1.18)	1.12 (0.851-1.47)	1.30 (0.977-1.74)	1.56 (1.14-2.16)	1.77 (1.26-2.51)	1.98 (1.37-2.88)	2.19 (1.47-3.25)	2.44 (1.59-3.76)	2.63 (1.66-4.16)
15-min	0.979 (0.741-1.29)	1.15 (0.871-1.49)	1.41 (1.07-1.85)	1.64 (1.23-2.18)	1.96 (1.43-2.70)	2.22 (1.57-3.14)	2.48 (1.71-3.59)	2.73 (1.84-4.06)	3.07 (1.99-4.72)	3.32 (2.10-5.24)
30-min	1.40 (1.06-1.84)	1.63 (1.24-2.12)	2.00 (1.52-2.62)	2.31 (1.73-3.08)	2.75 (2.01-3.79)	3.11 (2.20-4.40)	3.47 (2.39-5.03)	3.83 (2.57-5.70)	4.31 (2.80-6.64)	4.68 (2.96-7.39)
60-min	1.82 (1.38-2.41)	2.14 (1.62-2.78)	2.64 (2.01-3.46)	3.07 (2.30-4.09)	3.67 (2.68-5.05)	4.16 (2.95-5.88)	4.66 (3.22-6.76)	5.18 (3.48-7.71)	5.89 (3.83-9.08)	6.45 (4.08-10.2)
2-hr	2.20 (1.67-2.88)	2.63 (2.00-3.38)	3.31 (2.53-4.30)	3.90 (2.94-5.16)	4.76 (3.48-6.49)	5.46 (3.89-7.65)	6.20 (4.30-8.91)	7.02 (4.73-10.3)	8.16 (5.31-12.4)	9.07 (5.76-14.2)
3-hr	2.40 (1.84-3.14)	2.92 (2.22-3.72)	3.71 (2.84-4.81)	4.42 (3.35-5.83)	5.46 (4.01-7.42)	6.32 (4.52-8.82)	7.26 (5.04-10.4)	8.29 (5.60-12.1)	9.77 (6.38-14.8)	11.0 (6.99-17.0)
6-hr	2.76 (2.12-3.58)	3.43 (2.61-4.30)	4.43 (3.41-5.69)	5.35 (4.07-7.00)	6.72 (4.96-9.06)	7.87 (5.66-10.9)	9.15 (6.39-12.9)	10.6 (7.18-15.3)	12.7 (8.30-19.0)	14.4 (9.20-22.1)
12-hr	3.13 (2.42-4.04)	3.97 (3.02-4.91)	5.18 (4.00-6.59)	6.31 (4.84-8.20)	8.03 (5.98-10.8)	9.50 (6.87-13.1)	11.2 (7.83-15.7)	13.0 (8.88-18.7)	15.8 (10.4-23.4)	18.0 (11.6-27.3)
24-hr	3.51 (2.73-4.50)	4.52 (3.45-5.53)	5.97 (4.64-7.54)	7.34 (5.66-9.47)	9.43 (7.06-12.6)	11.2 (8.18-15.3)	13.3 (9.36-18.4)	15.6 (10.6-22.1)	18.9 (12.5-27.7)	21.7 (13.9-32.4)
2-day	3.85 (3.02-4.90)	5.07 (3.89-6.16)	6.83 (5.35-8.58)	8.49 (6.58-10.9)	11.0 (8.27-14.5)	13.1 (9.60-17.8)	15.5 (11.0-21.3)	18.1 (12.5-25.5)	21.9 (14.5-31.7)	25.0 (16.1-37.0)
3-day	4.13 (3.24-5.22)	5.44 (4.20-6.60)	7.36 (5.79-9.21)	9.15 (7.11-11.7)	11.8 (8.93-15.6)	14.1 (10.4-19.0)	16.7 (11.8-22.8)	19.4 (13.4-27.1)	23.3 (15.5-33.6)	26.6 (17.2-39.0)
4-day	4.39 (3.46-5.55)	5.76 (4.48-7.00)	7.78 (6.14-9.71)	9.63 (7.51-12.2)	12.4 (9.35-16.2)	14.7 (10.8-19.6)	17.2 (12.2-23.5)	20.0 (13.8-27.8)	24.0 (16.0-34.4)	27.3 (17.7-39.9)
7-day	5.08 (4.02-6.38)	6.50 (5.12-7.94)	8.67 (6.88-10.8)	10.6 (8.30-13.4)	13.4 (10.1-17.3)	15.6 (11.5-20.7)	18.1 (12.9-24.5)	20.9 (14.5-28.9)	25.1 (16.8-35.6)	28.5 (18.5-41.2)
10-day	5.62 (4.46-7.03)	7.09 (5.63-8.68)	9.38 (7.48-11.6)	11.4 (8.93-14.3)	14.2 (10.7-18.3)	16.4 (12.1-21.6)	18.9 (13.5-25.4)	21.7 (15.1-29.8)	25.9 (17.4-36.6)	29.4 (19.2-42.3)
20-day	7.02 (5.60-8.72)	8.67 (6.98-10.6)	11.3 (9.09-14.0)	13.5 (10.7-16.9)	16.7 (12.7-21.2)	19.1 (14.1-24.8)	21.6 (15.5-28.7)	24.4 (17.1-33.2)	28.5 (19.2-39.8)	31.9 (20.9-45.3)
30-day	8.14 (6.52-10.1)	9.94 (8.06-12.2)	12.9 (10.4-15.9)	15.3 (12.1-19.1)	18.7 (14.2-23.7)	21.2 (15.7-27.5)	23.9 (17.2-31.6)	26.7 (18.7-36.1)	30.8 (20.8-42.6)	34.0 (22.3-47.9)
45-day	9.75 (7.84-12.0)	11.8 (9.59-14.4)	15.1 (12.2-18.5)	17.8 (14.2-22.1)	21.5 (16.5-27.2)	24.3 (18.1-31.3)	27.1 (19.6-35.7)	30.1 (21.2-40.3)	34.2 (23.1-46.9)	37.3 (24.5-52.2)
60-day	11.2 (9.01-13.7)	13.4 (11.0-16.4)	17.1 (13.9-20.9)	20.1 (16.0-24.8)	24.1 (18.5-30.3)	27.1 (20.2-34.7)	30.0 (21.8-39.3)	33.1 (23.3-44.2)	37.3 (25.3-51.0)	40.4 (26.6-56.3)

<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).  
Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%.  
Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.  
Please refer to NOAA Atlas 14 document for more information.

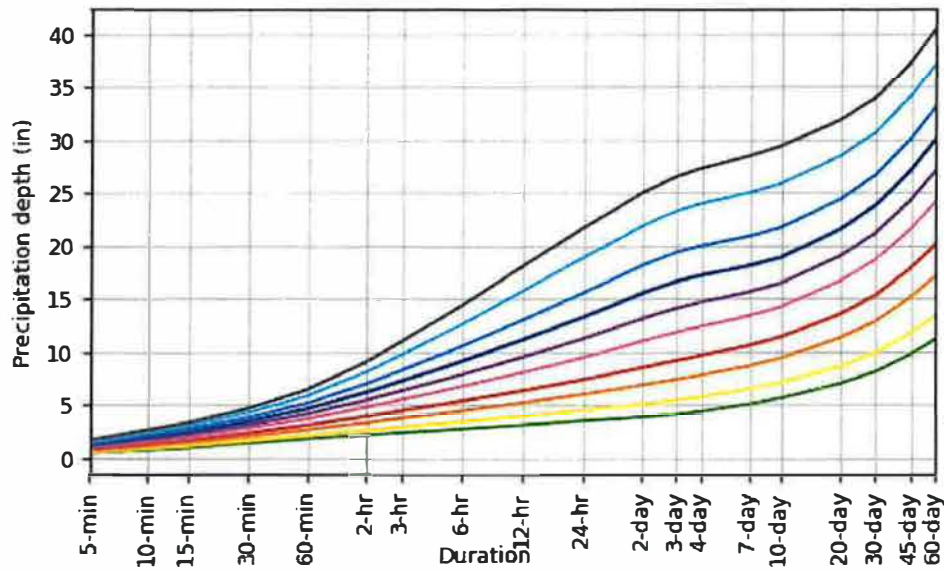
[Back to Top](#)

### PF graphical

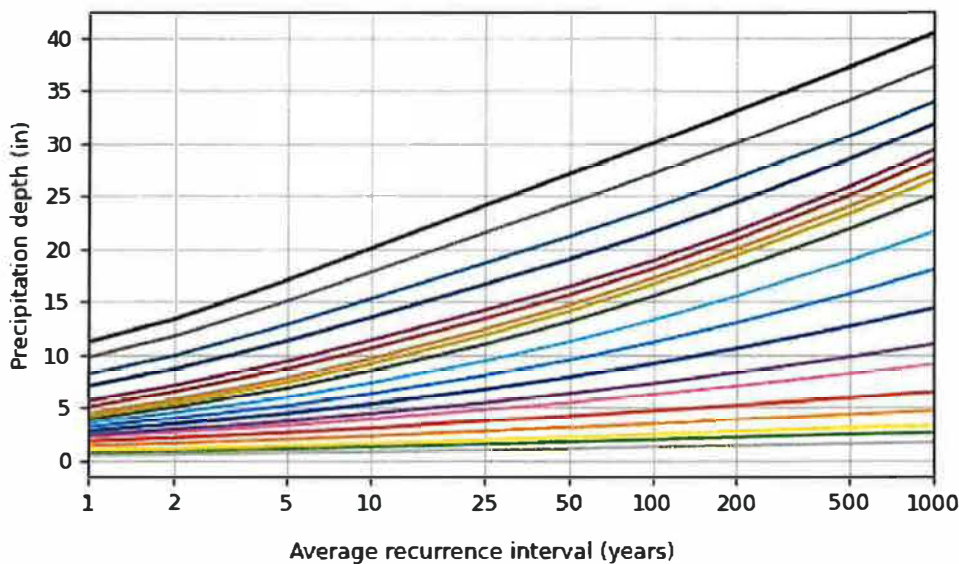
III-1-A-1.30

# PDS-based depth-duration-frequency (DDF) curves

Latitude: 27.7046°, Longitude: -97.4503°



Average recurrence interval (years)	
1	
2	
5	
10	
25	
50	
100	
200	
500	
1000	

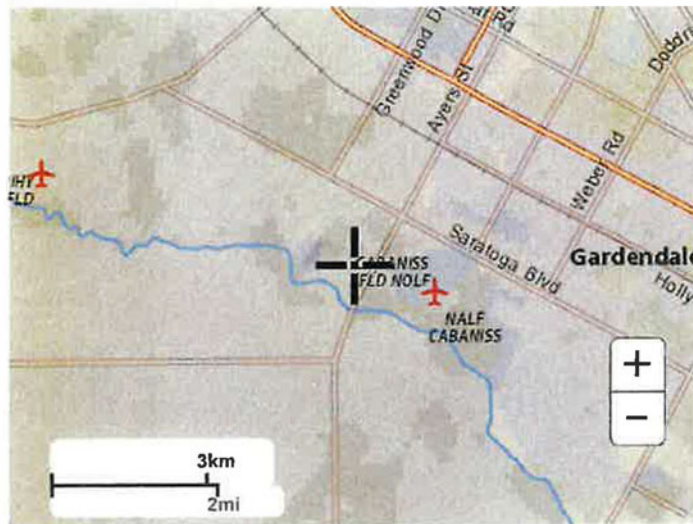


Duration	
5-min	2-day
10-min	3-day
15-min	4-day
30-min	7-day
60-min	10-day
2-hr	20-day
3-hr	30-day
6-hr	45-day
12-hr	60-day
24-hr	

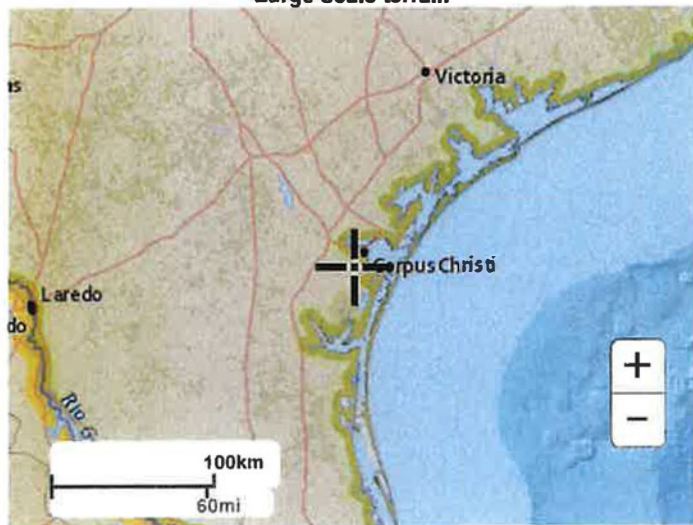
[Back to Top](#)

## Maps & aerals

Small scale terrain



Large scale terrain



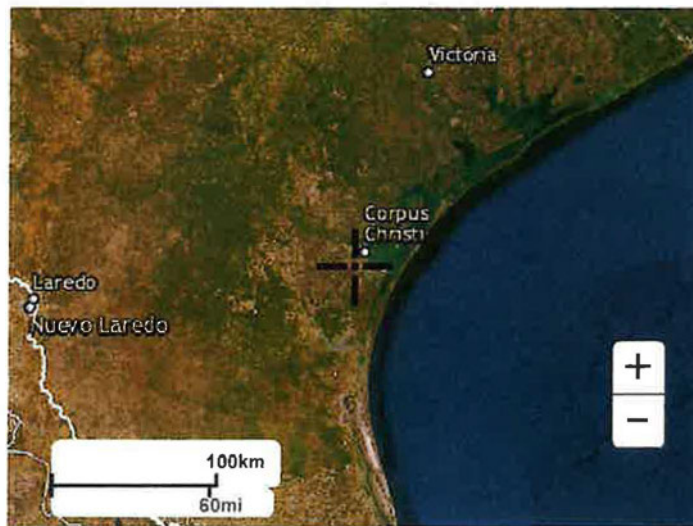
Large scale map



Large scale aerial

III-1-A-1.32





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[National Weather Service](#)  
[National Water Center](#)  
1325 East West Highway  
Silver Spring, MD 20910  
Questions? [REDACTED]

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## Rainfall Intensity-Duration-Frequency Coefficients for Texas

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

### Parameter Selection

#### 1. Select Units

English

#### 2. Select Methodology

Annual Maximum Series (AMS)

#### 3. Select County

NUECES

#### 4. Select County Zone

Zone-1

#### 5. Select Time of Concentration ( $t_c$ )

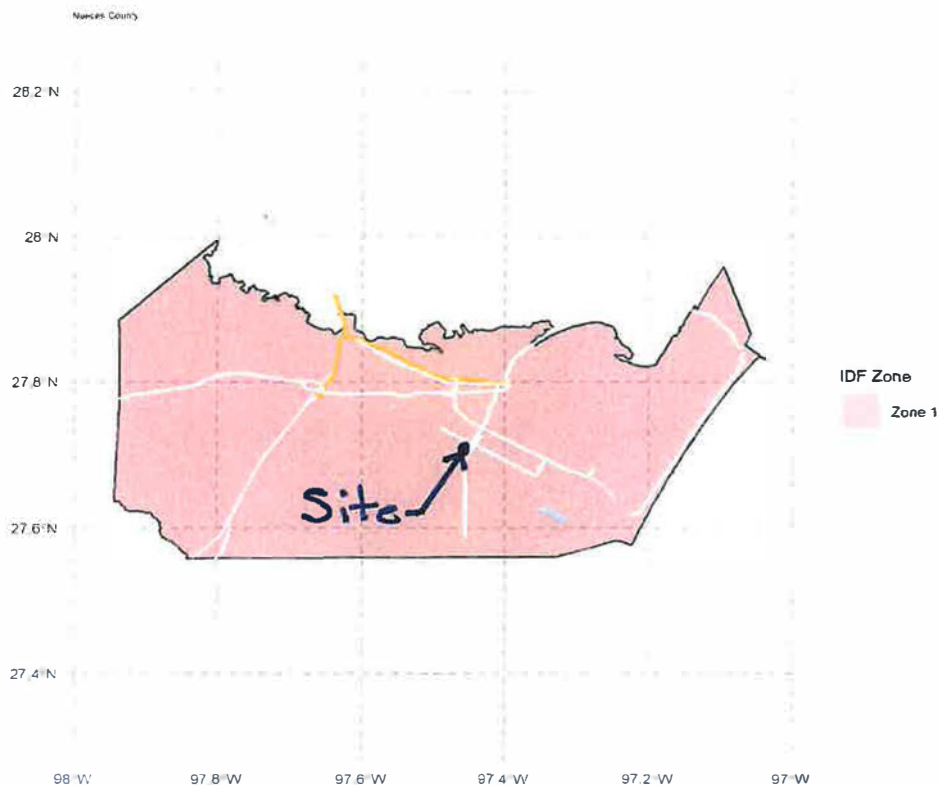
10

Minute

### Design Annual Exceedance Probability (Design Annual Recurrence Interval)

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8320	0.7990	0.7816	0.7633	0.7509	0.7398	0.7226
b	69.9997	79.2371	87.1302	98.0172	105.9782	114.6062	140.7957
d (min)	13.9783	12.9804	12.5721	12.2672	12.0678	12.0953	13.3244
Intensity (inches/hour)	4.98	6.48	7.62	9.18	10.38	11.61	14.46

Note: Nueces County has 1 rainfall zone.



#N/A

III-1-A-1.34



# Rainfall Intensity-Duration-Frequency Coefficients for Texas

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

## Parameter Selection

### 1. Select Units

English

### 2. Select Methodology

Annual Maximum Series (AMS)

### 3. Select County

NUECES

### 4. Select County Zone

Zone-1

### 5. Select Time of Concentration (tc)

10.7

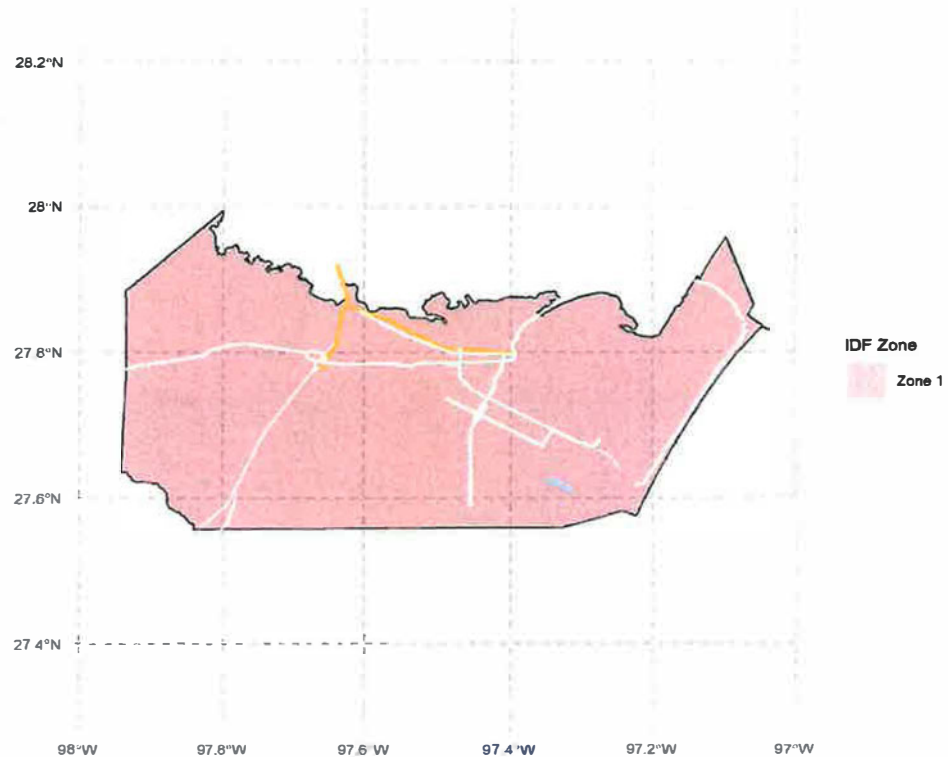
Minute

## Design Annual Exceedance Probability (Design Annual Recurrence Interval)

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8320	0.7990	0.7816	0.7633	0.7509	0.7398	0.7226
b	69.9997	79.2371	87.1302	98.0172	105.9782	114.6062	140.7957
d (min)	13.9783	12.9804	12.5721	12.2672	12.0678	12.0953	13.3244
Intensity (inches/hour)	4.86	6.32	7.44	8.96	10.14	11.34	14.15

Note: Nueces County has 1 rainfall zone.

Nueces County



Filename: ebdlkup-2019-vc6.2.10.xttn

III-1-A-1.35



# Rainfall Intensity-Duration-Frequency Coefficients for Texas

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

## Parameter Selection

### 1. Select Units

English

### 2. Select Methodology

Annual Maximum Series (AMS)

### 3. Select County

NUECES

### 4. Select County Zone

Zone-1

### 5. Select Time of Concentration ( $t_c$ )

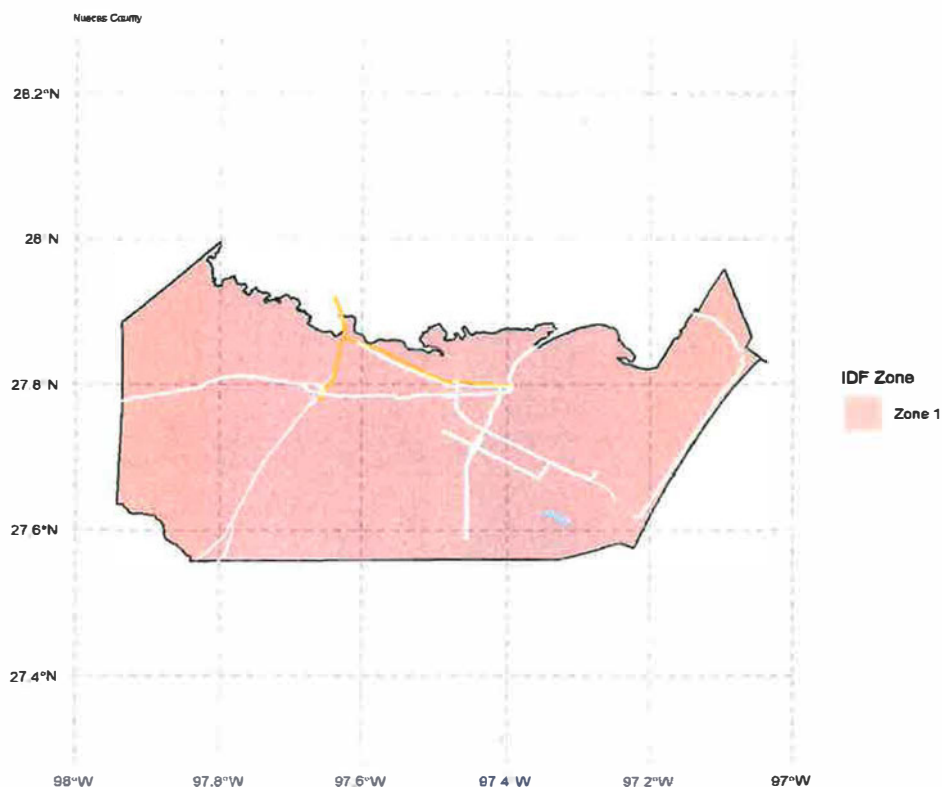
31.2

Minute

## Design Annual Exceedance Probability (Design Annual Recurrence Interval)

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8320	0.7990	0.7816	0.7633	0.7509	0.7398	0.7226
b	69.9997	79.2371	87.1302	98.0172	105.9782	114.6062	140.7957
d (min)	13.9783	12.9804	12.5721	12.2672	12.0678	12.0953	13.3244
Intensity (inches/hour)	2.94	3.84	4.54	5.51	6.26	7.06	9.06

Note: Nueces County has 1 rainfall zone



Filename: ebdlkup-2019-vc5 2 10.klam

III-1-A-1.36



# Rainfall Intensity-Duration-Frequency Coefficients for Texas

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

## Parameter Selection

### 1. Select Units

English

### 2. Select Methodology

Annual Maximum Series (AMS)

### 3. Select County

NUECES

### 4. Select County Zone

Zone-1

### 5. Select Time of Concentration ( $t_c$ )

37.7

Minute

## Design Annual Exceedance Probability (Design Annual Recurrence Interval)

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8320	0.7990	0.7816	0.7633	0.7509	0.7398	0.7226
b	69.9997	79.2371	87.1302	98.0172	105.9782	114.6062	140.7957
d (min)	13.9783	12.9804	12.5721	12.2672	12.0678	12.0953	13.3244
Intensity (inches/hour)	2.63	3.44	4.08	4.95	5.64	6.36	8.21

Note: Nueces County has 1 rainfall zone.

Nueces County

28.2°N

28°N

27.8°N

27.6°N

27.4°N

98°W

97.8°W

97.6°W

97.4°W

97.2°W

97°W

IDF Zone

Zone 1

Filename: ebdikup-2019-vc6.2.10.klsm

III-1-A-1.37





# Rainfall Intensity-Duration-Frequency Coefficients for Texas

Based on "National Oceanic and Atmospheric Administration's (NOAA) Atlas 14  
Precipitation-Frequency Atlas of the United States, Volume 11 Version 2.0: Texas" (Perica et al. 2016)

## Parameter Selection

### 1. Select Units

English

### 2. Select Methodology

Annual Maximum Series (AMS)

### 3. Select County

NUECES

### 4. Select County Zone

Zone-1

### 5. Select Time of Concentration (tc)

38.9

Minute

## Design Annual Exceedance Probability (Design Annual Recurrence Interval)

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8320	0.7990	0.7816	0.7633	0.7509	0.7398	0.7226
b	69.9997	79.2371	87.1302	98.0172	105.9782	114.6082	140.7957
d (min)	13.9783	12.9804	12.5721	12.2672	12.0678	12.0953	13.3244
Intensity (inches/hour)	2.58	3.38	4.00	4.86	5.54	6.25	8.08

Note: Nueces County has 3 rainfall zone

Nueces County

28.2°N

28°N

27.8°N

27.6°N

27.4°N

98°W

97.8°W

97.6°W

97.4°W

97.2°W

97°W

IDF Zone

Zone 1

Filename: ebdikup-2019-vc6.2.10.xlsm

III-1-A-1.38



# Rainfall Intensity-Duration-Frequency Coefficients for Texas

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

## Parameter Selection

### 1. Select Units

English

### 2. Select Methodology

Annual Maximum Series (AMS)

### 3. Select County

NUECES

### 4. Select County Zone

Zone-1

### 5. Select Time of Concentration (tc)

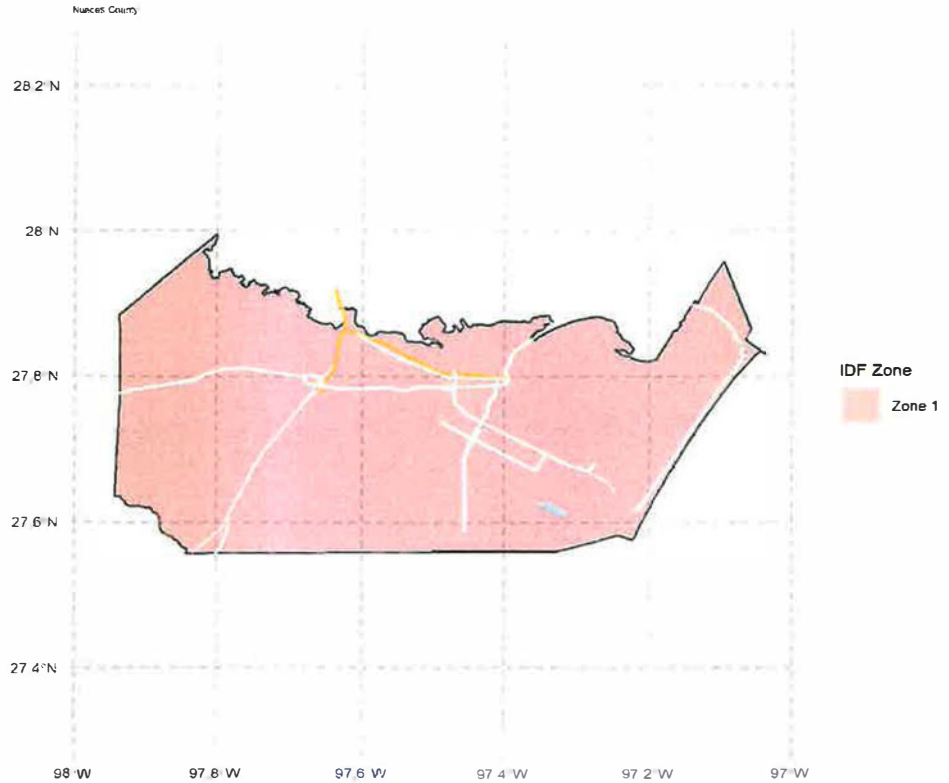
76.7

Minute

## Design Annual Exceedance Probability (Design Annual Recurrence Interval)

Coefficient	50% (2-year)	20% (5-year)	10% (10-year)	4% (25-year)	2% (50-year)	1% (100-year)	0.2% (500-year)
e	0.8320	0.7990	0.7816	0.7633	0.7509	0.7398	0.7226
b	69.9997	79.2371	87.1302	98.0172	105.9782	114.6062	140.7957
d (min)	13.9783	12.9804	12.5721	12.2672	12.0678	12.0953	13.3244
Intensity (inches/hour)	1.65	2.18	2.60	3.19	3.65	4.15	5.45

Note: Nueces County has 1 rainfall zone



Filename: ebdlkup-2019-vc6.2.10.k1km

III-1-A-1.39

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 1

## Culvert 1

### CULVERT

Shape = Rectangular  
Inlet Edge = Square Edge/ Hdwall  
Material = Concrete  
Manning's n = 0.013  
Rise = 72 in  
Span = 72 in  
Invert Elev. Down = 13.60 ft  
Length = 105 ft  
Slope = 0.001 ft/ft  
Invert Elev. Up = 13.72 ft  
No. Barrels = 3  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 35.00 ft  
Top Elevation = 22.00 ft  
Crest Length = 40.00 ft

### DISCHARGE

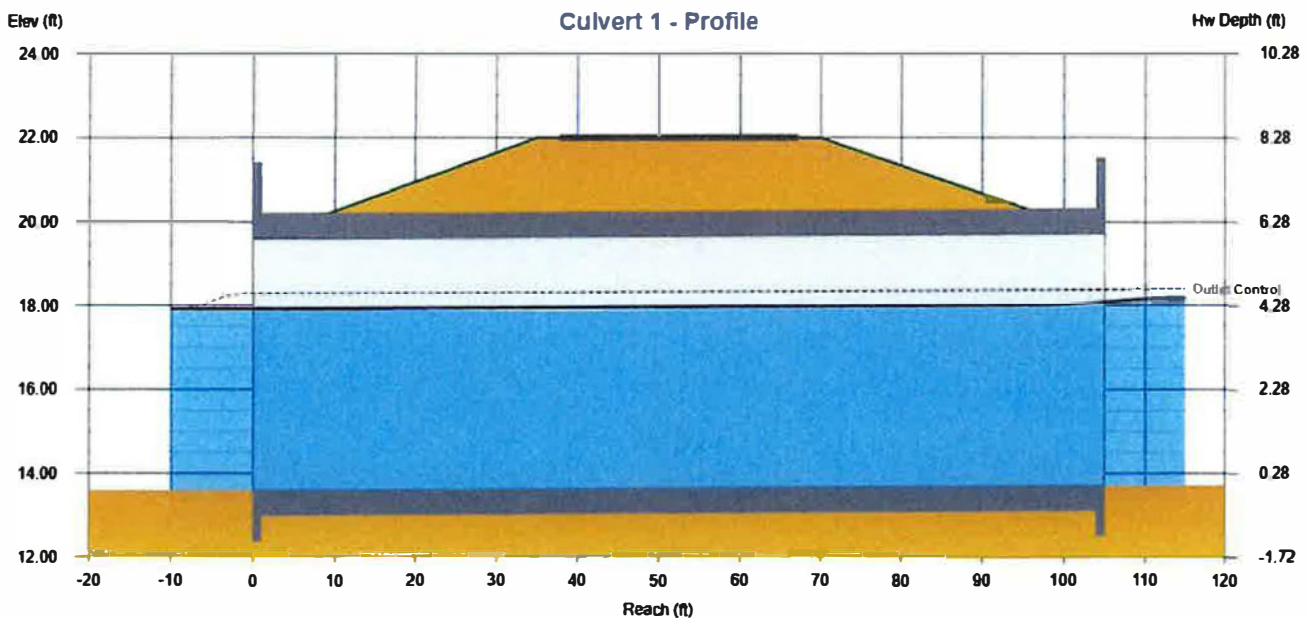
Method = User-defined

### TAILWATER

Tailwater Elevation = 17.92 ft  
*Downstream Culvert 1*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.75		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
386.00	386.00	0.00	4.96	5.00	51.8	51.5	17.92	18.01	18.21



*III-1-A-1.40*

# Channel Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Downstream Culvert 1

## Channel 1

### TRAPEZOIDAL

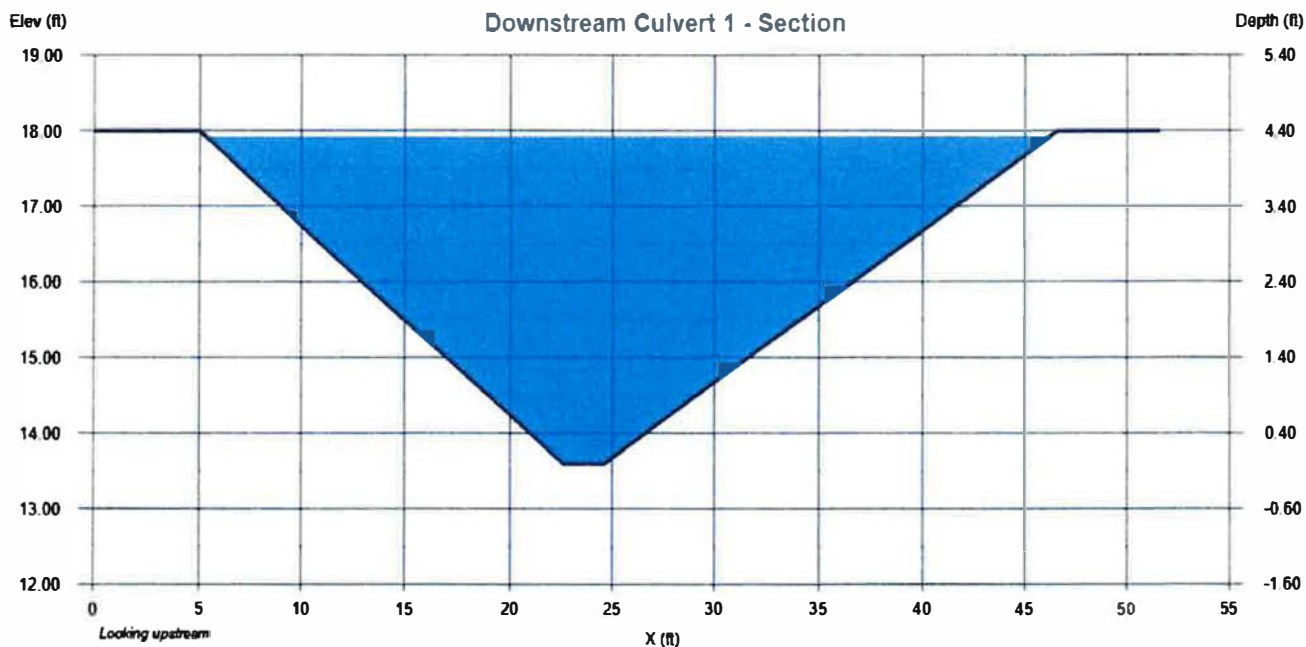
Bottom Width = 2.00 (ft)  
Side Slope Left, z:1 = 4.00  
Side Slope Right, z:1 = 5.00  
Total Depth = 4.40 (ft)  
Invert Elevation = 13.60 (ft)  
Channel Slope = 0.002 (ft/ft)  
Manning's n = 0.027

### DISCHARGE

Method = Known Q  
Known Q = 386.00 cfs

### CALCULATION SAMPLE

Flow	Depth	Area	Velocity	WP	n-value	Top Width	Crit Depth	HGL	EGL
(cfs)	(ft)	(sqft)	(ft/s)	(ft)		(ft)	(ft)	(ft)	(ft)
386.00	4.32	92.62	4.17	41.84	0.027	40.88	3.20	17.92	18.19



III-1-A-1.41



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 2

## Culvert 2

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 18.70 ft  
Length = 36.0 ft  
Slope = 0.003 ft/ft  
Invert Elev. Up = 18.80 ft  
No. Barrels = 6  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 24.00 ft  
Top Elevation = 22.00 ft  
Crest Length = 40.00 ft

### DISCHARGE

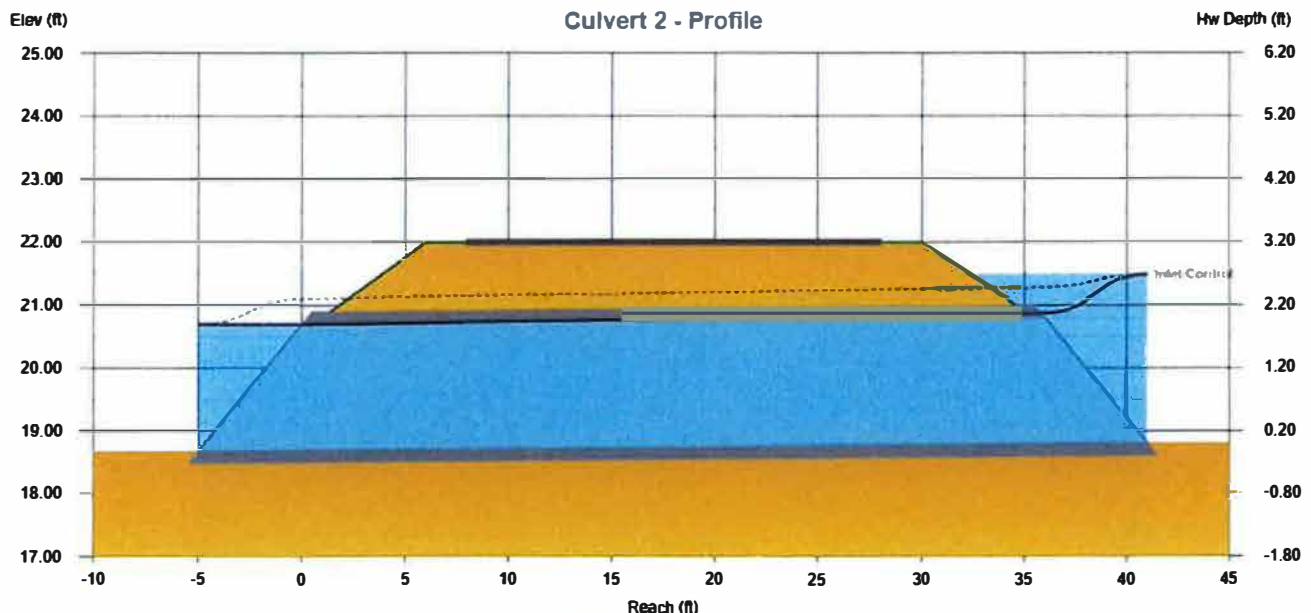
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.34		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
95.30	95.30	0.00	5.06	5.06	24.0	24.0	20.70	20.88	21.49



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 3

## Culvert 3

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 18.70 ft  
Length = 50.0 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 18.80 ft  
No. Barrels = 3  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 30.00 ft  
Top Elevation = 22.00 ft  
Crest Length = 40.00 ft

### DISCHARGE

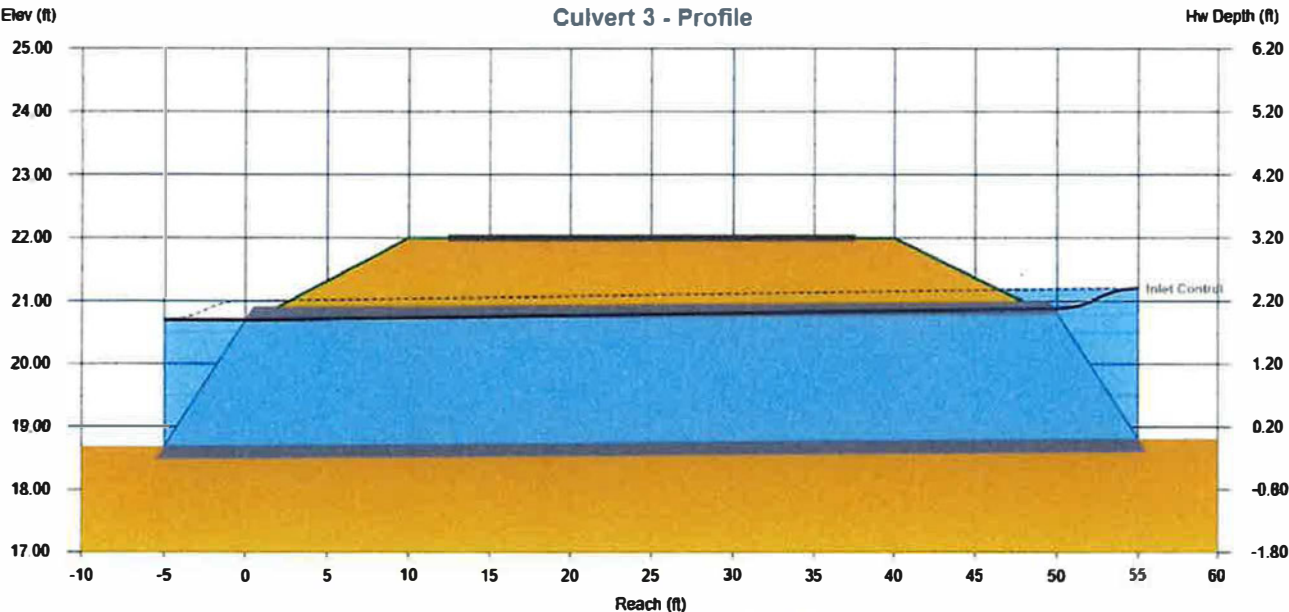
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.20		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
41.60	41.60	0.00	4.41	4.41	24.0	24.0	20.70	20.89	21.20



III-1-A-1.43

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 4

## Culvert 4

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.00 ft  
Length = 36.0 ft  
Slope = 0.003 ft/ft  
Invert Elev. Up = 19.10 ft  
No. Barrels = 4  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 16.00 ft  
Top Elevation = 22.30 ft  
Crest Length = 40.00 ft

### DISCHARGE

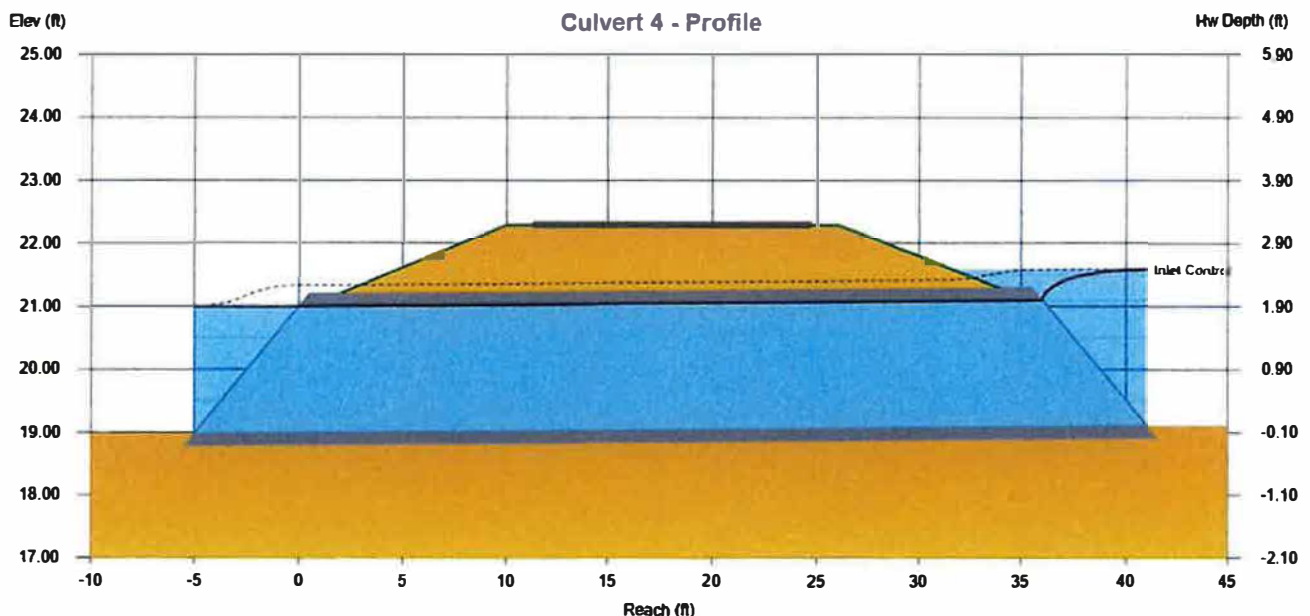
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.24		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
57.80	57.80	0.00	4.60	4.60	24.0	24.0	21.00	21.10	21.58



III-1-A-144

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 4

## Culvert 4

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.00 ft  
Length = 36.0 ft  
Slope = 0.003 ft/ft  
Invert Elev. Up = 19.10 ft  
No. Barrels = 4  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 16.00 ft  
Top Elevation = 22.30 ft  
Crest Length = 40.00 ft

### DISCHARGE

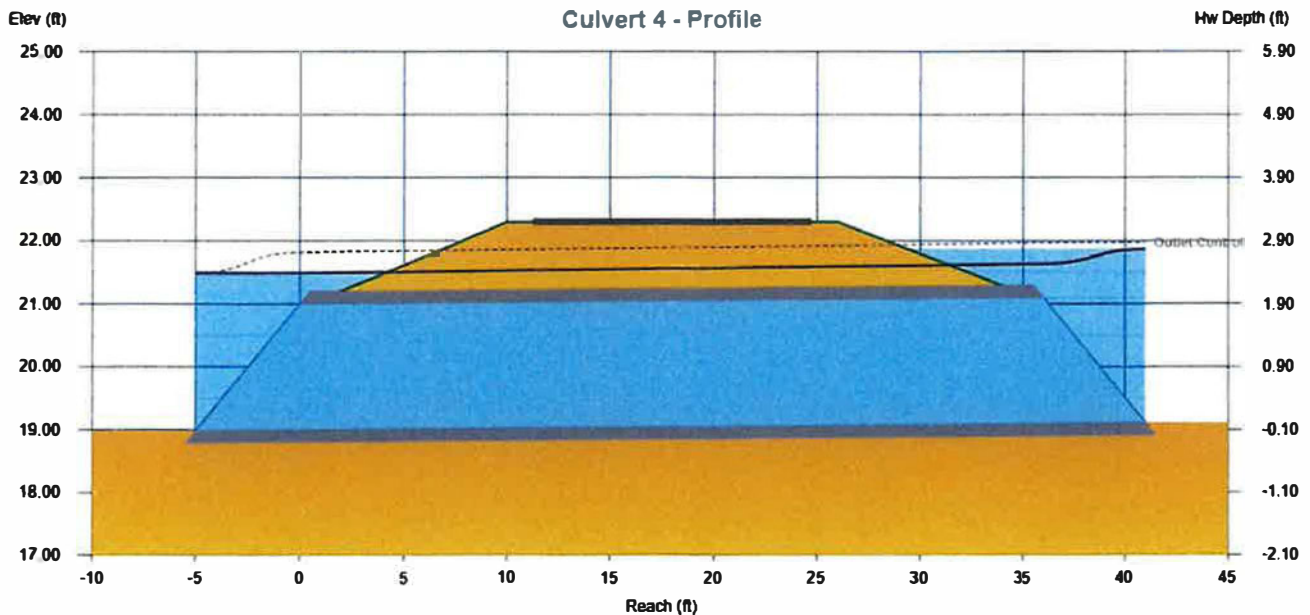
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.49 ft  
*from Culvert 2*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.38		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
57.80	57.80	0.00	4.60	4.60	24.0	24.0	21.49	21.64	21.87



III-1-A-1.45



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 5

## Culvert 5

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.10 ft  
Length = 60.0 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 19.20 ft  
No. Barrels = 3  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 40.00 ft  
Top Elevation = 22.40 ft  
Crest Length = 40.00 ft

### DISCHARGE

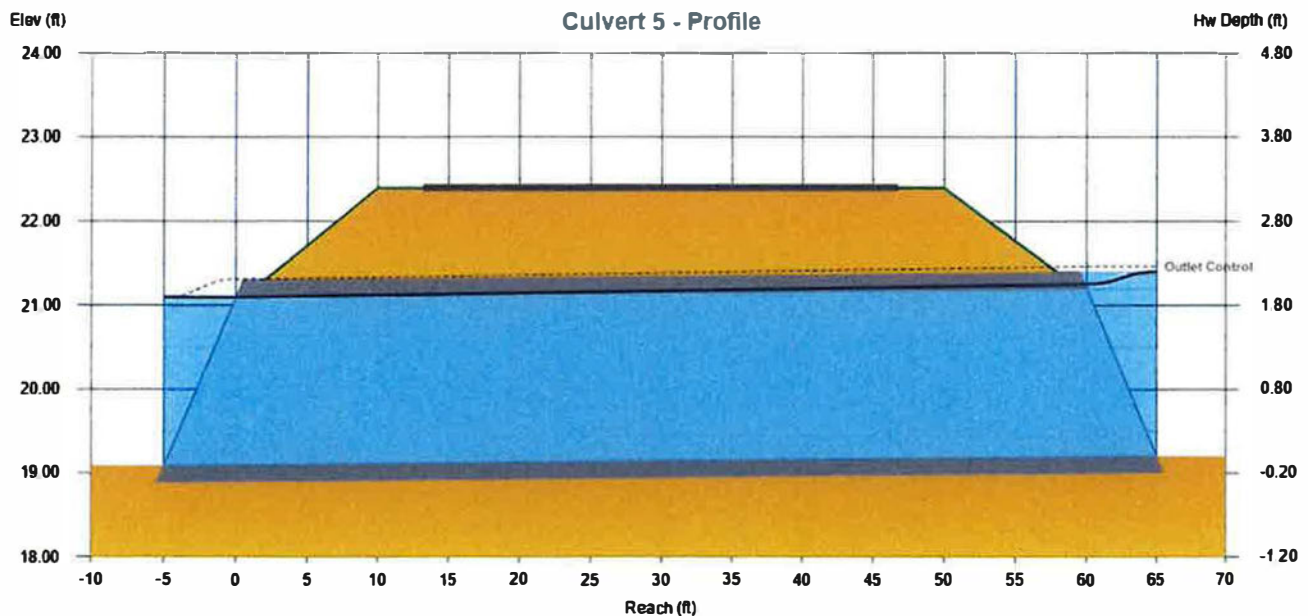
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.10		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
34.60	34.60	0.00	3.67	3.67	24.0	24.0	21.10	21.26	21.40



III-1-A-1.46

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 5

## Culvert 5

### CULVERT

Shape = Circular  
 Inlet Edge = Mitered to Slope  
 Material = Concrete  
 Manning's n = 0.013  
 Rise = 24 in  
 Span = 24 in  
 Invert Elev. Down = 19.10 ft  
 Length = 60.0 ft  
 Slope = 0.002 ft/ft  
 Invert Elev. Up = 19.20 ft  
 No. Barrels = 3  
 Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 40.00 ft  
 Top Elevation = 22.40 ft  
 Crest Length = 40.00 ft

### DISCHARGE

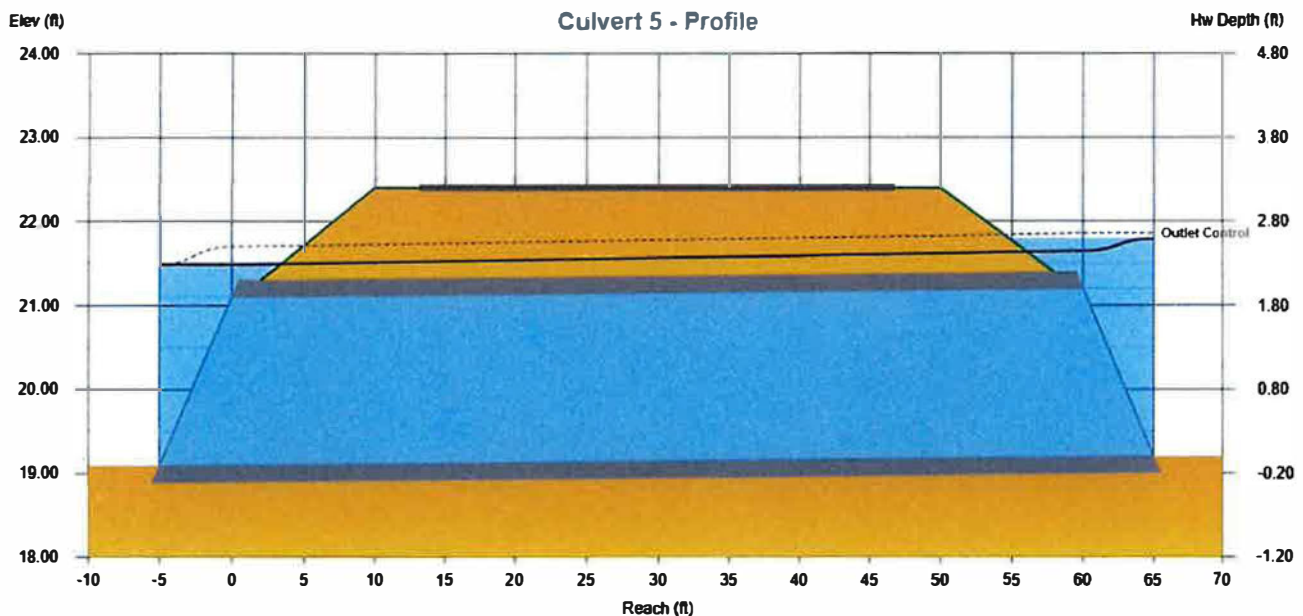
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.49 ft  
*from Culvert 2*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.30		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
34.60	34.60	0.00	3.67	3.67	24.0	24.0	21.49	21.65	21.79



III-1-A-1A7

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 6

## Culvert 6

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.00 ft  
Length = 120 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 19.20 ft  
No. Barrels = 3  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 40.00 ft  
Top Elevation = 23.00 ft  
Crest Length = 40.00 ft

### DISCHARGE

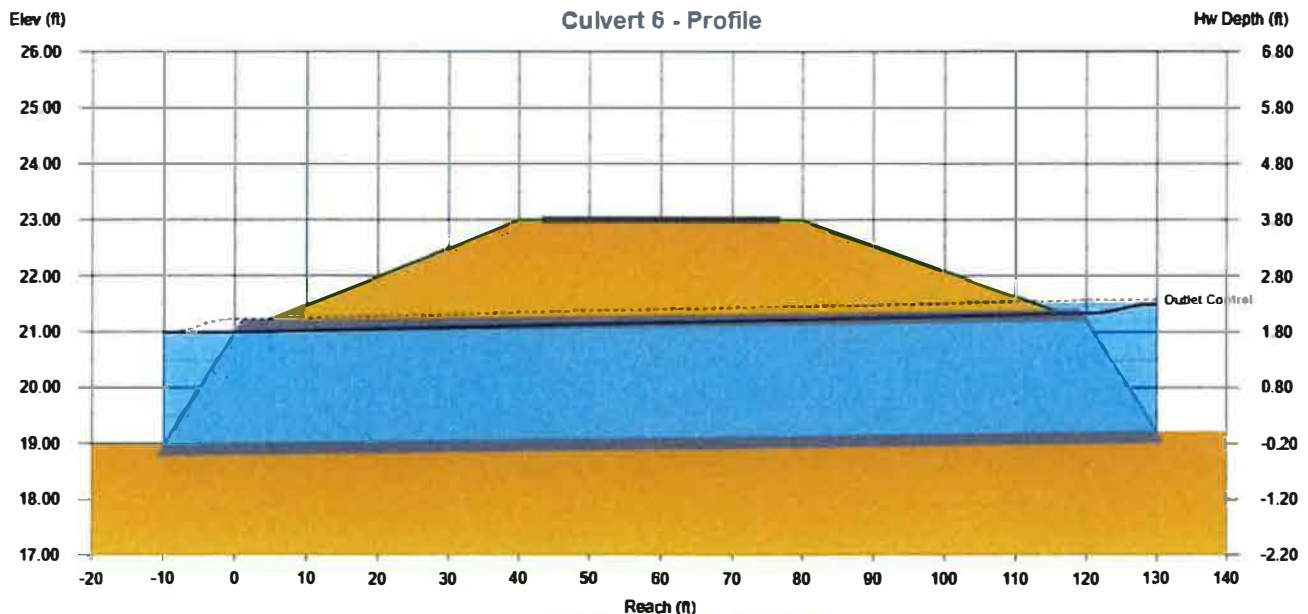
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.15		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
36.10	36.10	0.00	3.83	3.83	24.0	24.0	21.00	21.34	21.50



III-1-A-1.48

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 6

## Culvert 6

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.00 ft  
Length = 120 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 19.20 ft  
No. Barrels = 3  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 40.00 ft  
Top Elevation = 23.00 ft  
Crest Length = 40.00 ft

### DISCHARGE

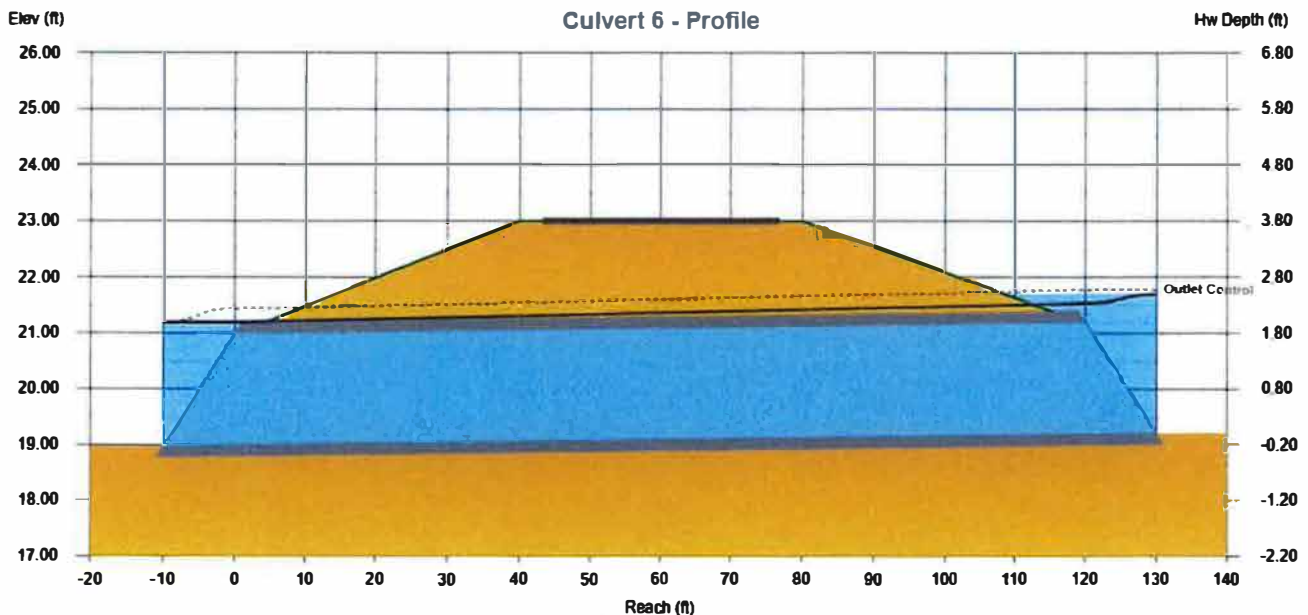
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.20 ft  
*from Culvert 3*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.25		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
36.10	36.10	0.00	3.83	3.83	24.0	24.0	21.20	21.54	21.70



III-1-A-1.49



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

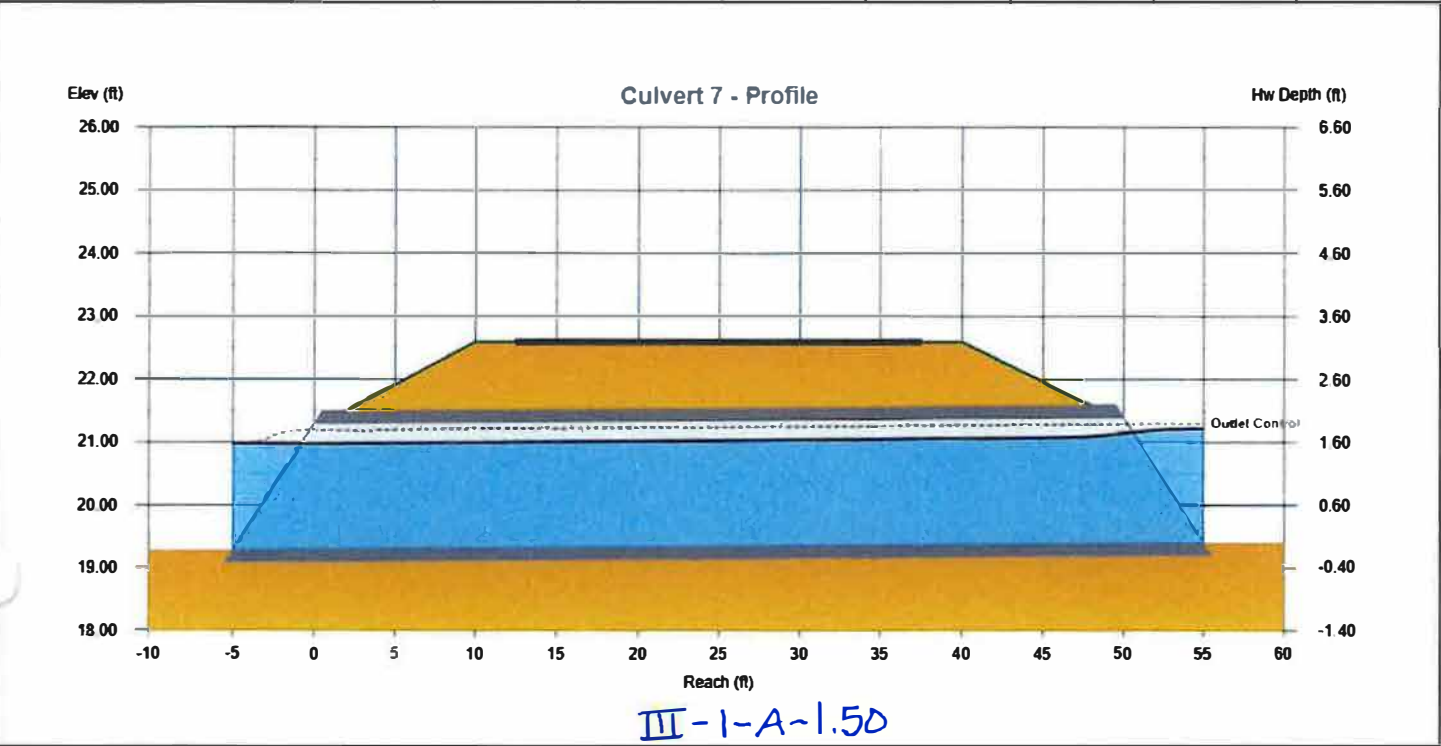
## Culvert 7

## Culvert 7

CULVERT			EMBANKMENT		
Shape	=	Circular	Top Width	=	30.00 ft
Inlet Edge	=	Mitered to Slope	Top Elevation	=	22.60 ft
Material	=	Concrete	Crest Length	=	40.00 ft
Manning's n	=	0.013	<b>DISCHARGE</b>		
Rise	=	24 in			
Span	=	24 in			
Invert Elev. Down	=	19.30 ft			
Length	=	50.0 ft			
Slope	=	0.002 ft/ft			
Invert Elev. Up	=	19.40 ft			
No. Barrels	=	3	<b>TAILWATER</b>		
Plan Skew Angle	=	0 degrees			
			Method	=	User-defined
			Tailwater Elevation	=	Normal Depth

## CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.91		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
31.00	31.00	0.00	3.67	3.67	20.2	20.2	20.98	21.08	21.23



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 7

## Culvert 7

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.30 ft  
Length = 50.0 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 19.40 ft  
No. Barrels = 3  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 30.00 ft  
Top Elevation = 22.60 ft  
Crest Length = 40.00 ft

### DISCHARGE

Method = User-defined

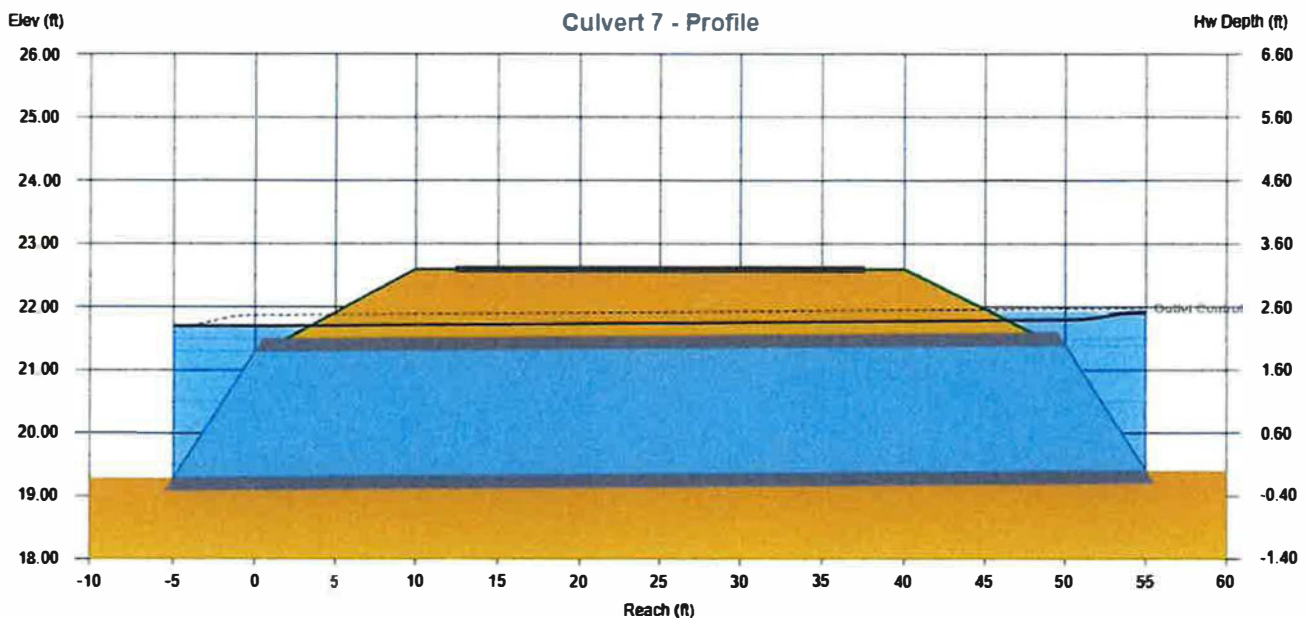
### TAILWATER

Tailwater Elevation = 21.70 ft

*from Culvert 6*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.26		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
31.00	31.00	0.00	3.29	3.29	24.0	24.0	21.70	21.80	21.92



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

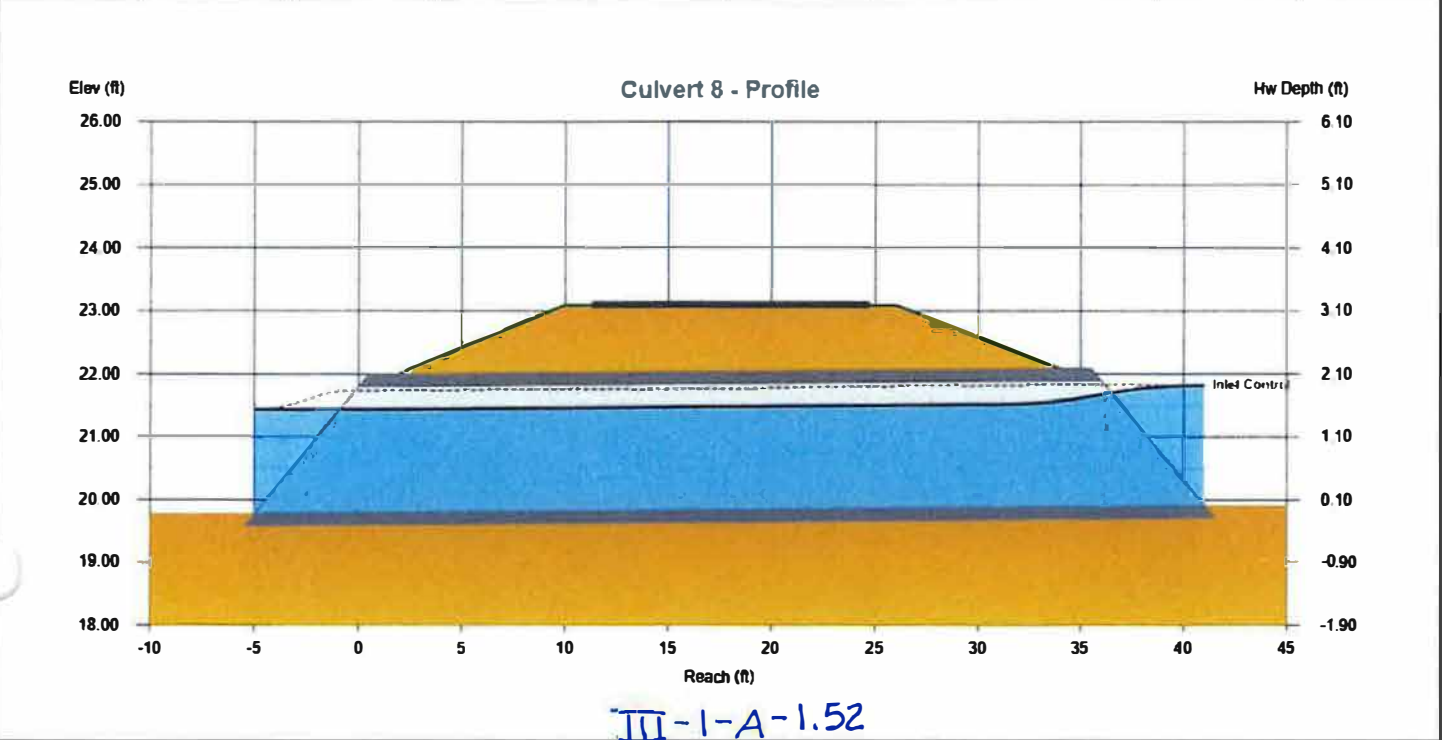
## Culvert 8

## Culvert 8

CULVERT			EMBANKMENT		
Shape	=	Circular	Top Width	=	16.00 ft
Inlet Edge	=	Mitered to Slope	Top Elevation	=	23.10 ft
Material	=	Concrete	Crest Length	=	40.00 ft
Manning's n	=	0.013	DISCHARGE		
Rise	=	24 in			
Span	=	24 in	Method	=	User-defined
Invert Elev. Down	=	19.80 ft	TAILWATER		
Length	=	36.0 ft			
Slope	=	0.003 ft/ft			
Invert Elev. Up	=	19.90 ft			
No. Barrels	=	1			
Plan Skew Angle	=	0 degrees			

## CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.96		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
11.90	11.90	0.00	4.32	4.32	19.7	19.7	21.44	21.54	21.83



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 8

## Culvert 8

### CULVERT

Shape = Circular  
 Inlet Edge = Mitered to Slope  
 Material = Concrete  
 Manning's n = 0.013  
 Rise = 24 in  
 Span = 24 in  
 Invert Elev. Down = 19.80 ft  
 Length = 36.0 ft  
 Slope = 0.003 ft/ft  
 Invert Elev. Up = 19.90 ft  
 No. Barrels = 1  
 Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 16.00 ft  
 Top Elevation = 23.10 ft  
 Crest Length = 40.00 ft

### DISCHARGE

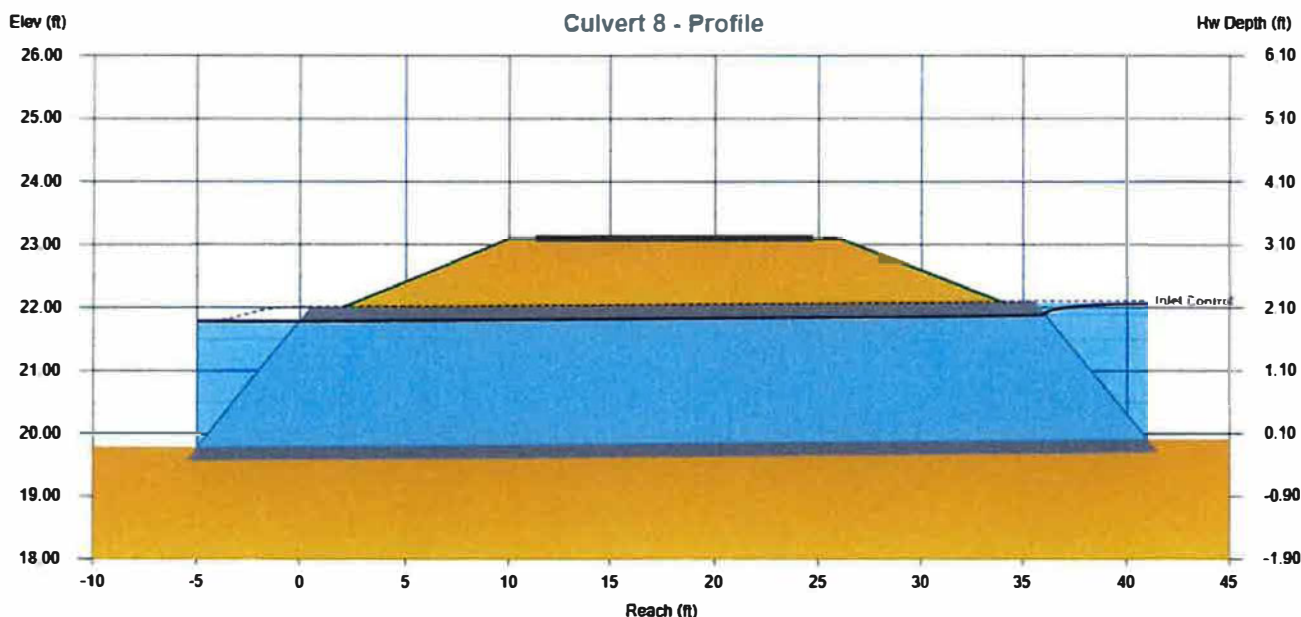
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.79 ft  
*from Culvert 5*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.08		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
11.90	11.90	0.00	3.79	3.79	23.9	23.8	21.79	21.88	22.07



III-1-A-1.53



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 9

## Culvert 9

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.90 ft  
Length = 80.0 ft  
Slope = 0.003 ft/ft  
Invert Elev. Up = 20.10 ft  
No. Barrels = 2  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 60.00 ft  
Top Elevation = 23.10 ft  
Crest Length = 40.00 ft

### DISCHARGE

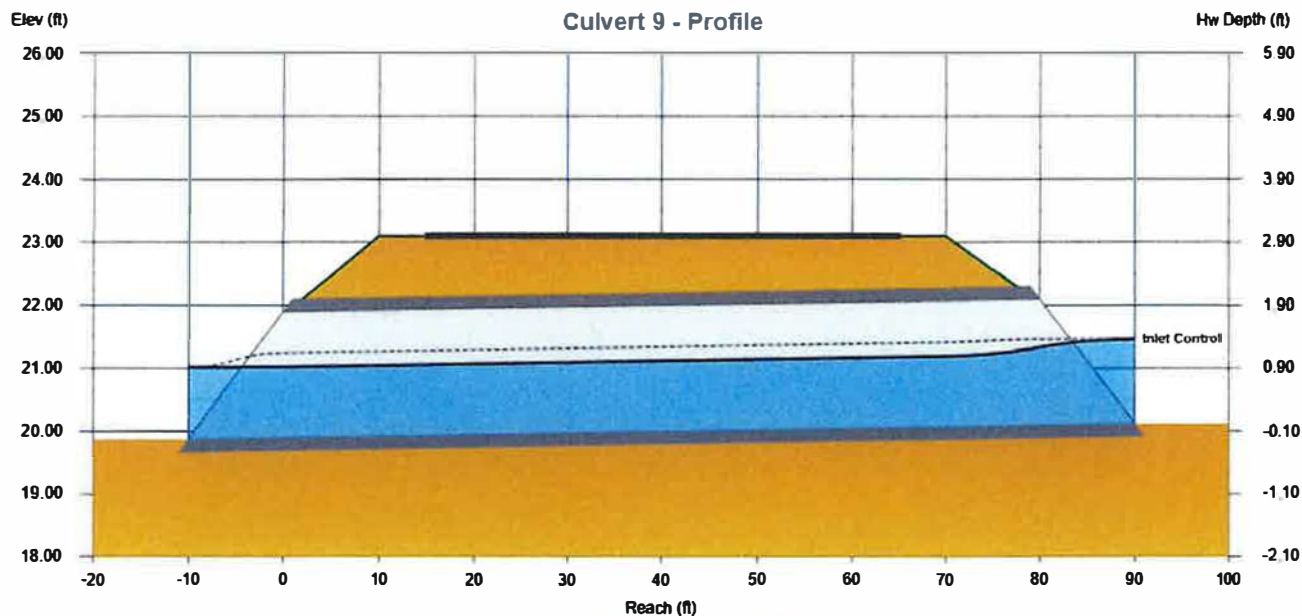
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.68		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
13.70	13.70	0.00	3.77	3.77	13.5	13.5	21.02	21.22	21.46



III-1-A-1.5A

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 9

## Culvert 9

### CULVERT

Shape = Circular  
 Inlet Edge = Mitered to Slope  
 Material = Concrete  
 Manning's n = 0.013  
 Rise = 24 in  
 Span = 24 in  
 Invert Elev. Down = 19.90 ft  
 Length = 80.0 ft  
 Slope = 0.003 ft/ft  
 Invert Elev. Up = 20.10 ft  
 No. Barrels = 2  
 Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 60.00 ft  
 Top Elevation = 23.10 ft  
 Crest Length = 40.00 ft

### DISCHARGE

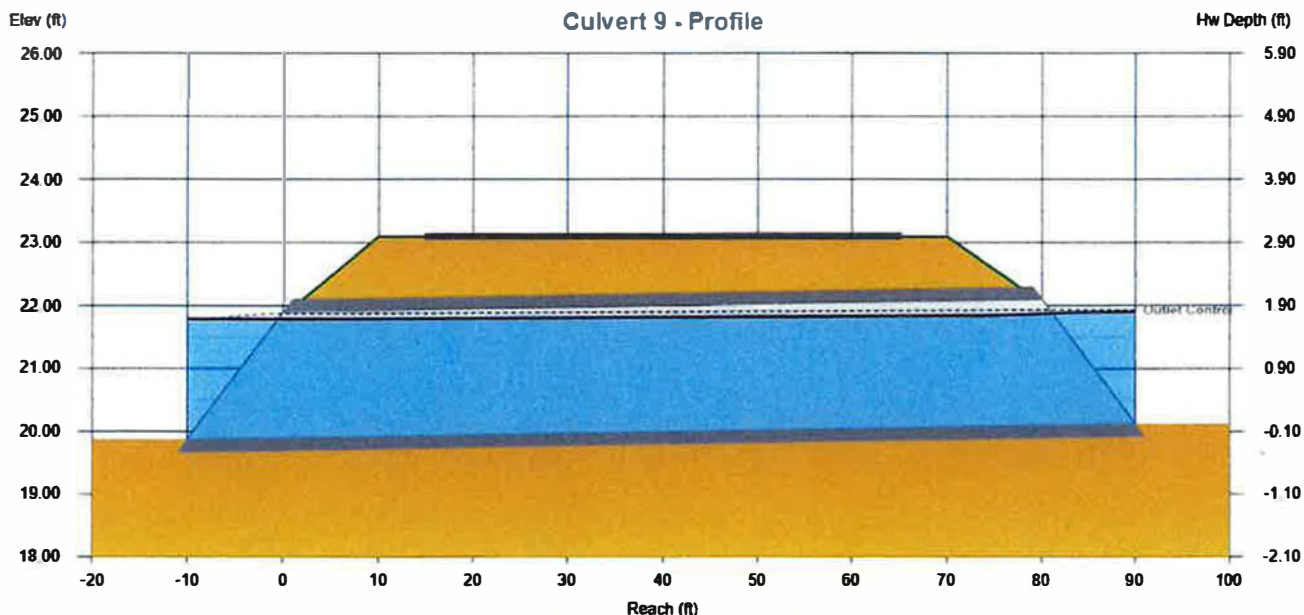
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.79 ft  
*from Culvert 5*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.90		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
13.70	13.70	0.00	2.23	2.35	22.7	21.0	21.79	21.85	21.91



III-1-A-1.55

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 10

## Culvert 10

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 20.20 ft  
Length = 50.0 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 20.30 ft  
No. Barrels = 2  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 30.00 ft  
Top Elevation = 23.50 ft  
Crest Length = 40.00 ft

### DISCHARGE

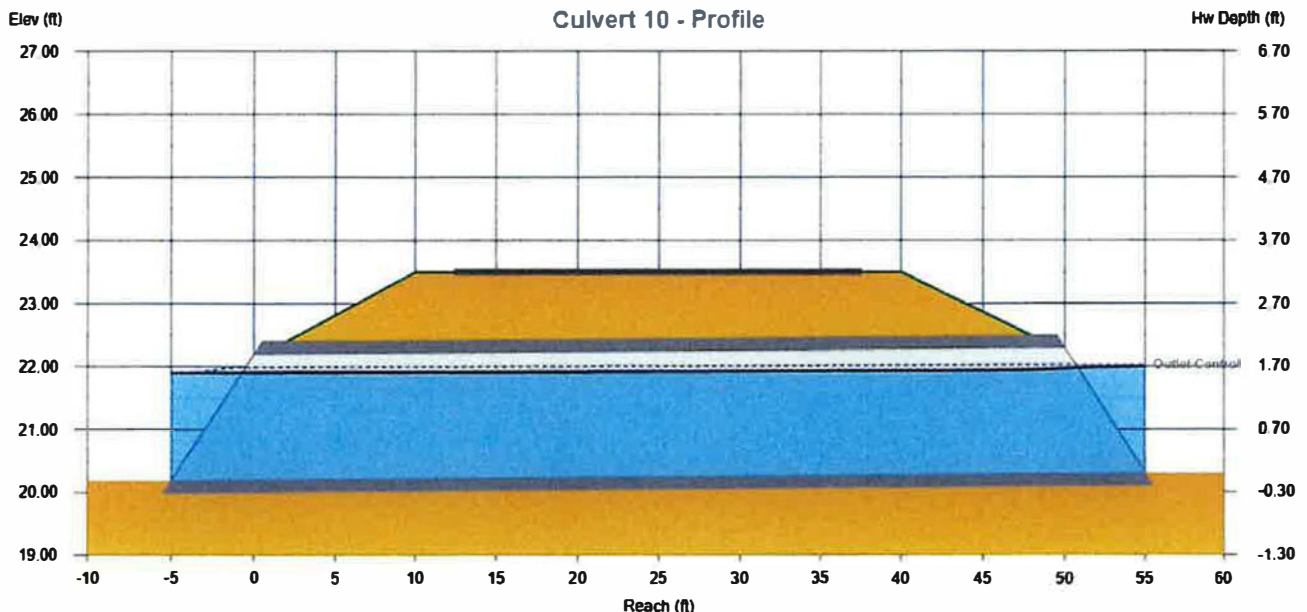
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.91 ft

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.85		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
12.80	12.80	0.00	2.24	2.32	20.5	19.7	21.91	21.94	22.00



III-1-A-1.56

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 1 to 10 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 10

## Culvert 10

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 20.20 ft  
Length = 50.0 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 20.30 ft  
No. Barrels = 2  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 30.00 ft  
Top Elevation = 23.50 ft  
Crest Length = 40.00 ft

### DISCHARGE

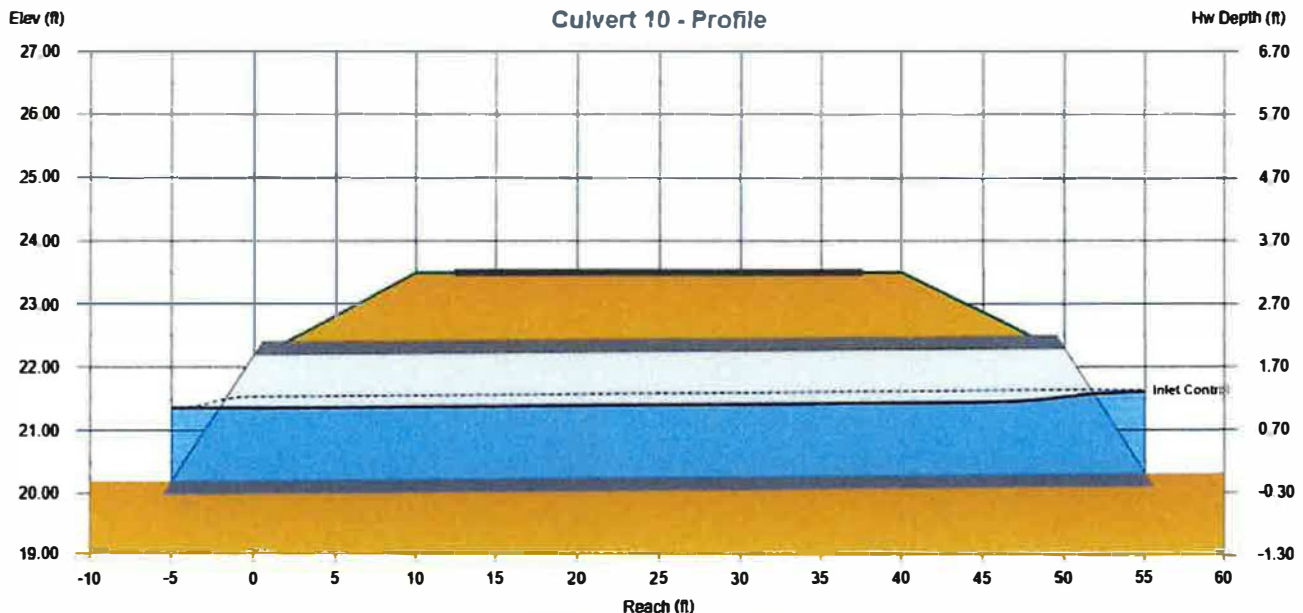
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth  
*from Culvert 9*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.65		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
12.80	12.80	0.00	3.39	3.39	13.9	13.9	21.36	21.46	21.61



III-1-A-1.57



# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 11 to 13 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 11

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 20.40 ft  
Length = 40.0 ft  
Slope = 0.003 ft/ft  
Invert Elev. Up = 20.50 ft  
No. Barrels = 1  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 20.00 ft  
Top Elevation = 23.70 ft  
Crest Length = 40.00 ft

### DISCHARGE

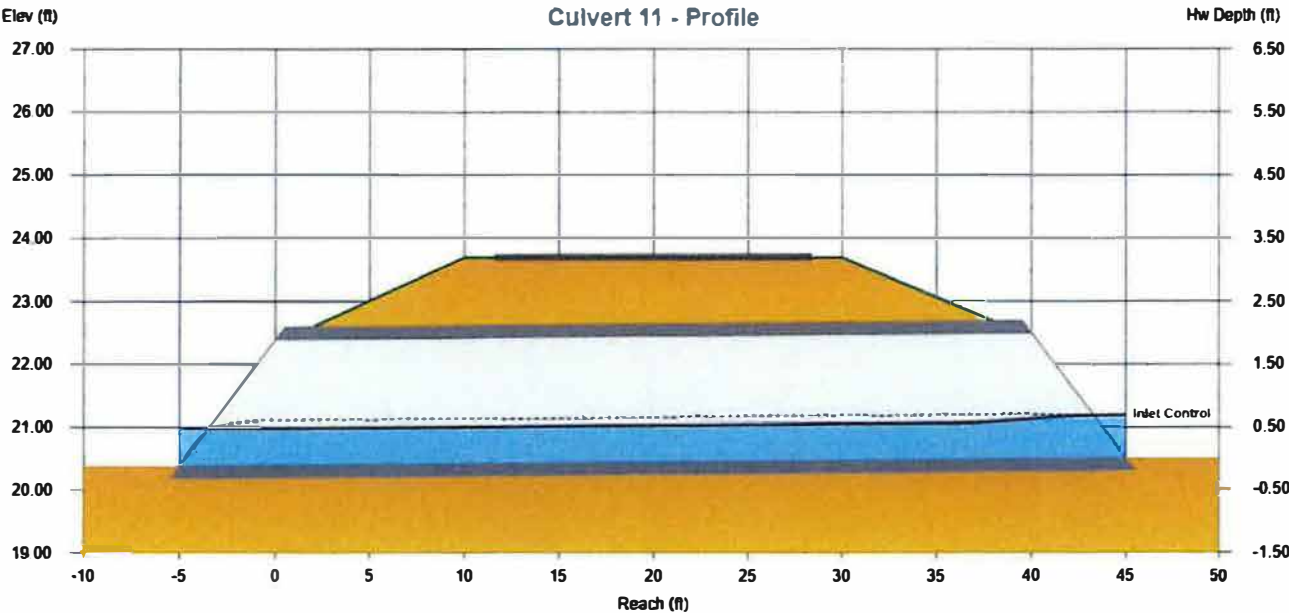
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.35		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
2.10	2.10	0.00	2.73	2.76	7.0	7.0	20.99	21.08	21.20



III-1-A-1.58

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 11 to 13 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 11

### CULVERT

Shape = Circular  
 Inlet Edge = Mitered to Slope  
 Material = Concrete  
 Manning's n = 0.013  
 Rise = 24 in  
 Span = 24 in  
 Invert Elev. Down = 20.40 ft  
 Length = 40.0 ft  
 Slope = 0.003 ft/ft  
 Invert Elev. Up = 20.50 ft  
 No. Barrels = 1  
 Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 20.00 ft  
 Top Elevation = 23.70 ft  
 Crest Length = 40.00 ft

### DISCHARGE

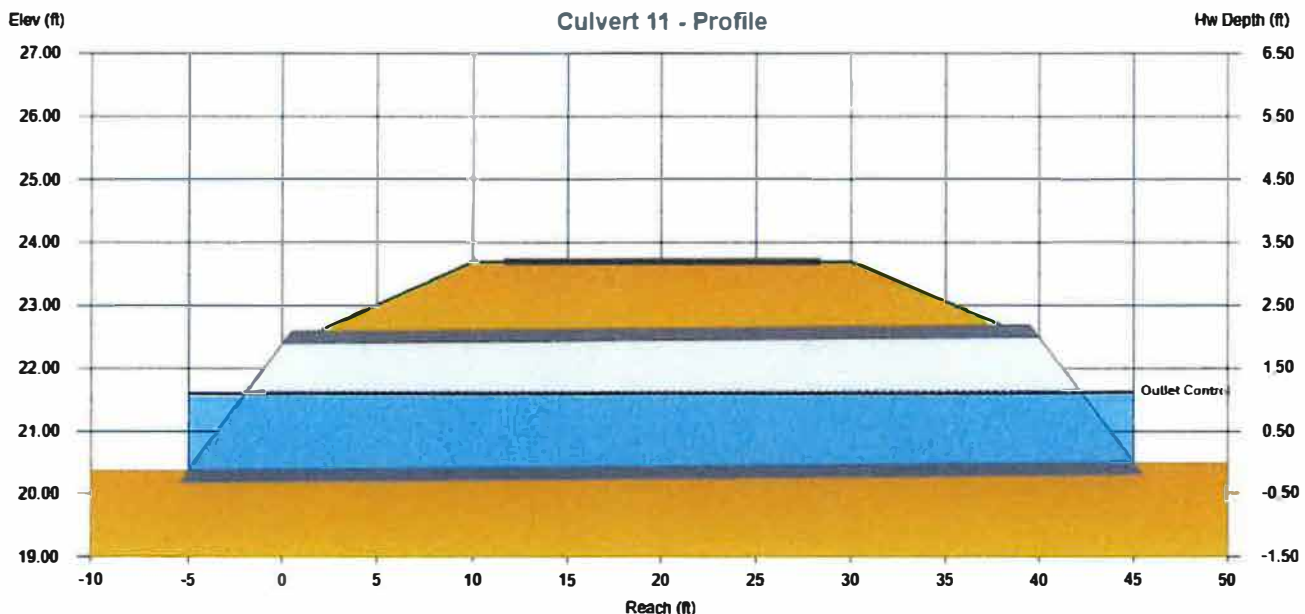
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.61 ft  
*from Culvert 10*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.56		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
2.10	2.10	0.00	1.06	1.17	14.5	13.4	21.61	21.61	21.63



*III-1-A-1.59*

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 11 to 13 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 12

### CULVERT

Shape = Circular  
 Inlet Edge = Mitered to Slope  
 Material = Concrete  
 Manning's n = 0.013  
 Rise = 24 in  
 Span = 24 in  
 Invert Elev. Down = 19.60 ft  
 Length = 50.0 ft  
 Slope = 0.002 ft/ft  
 Invert Elev. Up = 19.70 ft  
 No. Barrels = 1  
 Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 30.00 ft  
 Top Elevation = 22.90 ft  
 Crest Length = 40.00 ft

### DISCHARGE

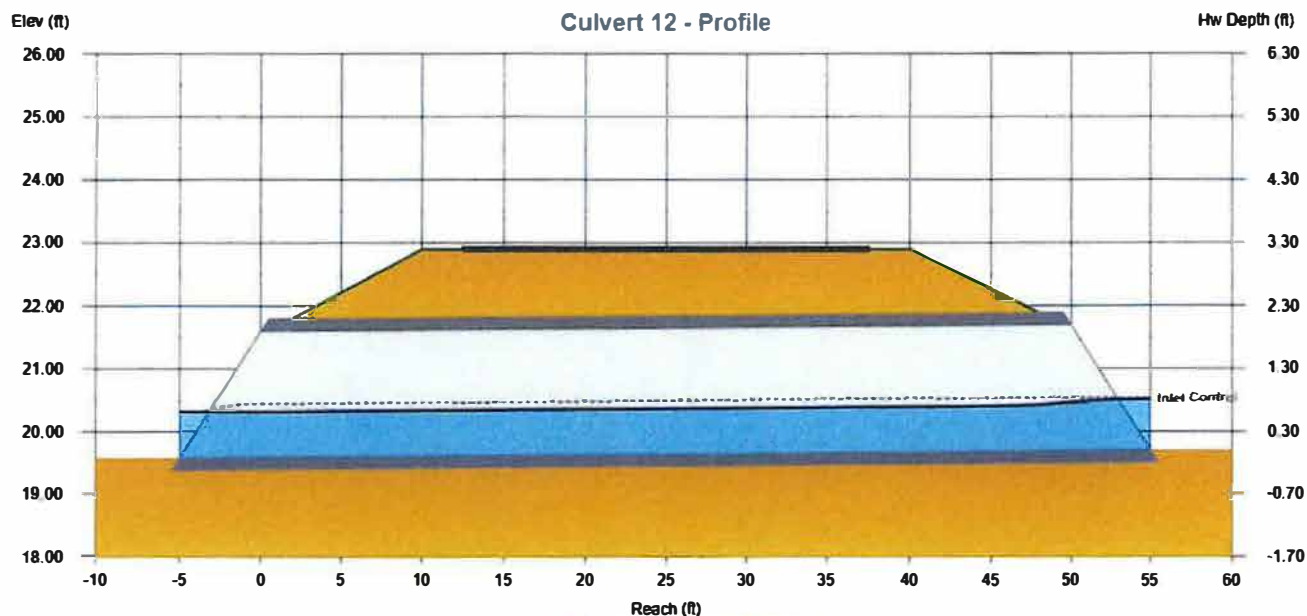
Method = User-defined

### TAILWATER

Tailwater Elevation = Normal Depth

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.41		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
2.80	2.80	0.00	2.74	2.74	8.7	8.7	20.32	20.42	20.52



III-1-A-1.60

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 11 to 13 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 12

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.60 ft  
Length = 50.0 ft  
Slope = 0.002 ft/ft  
Invert Elev. Up = 19.70 ft  
No. Barrels = 1  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 30.00 ft  
Top Elevation = 22.90 ft  
Crest Length = 40.00 ft

### DISCHARGE

Method = User-defined

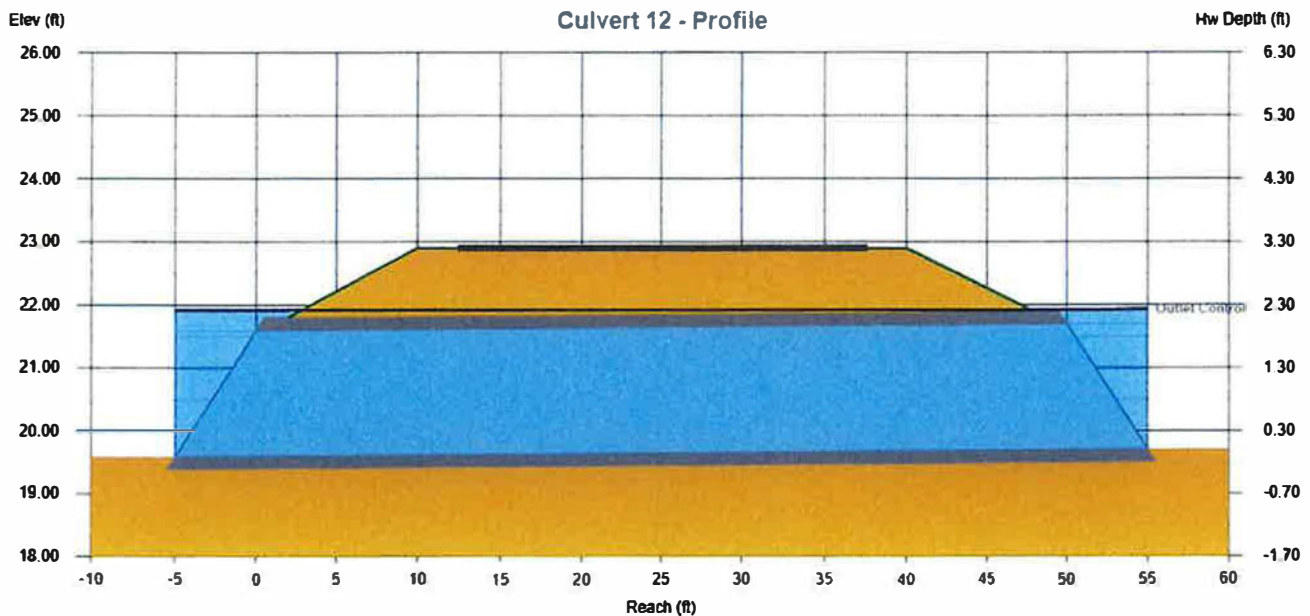
### TAILWATER

Tailwater Elevation = 21.92 ft

*from Culvert 7*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.12		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
2.80	2.80	0.00	0.89	0.89	24.0	24.0	21.92	21.93	21.94



*III-1-A-1.61*



## Culvert 13

## CULVERT

Shape	= Circular
Inlet Edge	= Mitered to Slope
Material	= Concrete
Manning's n	= 0.013
Rise	= 24 in
Span	= 24 in
Invert Elev. Down	= 19.80 ft
Length	= 36.0 ft
Slope	= 0.003 ft/ft
Invert Elev. Up	= 19.90 ft
No. Barrels	= 1
Plan Skew Angle	= 0 degrees

## EMBANKMENT

Top Width = 16.00 ft  
Top Elevation = 23.00 ft  
Crest Length = 40.00 ft

## DISCHARGE

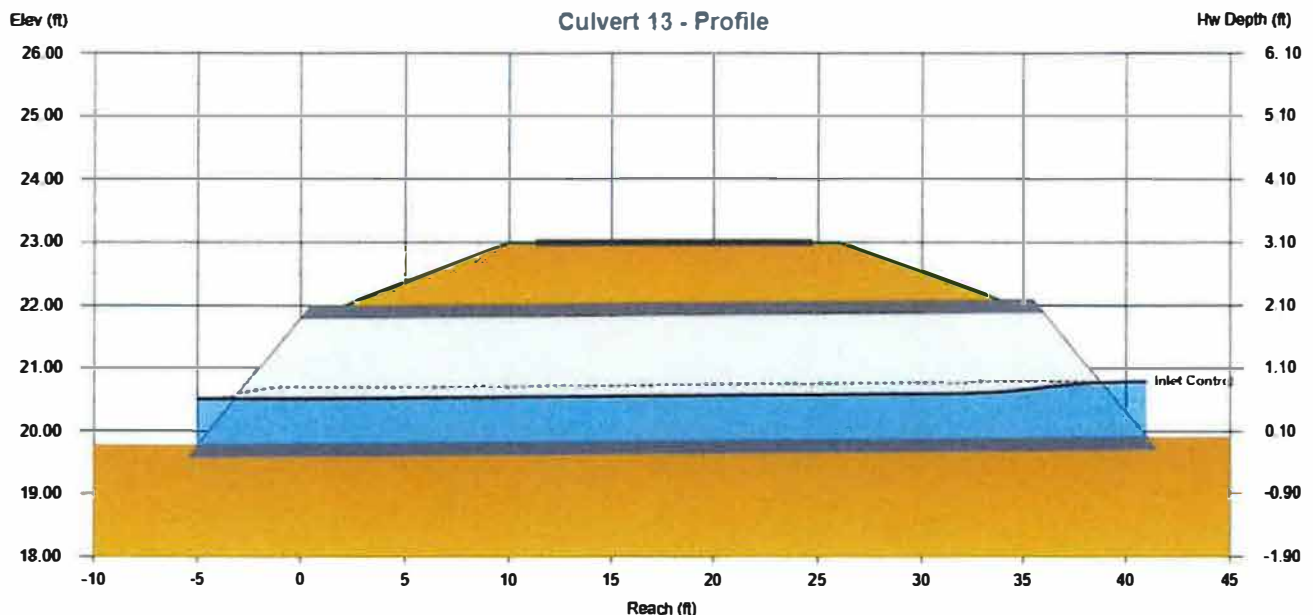
**Method** = User-defined

## TAILWATER

**Tailwater Elevation = Normal Depth**

## CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 0.45		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
3.30	3.30	0.00	3.22	3.25	8.7	8.6	20.52	20.62	20.80



III-1-A-1.62

# Culvert Report

Project filename: J C Elliott Transfer Station Culverts 11 to 13 073124.cst

Culvert Studio v 2.0.0.29

07-31-2024

## Culvert 13

### CULVERT

Shape = Circular  
Inlet Edge = Mitered to Slope  
Material = Concrete  
Manning's n = 0.013  
Rise = 24 in  
Span = 24 in  
Invert Elev. Down = 19.80 ft  
Length = 36.0 ft  
Slope = 0.003 ft/ft  
Invert Elev. Up = 19.90 ft  
No. Barrels = 1  
Plan Skew Angle = 0 degrees

### EMBANKMENT

Top Width = 16.00 ft  
Top Elevation = 23.00 ft  
Crest Length = 40.00 ft

### DISCHARGE

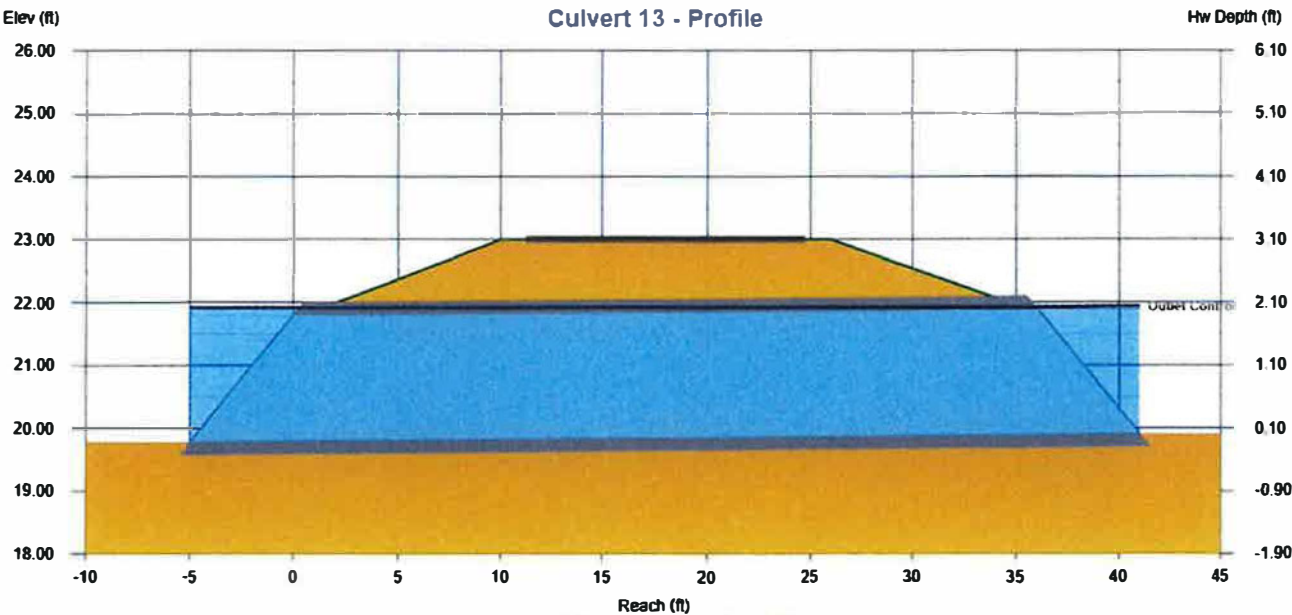
Method = User-defined

### TAILWATER

Tailwater Elevation = 21.92 ft  
*from Culvert 7*

### CALCULATION SAMPLE

Discharge			Velocity		Depth		HGL @ Hw/D = 1.02		
Total	Culvert	Over Top	Down	Up	Down	Up	Down	Up	Hw
(cfs)	(cfs)	(cfs)	(ft/s)	(ft/s)	(in)	(in)	(ft)	(ft)	(ft)
3.30	3.30	0.00	1.05	1.05	24.0	24.0	21.92	21.93	21.94



*III-1-A-1.63*

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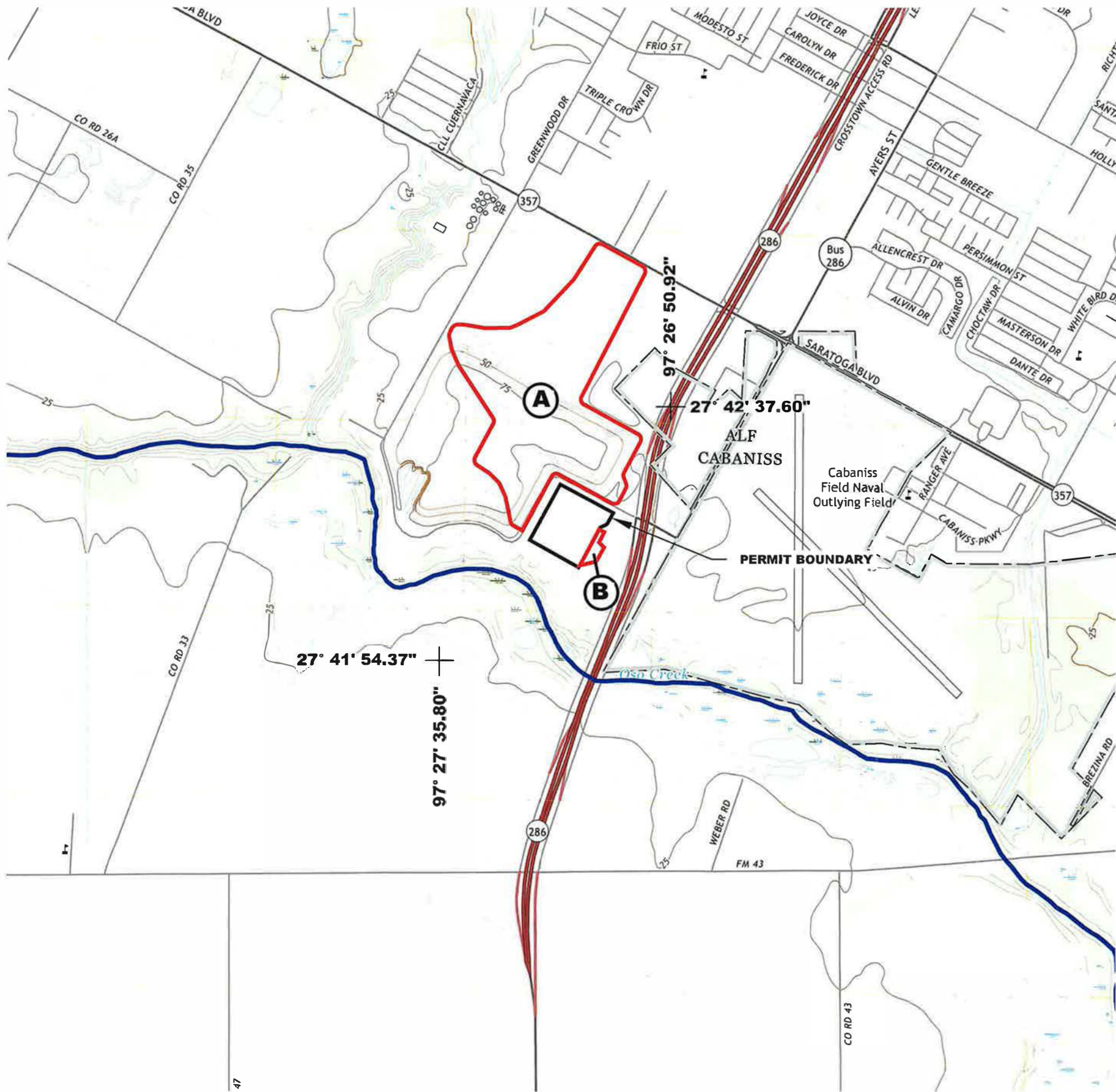
## FIGURES







11/2/2024 12:45 PM Z:\Users\jguy\OneDrive\Documents\Projects\16221088\00\Drawings\16221088\16221088.dwg



**SOURCE:**  
USGS OSO CREEK NW QUADRANGLE 2019.



### LEGEND

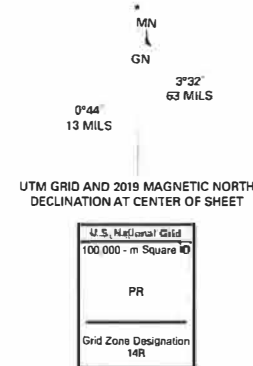
- PERMIT BOUNDARY
- OFF-SITE DRAINAGE AREA BOUNDARY
- EXISTING STREAMS
- OFF-SITE DRAINAGE AREA DESIGNATION
- EXISTING CONTOUR

- ROAD CLASSIFICATION
- Expressway
  - Secondary Hwy
  - Ramp
  - Interstate Route
  - Local Connector
  - Local Road
  - 4WD
  - US Route
  - State Route

### Produced by the United States Geological Survey

North American Datum of 1983 (NAD83)  
World Geodetic System of 1984 (WGS84). Projection and  
1 000-meter grid: Universal Transverse Mercator, Zone 14R  
This map is not a legal document. Boundaries may be  
generalized for this map scale. Private lands within government  
reservations may not be shown. Obtain permission before  
entering private lands.

Imagery.....NAIP, September 2016 - December 2016  
Roads.....U.S. Census Bureau, 2015 - 2018  
Names.....GNS, 1979 - 2018  
Hydrography.....National Hydrography Dataset, 2004 - 2018  
Contours.....National Elevation Dataset, 2009 - 2012  
Boundaries.....Multiple sources; see metadata file 2016 - 2017  
Wetlands.....FWS National Wetlands Inventory 2004 - 2006



### NOTES:

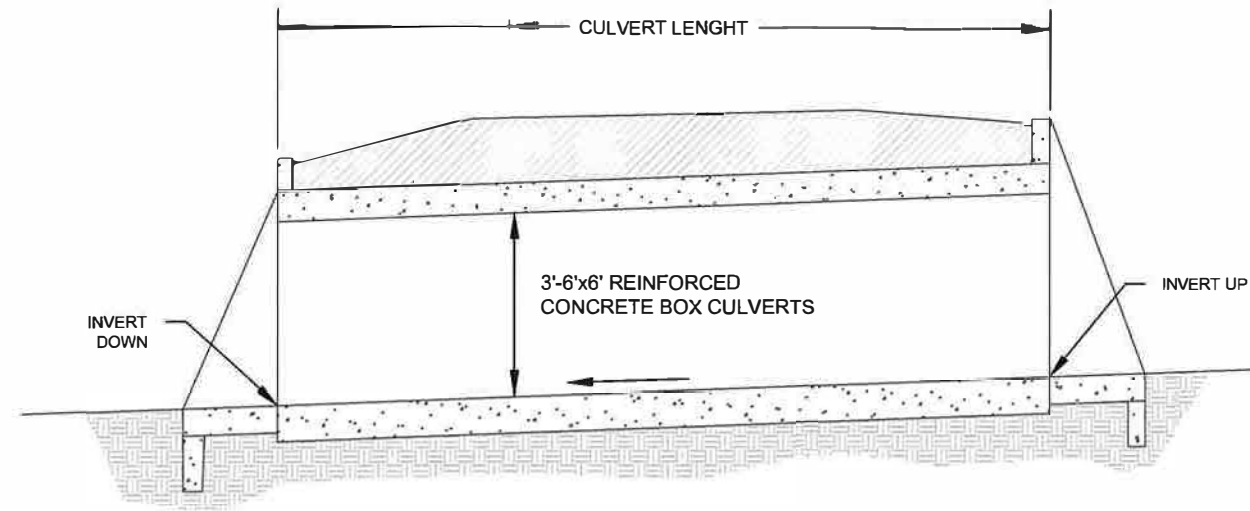
- STREAM INFORMATION OBTAINED FROM TCEQ SURFACE WATER QUALITY VIEWER (OSO CREEK TCEQ SEGMENT ID 2485A).

OFF-SITE DRAINAGE AREAS	
DESIGNATION	AREA (ACRES)
A	197.01
B*	1.98

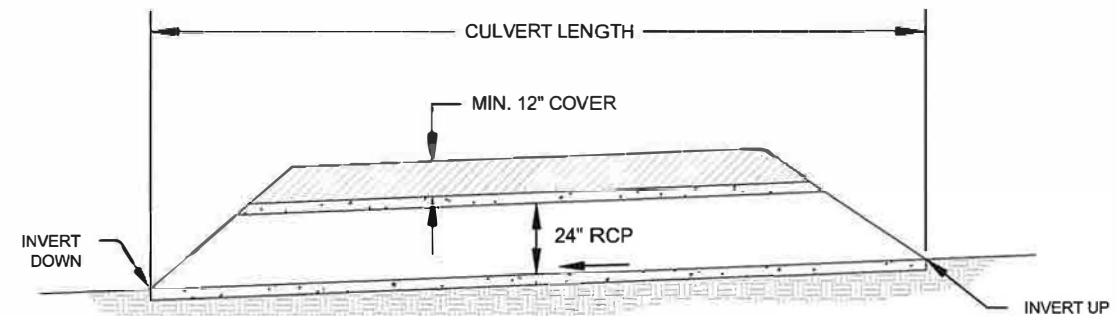
\*EXISTING LAND USE DRAINAGE AREA.



DRAWING TITLE		PROJECT TITLE	
OFF-SITE DRAINAGE AREA MAP		TYPE V PERMIT APPLICATION	
CITY OF CORPUS CHRISTI		J.C. ELLIOTT TRANSFER STATION	
CORPUS CHRISTI, NUECES COUNTY, TEXAS			
SCS ENGINEERS		STEARN, CONRAD AND SCHMIDT	
CONSULTING ENGINEERS		12851 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077	
		PH (281) 283-8495 FAX NO. (281) 283-7878	
		REG. NO. 16221088,00	
		CADD FILE: 16221088_00_11-1-A-2 OFF-SITE DRAINAGE AREA MAP	
		DATE: 11/2024	
		SCALE: AS SHOWN	
		FIGURE NO.	
		III-1-A.2	
		INTENDED FOR PERMITTING PURPOSES ONLY	
		TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-3407	



1 CULVERT 1 TYPICAL PROFILE  
III-1-A.3 NOT TO SCALE



2 CULVERT 2 THROUGH 13 TYPICAL PROFILE  
III-1-A.3 NOT TO SCALE

CULVERT INFORMATION							
CULVERT NUMBER	LENGHT (feet)	INVERT ELEV. DOWN(feet m.s.l.)	INVERT ELEV. UP(feet msl)	CULVERT TYPE	CULVERT SIZE (feet)	SLOPE (%)	NUMBER BARRELS
1	105	13.6	13.7	Concrete Box	7x7	0.1	3
2	36	18.7	18.8	RCP	2	0.3	6
3	50	18.7	18.8	RCP	2	0.2	3
4	36	19.0	19.1	RCP	2	0.3	4
5	60	19.1	19.2	RCP	2	0.2	3
6	120	19.0	19.2	RCP	2	0.2	3
7	50	19.3	19.4	RCP	2	0.0	3
8	36	19.8	19.9	RCP	2	0.3	1
9	80	19.9	20.1	RCP	2	0.3	2
10	50	20.2	20.3	RCP	2	0.2	2
11	40	20.4	20.5	RCP	2	0.3	1
12	50	19.6	19.7	RCP	2	0.2	1
13	36	19.8	19.9	RCP	2	0.3	1



SCS ENGINEERS  
STEARN, CONRAD AND SCHMIDT  
CONSULTING ENGINEERS  
12851 BRIAR FOREST, SUITE 205, HOUSTON, TX 77077  
PH (281) 253-9454 FAX NO. (281) 253-7678

CADD FILE:  
FIGURE III-1-A.3 GENERAL  
CONSTRUCTION DETAILS  
DATE: 11/2024  
SCALE: AS SHOWN  
FIGURE NO. III-1-A.3

PROJ. NO. 18221088.00  
DATE: 11/8/24  
DRAWN BY: RJE  
CHECKED BY: CE  
IN CHARGE: JKR

DRAWING TITLE  
DRAINAGE DETAILS

PROJECT TITLE  
TYPE V PERMIT APPLICATION

CITY OF CORPUS CHRISTI  
J.C. ELLIOTT TRANSFER STATION  
CORPUS CHRISTI, NUECES COUNTY, TEXAS

REV. DATE. DESCRIPTION

BY

TEXAS BOARD OF PROFESSIONAL ENGINEERS REG. NO. F-2407



**PART III - ATTACHMENT 2**

**CLOSURE PLAN  
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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(281) 293-8494

**November 2024  
Revision 1 – December 2024**

**PART III - ATTACHMENT 2**  
**CLOSURE PLAN**  
**TYPE V PERMIT APPLICATION**  
**J.C. ELLIOTT TRANSFER STATION**  
**NUECES COUNTY, TEXAS**  
**TCEQ PERMIT NO. MSW-2423**

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**2.0 CLOSURE REQUIREMENTS..... 2**  
**3.0 CERTIFICATION OF FINAL FACILITY CLOSURE ..... 4**  
**4.0 POST-CLOSURE CARE REQUIREMENTS..... 5**

SCS Engineers  
TBPE Reg. #F-3407





## **1.0 INTRODUCTION**

In accordance with 30 TAC §330.459 and 30 TAC §330.461, Section 2.0 of this plan describes the steps necessary to close the facility at any point during its active life. Section 3.0 discusses Post-Closure Land Use of the site. Post-closure maintenance of the site is not required as all wastes and waste residues will be removed during closure in accordance with 30 TAC §330.459(a).

## 2.0 CLOSURE REQUIREMENTS

The facility includes a fully-enclosed building, a gatehouse with scale(s), drainage features, and a perimeter fence with locking gates.

At the time of closure, the City will transport any remaining waste, waste residues, and any recovered materials to an off-site disposal facility. There are no facility units to be dismantled or removed off-site. The gatehouse building will be closed and locked. The box drains for the contaminated water will be emptied, flushed, and disinfected, but will remain intact. The related piping will be plugged at the exit from the trenches and/or box drains. All material on-site, whether in process or processed, will be evacuated to an authorized facility and the tipping floor and processing areas will be disinfected. The stormwater drainage features at the site will remain intact and left in a functioning condition.

If there is evidence of a release from a municipal solid waste unit, the executive director of the TCEQ may require an investigation into the nature and extent of the release and an assessment of measures necessary to correct an impact to groundwater.

In accordance with 30 TAC §330.461(a), no later than 90 days prior to the initiation of a final closure, the City shall, through a public notice in the newspaper(s) of largest circulation in the vicinity of the facility, provide public notice for final facility closure. This notice will include the name, address, and physical location of the facility, the permit number, and the last day of intended receipt of materials for processing at the facility. The City will also make available an adequate number of copies of the approved Closure Plan for public access and review. The owner or operator will also provide written notification to the TCEQ of the intent to close the facility and place this Notice of Intent in the facility's operating record.

Start-up of the closure activities for the site will begin after the date on which the facility receives the known final receipt of materials to be processed. The closure activities are as follows:

- Notify the TCEQ;
- Post a minimum of one sign at the main entrance and all other frequently used points of access for the facility notifying all persons who may utilize the facility or site of the date of closing for the facility and the prohibition against further receipt of waste materials after the stated date;
- Install suitable barriers at all gates or access points, or alternatively, fence around the entire waste processing area, to adequately prevent the unauthorized dumping of solid waste at the closed facility;
- Remove wastes, waste residues, and any recovered materials for disposal at an appropriate off-site location;
- Wash partially-enclosed building floor and surfaces that have been in contact with waste, including contaminated water trenches and/or box drains, and related piping;
- Disinfect tipping areas, processing areas and post-processing area, including contaminated water trenches and/or box drains, and related piping;
- Flush and disinfect the collection trenches and/or box drains for the contaminated water. Plug the related piping at the exit from the collection trenches and/or box drains;
- Conduct vector control procedures;
- Install suitable barriers, locks, and signs stating that the facility is closed;

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- Repair fencing and gates and secure the site;
- Sample/test/classify the waste not readily identifiable as garbage, trash, or refuse; and
- Perform site inspection and prepare certification of closure in accordance with §330.461.

### **3.0 CERTIFICATION OF FINAL FACILITY CLOSURE**

Following completion of all final closure activities for the facility, the City will submit, within 10 days, to the executive director for review and approval, a documented certification, signed by an independent registered professional engineer, verifying that final closure has been completed in accordance with the approved Closure Plan and the applicable rule provisions of 30 TAC Chapter 330, Subchapter K. The submittal to the executive director shall include all applicable documentation necessary for certification of final closure.

Within 10 days after completing final closure activities for the facility, the owner or operator will submit to the executive director by registered mail a request to the TCEQ for voluntary revocation of the facility permit in accordance with §330.461(c)(3).

Following receipt of the required final closure documents, as applicable, the commissions' regional office will conduct an inspection and provide a report verifying proper closure of the facility according to the approved Closure Plan before terminating operation and closing the facility will be acknowledged and the facility deemed properly closed.



#### **4.0 POST-CLOSURE CARE REQUIREMENTS**

Post-closure maintenance of the site is not required as all wastes and waste residues will be removed during closure in accordance with 30 TAC §330.463(a)(1), therefore no post closure care period is required.

**PART III – ATTACHMENT 3**  
**CLOSURE COST ESTIMATE**  
**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**

FOR PERMITTING PURPOSES ONLY

**PART III – ATTACHMENT 3**  
**CLOSURE COST ESTIMATE**  
**TYPE V PERMIT APPLICATION**  
**J.C. ELLIOTT TRANSFER STATION**  
**NUECES COUNTY, TEXAS**  
**TCEQ PERMIT NO. MSW-2423**

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Table III-3.1 Facility Completion and Closure Cost Estimate

**APPENDICES**

Appendix III-3A Closure Cost Calculation for Engineering Services

SCS Engineers  
TBPE Reg. #F-3407



## **1.0 INTRODUCTION**

The closure cost estimate for the J.C. Elliott Transfer Station is prepared in accordance with 30 TAC §330.505. Current TCEQ rules do not require post closure maintenance for this facility.

## **2.0 CLOSURE COST ESTIMATE**

The facility will include the transfer station structure, a gatehouse with scale(s), drainage features, and a perimeter fence with locking gates. The transfer station structure is a dual-level, fully-enclosed building with an above-grade processing floor (tipping floor). The fully-enclosed building footprint will be approximately 390 feet wide by 367 feet long with concrete floor, an entry and exit with locking overhead doors, and a roof.

A detailed estimate in current dollars of the cost of hiring a third party that is not affiliated (as defined in 30 TAC §328.2) with the owner or operator to close the facility at any time during the active life, when the extent and manner of its operation would make closure most expensive, is included in Tables III-3.1. The cleanup and disposition costs for onsite waste material are based on a per ton measure, as shown in Tables III-3.1. A calculation for the engineering costs associated with the closure is included in Appendix III-3A. No dismantling of the concrete pad or drainage structures will be conducted at closure. No changes to the site elevations at closure will occur that will affect the final contour map.

The estimated closure cost based on the above considerations is \$130,800 in 2024 dollars. A copy of the required documentation to demonstrate financial assurance shall be submitted 60 days prior to initial receipt of waste. During the active life of the facility, the City will annually adjust the Closure Cost Estimate and the amount of financial assurance for inflation in accordance with 30 TAC, Chapter 37, Subchapter J. An increase in the closure cost estimate and the amount of financial assurance must be made if changes to the facility conditions increase the maximum cost of closure. A reduction in the closure cost estimate and the amount of financial assurance may be approved if the cost estimate exceeds the maximum cost of closure and the owner or operator has provided written notice to the TCEQ of the detailed justification for this reduction. A permit modification, in accordance with §305.70, is required to reduce the closure cost estimate and the amount of financial assurance. Continuous financial assurance coverage for closure must be provided until all requirements of the Closure Plan are completed and the site is determined to be closed in writing by the TCEQ.



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## TABLES

TABLE III-3.1  
CLOSURE COST ESTIMATE  
J.C. ELLIOTT TRANSFER STATION



Item No.	Description	Estimated Quantity	Units	Approx. Unit Cost	Extended Cost	Notes
<b>A State Administration of Site Closure</b>						
1	Survey site and review files to determine closure activities	1	L.S.	\$3,000.00	\$3,000.00	
2	Prepare Engineering Plans and Specifications	1	L.S.	\$10,000.00	\$10,000.00	
3	Procure Bids	1	L.S.	\$5,000.00	\$5,000.00	
4	Contract award and administer contract	1	L.S.	\$5,000.00	\$5,000.00	
<b>B General Cleanup of Site and Process Units</b>						
1	Cleanup and remove waste stored onsite	1,000	Tons	\$20.00	\$20,000.00	
2	Transport waste by a properly authorized transporter. Treat and/or dispose of waste at a properly authorized facility.	1,000	Tons	\$40.00	\$40,000.00	Large capacity transfer trucks (cost estimated)
3	General cleanup to include wash down of Facility. To include removal, transport, treatment, and disposal of all wash down waters/media.	1	L.S.	\$5,000.00	\$5,000.00	
4	Vector control procedures	1	L.S.	\$5,000.00	\$5,000.00	Assumes site requires one treatment by pest control company.
<b>C Secure Site</b>						
1	Install locks and a sign stating the facility is closed. Make any needed repairs to fence and gate. Secure fence and gate.	1	L.S.	\$2,500.00	\$2,500.00	
<b>D Certification of Abandonment and Completion of Cleanup</b>						
1	Perform site inspection and prepare certification of closure	1	L.S.	\$7,500.00	\$7,500.00	
2	Sample/test/classify waste (ash, liquids, sludge, other waste not readily identifiable as garbage, trash, refuse). To include lab reports, chain of custody, quality assurance and quality control.	1	L.S.	\$3,500.00	\$3,500.00	
3	Perform verification re-sampling and laboratory analysis.	1	L.S.	\$2,500.00	\$2,500.00	Estimated
	<b>Subtotal</b>				<b>\$109,000.00</b>	
<b>E</b>	<b>Contingency Cost (20%)</b>				<b>\$21,800</b>	
	<b>GRAND TOTAL</b>				<b>\$130,800</b>	

**Notes:** 1. This estimate assumes the maximum volume of waste permitted to be stored overnight onsite at the time of cleanup.  
2. This estimate assumes the cleanup will be performed by a third party contractor.

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## **APPENDIX III-3A**

### **CLOSURE COST CALCULATION FOR ENGINEERING SERVICES**

SCS ENGINEERS	Subject:	CLOSURE COST CALCULATION FOR ENGINEERING SERVICES			Sheet: 1 of 1
	Job No.:	16221088.00	Made by:	JKR	Date: 10/3/2024
	Name:	J.C. Elliott TS	Reviewed by:	CE	Date: 10/10/2024
			Revised by:		Date:

**OBJECTIVE:** Estimate the relative costs for various components of the Closure Costs for the J.C. Elliott TS.

**CALCULATIONS:** The following calculations are cross-referenced with the item numbers in Tables III-3.1.

**ITEM A-1**

Cost of a Professional Engineer surveying the site and reviewing files to determine the closure activities.

Estimated total cost = \$ 3,000

**ITEM A-2**

Cost of a preparing engineering plans and specifications.

Estimated total cost = \$ 10,000

**ITEM A-3**

Cost to procure bids.

Estimated total cost = \$ 5,000

**ITEM A-4**

Cost to award and administer the contract.

Estimated total cost = \$ 5,000

**ITEM B-1**

Cost to cleanup and remove the waste stored on-site. Assumes 6 days of work, 1 front end loader, 1 equipment operator, and 1 laborer.

Estimated total cost = \$ 20,000

Estimated cost / ton = \$ 20.00

**ITEM B-2**

Cost of transporting and disposing of waste is estimated based on previous experience.

**ITEM B-3**

Cost to perform general cleanup to include a wash down of the facility. Based on 3 day of work

Estimated total cost = \$ 5,000

**ITEM D-2**

Cost to sample/test/classify waste. Based on testing for metals, VOCs, SVOCs, and TPH.

Estimated total cost = \$ 3,500

**RESULTS:** See Tables III-3.1 for Closure Cost Estimates.

**SCS Engineers**  
**TBPE Reg. #F-3407**





**PART IV – SITE OPERATING PLAN  
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  
Houston, TX 77077  
(281) 293-8494

**November 2024  
Revision 1 – December 2024**

**PART IV – SITE OPERATING PLAN****TYPE V PERMIT APPLICATION  
J.C. ELLIOT TRANSFER STATION  
NUECES COUNTY, TEXAS  
TCEQ PERMIT NO. MSW-2423****TABLE OF CONTENTS**SCS Engineers  
TBPE Reg. #F-3407

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SCS Engineers  
TBPE Reg. #F-3407



## **1.0 INTRODUCTION**

This Site Operating Plan (SOP) for the J.C. Elliott Transfer Station has been prepared based on Title 30 of the Texas Administrative Code (30 TAC) Chapter 330, Subchapter E. The J.C. Elliott Transfer Station is a Type V facility owned and operated by the City of Corpus Christi. The purpose of this SOP is to provide general instruction to site management and operating personnel throughout the operating life of the site. This document provides an operating guide for site management to maintain the facility in compliance with the engineering design and applicable regulatory requirements of the Texas Commission on Environmental Quality (TCEQ) or appropriate successor agency, to protect human health and the environment, and to prevent nuisances. This plan is formatted to follow the regulatory criteria set forth in 30 TAC §330.201-249 (Subchapter E of the TCEQ Municipal Solid Waste Regulations). The plan may also serve as a reference source and assist in personnel training. This SOP, the permit, and the current TCEQ regulations will be kept onsite throughout the facility's life.

### **1.1 General Facility Design**

The site will include the transfer station structure, a gatehouse with scale(s), drainage features, and a perimeter fence with locking gates. The facility may include freshwater tanks. The transfer station structure is a dual-level, fully-enclosed building with an above-grade processing floor (tipping floor). The fully-enclosed building footprint will be approximately 390 feet wide by 367 feet long with concrete floor, an entry and exit with locking overhead doors, and a roof. A Site Layout Plan is included as Figures I/II-7. The general design and construction details for the fully-enclosed building components are included in Part III, Attachment 1.

The transfer station structure shall be constructed all at once. The construction layout and fully-enclosed building components are shown in Part III, Attachment 1, Figures III-1.4, III-1.5, III-1.7, and III-1.8.

### **1.2 General Facility Operation**

It is anticipated that incoming waste will primarily arrive in collection trucks, dump trailers, and in roll-off boxes, with a lesser component received directly from the general public. Waste vehicles will enter the site and be weighed at the scale. The gate attendant will direct these vehicles to the transfer station structure or designated brush/tire areas. Acceptable wastes will be off-loaded onto the tipping floor, inspected for prohibited wastes, and then loaded with site equipment into transfer trailers. Once the transfer trailer is full, it will be tarped and taken to Cefe Valenzuela Landfill or an appropriate disposal facility permitted by the TCEQ. Recyclables including but not limited to white goods, electronic goods, and Household Hazardous Waste (HHW) will be accepted and stored inside the transfer station until removed and taken to a facility authorized to accept such wastes. Other wastes such as brush and tires may be processed either inside or outside the building.

### **1.3 General Facility Personnel**

#### **1.3.1 Site Manager**

The site manager will be responsible for overall facility management and will be designated as the contact person for regulatory compliance matters. The site manager will be responsible for assuring that adequate personnel and equipment are available to provide facility operation in accordance with the SOP and the TCEQ regulations. The site manager will have the authority and responsibility to reject any and all unauthorized loads and have unauthorized materials removed from the site. The site manager is responsible for conducting daily operations, administering the facility's SOP, and serving as the emergency coordinator. The site manager will operate equipment when necessary and will designate an alternate in his/her absence that will be capable of assuming and fulfilling his/her duties and responsibilities. The site manager will maintain a minimum of a Class B license as defined in 30 TAC §30.210.



The site manager will be in charge of verifying that compliance with the SOP is maintained as required by regulation and by the plan. The site manager will also be responsible for ensuring that all site operating personnel are trained in operating plans and the appropriate rules and regulations that are required to keep the facility in compliance.

The site manager will maintain and document all training relative to this requirement in accordance with the record-keeping requirements outlined in Section 10.0 of this SOP.

#### 1.3.2 Equipment Operators

Equipment operators are responsible for the safe operation of the equipment they operate. As the personnel most closely involved with the actual operations, these employees are responsible for being alert for potentially dangerous conditions or careless and improper actions on the part of non-employees and other persons while on the premises. Equipment operators will check for and identify prohibited wastes, and alert the site manager for proper removal. Equipment operators monitor and direct unloading vehicles and are also responsible for maintenance, litter abatement, and general site cleanup. The equipment operators intervene as necessary to prevent accidents and report unsafe conditions immediately to the site manager. Examples of their daily responsibilities may include, but are not limited to: loading materials into empty transfer trailers, monitoring scale weights on transfer trailers as they are loaded, and using equipment to sweep the tipping floor. The minimum qualifications for equipment operators are the demonstrated abilities to operate equipment and perform other duties in a safe and effective manner. The site manager or designated representative will supervise the equipment operations.

#### 1.3.3 Gate Attendants

The gate attendant(s), also known as a scale house operator, will run the scale house while the facility is open to receive waste. The gate attendants will control site access and incoming waste, visually inspect open containers to verify contents, including inquiring/checking for unauthorized materials, dispense information on the proper utilization of the site, assess tipping fee charges, maintain complete and accurate records of each transaction and vehicles and direct persons to the transfer station structure as appropriate. The minimum qualifications for gate attendants are the demonstrated abilities to perform assigned duties in a safe and effective manner. The site manager or designated representative will supervise the gate attendants.

#### 1.3.4 Laborers

Laborers will provide miscellaneous operations support at the facility. This support will include but is not limited to: sweeping the operations areas using manual equipment, performing facility wash-down, collecting and disposing of windblown litter, performing general equipment and building maintenance, and directing and spotting vehicles in the unloading areas. Other site personnel or laborers may be employed from time to time in categories such as maintenance, litter abatement, and general site cleanup. The minimum qualifications for laborers are the demonstrated abilities to perform assigned duties in a safe and effective manner. The site manager and/or the equipment operators will supervise the laborers.

During night operations adequate personnel will be scheduled to work in order to handle the work load in a safe manner. The night staff may be a combination of equipment operators, laborers, and gate attendants. Proper lighting in and around the transfer station structure, the scale house, and security gates will address night operation safety issues. The J.C. Elliott Transfer Station will comply with applicable federal, state, or local worker health and safety issues.

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The level of personnel on site is dependent on the rate of incoming waste. At a minimum, one gate attendant and one equipment operator will be present on site when the facility is accepting waste. Additional personnel will be made available as required by operational and/or safety considerations.

#### 1.4 General Facility Equipment

Sufficient equipment will be provided to have adequate capability to conduct site operations in accordance with the design and conditions of the Site Development Plan (SDP) and this SOP.

Operation of equipment for the transfer station may consist of various pieces of heavy machinery. A front-end loader and excavator are anticipated to be the primary pieces of equipment used to process waste.

The front-end loader pushes waste toward the loading shoots, and an excavator may gather and load as well. When volume dictates, a second excavator can be deployed.

After the transfer trailers are loaded and covered, they will be checked to ensure that they are free of clinging trash.

Equipment will be maintained, promptly repaired, replaced, or supplemented with additional heavy machinery as required for effective operations. Emergency back-up equipment will be rented or will be available from other managed facilities. Additional equipment may be used based on operational considerations. Equipment requirements and further characteristics are summarized in Table IV-1.

**Table IV-1 Site Operational Equipment**

<b>Equipment Description and Characteristics</b>	<b>Minimum/Typical Number of Units at Maximum Capacity</b>	<b>Size</b>	<b>Function</b>
Front-End Loader	1	CAT 910 or equivalent	Waste moving, stockpiling, compacting, and loading
Excavator	1	CAT 320 or equivalent	Waste stockpiling, and loading/unloading

##### 1.4.1 Equipment for Emergencies

Each major piece of equipment will be equipped with fire extinguishers. The transfer station structure will also be supplied by public water supply. A first-aid kit will be maintained at the facility. Personal Protective Equipment (hard hats, safety glasses, and dust masks) will be supplied to the operators and laborers as needed.

## 2.0 WASTE ACCEPTANCE AND ANALYSIS

### 2.1 Waste Sources and Characteristics

The J.C. Elliott Transfer Station is a Type V facility. This facility is authorized to accept municipal solid waste (MSW). Class 2 and 3 industrial non-hazardous waste and certain types of special waste may be accepted at the facility provided the wastes are properly identified and provided the acceptance of such waste does not interfere with site operations. Recyclables including but not limited to white goods, electronic goods, and Household Hazardous Waste (HHW) will be accepted and stored inside the transfer station until removed and taken to a facility authorized to accept such wastes. Other wastes such as brush and tires may be processed either inside or outside the building. Based on the following list of acceptable wastes, there are no limiting waste constituents or characteristics that may impact or influence the design and operation of the facility. Therefore, the parameter limitations, as required by §330.203(a), are not applicable to this facility.

Waste accepted and recycled at the facility is expected to consist of the following wastes as defined in 30 TAC §330.3:

#### Primary Waste Types:

- Municipal Solid Waste - Solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including garbage, rubbish, ashes, street cleanings, automobile parts and all other solid waste other than industrial solid waste;
- Putrescible Waste - Organic wastes, such as garbage, that are capable of being decomposed by microorganisms with sufficient rapidity as to cause odors or gases or are capable of providing food for or attracting birds, animals, and disease vectors;
- Rubbish - Nonputrescible solid waste (excluding ashes), consisting of both combustible and noncombustible waste materials. Combustible rubbish includes paper, rags, cartons, wood, excelsior, furniture, rubber, plastics, brush, or similar materials; noncombustible rubbish includes glass, crockery, tin cans, aluminum cans, and similar materials that will not burn at ordinary incinerator temperatures (1,600 degrees Fahrenheit to 1,800 degrees Fahrenheit);
- Yard Waste - Leaves, grass clippings, yard and garden debris, and brush, including clean woody vegetative material not greater than six inches in diameter that results from landscaping maintenance and land-clearing operations. The term does not include stumps, roots, or shrubs with intact root balls;
- Special Waste – Any solid waste or combination of solid waste that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling to protect the human health or the environment. Only those special wastes that do not interfere with site operations will be accepted at this facility including but not limited to:
  - Hazardous waste from conditionally exempt small-quantity generators (CESQG) that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes) may be accepted provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator. These waste materials will be stored inside the transfer station building until removed and taken to a facility that is authorized to accept the waste;
  - Deceased animals that are incidental to routine collection of municipal solid waste and that can be systematically processed along with other solid waste;

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- Pharmaceuticals, contaminated foods, or contaminated beverages other than those contained in normal household waste on a case by case basis;
- Empty containers which have been used for pesticides, herbicides, fungicides or rodenticides, provided the containers have been triple rinsed or crushed;
- Non-RACM – Incidental amounts of non-regulated asbestos containing materials (Non-RACM) (incidental amount is defined as the maximum of 10 percent of the waste received on an annual basis by scale weight);
- HHW including but not limited to lead acid storage batteries, used oil, used oil filters from internal combustion engines, paints, and electronic goods will be stored inside the transfer station building until removed and taken to a facility authorized to accept such wastes;
  - Some accepted HHW or CESQG wastes, such as paints may be in the form of unopened containers (like new) or slightly used containers. Rather than disposing such recyclable/reusable hazardous wastes, the Site Manager may make these wastes available to residential customers and local charities;
  - Electronic goods will be collected inside the transfer station building and recycled as defined in §330.3. Any reusable electronic good (e.g. computer, printer, etc.) can be sent to Goodwill or Electronics Recycler for refurbishment and reuse.
  - Used oil filters from internal combustion engines (to include filters which have been crushed and/or processed to remove free-flowing used oil) will not be intentionally and knowingly sent for disposal to a landfill unless the filter has been or will be:
    - Crushed to less than 20% of its original volume to remove all free-flowing used; or
    - Processed by a method other than crushing to remove all free-flowing used oil. A filter is considered to be processed if:
      - The filter has been separated into component parts and the free-flowing used oil has been removed from the filter element by some means of compression in order to remove free-flowing used oil;
      - The used filter element of a filter consisting of a replaceable filtration element in a reusable or permanent housing has been removed from the housing and pressed to remove free-flowing used oil; or
      - The housing is punctured and the filter is drained for at least 24 hours.
- Whole used or scrap tires (pending approval of a tire processor registration);
- White goods (i.e., household appliances, refrigerators, stoves) and metal. Items containing CFCs will be handled in accordance with 40 Code of Federal Regulations §82.156(f);
- Construction or demolition (C & D) Waste - Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including, but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.



**Other Waste Types:**

- Class 2 industrial Wastes-Any individual solid waste or combination of industrial solid waste that are not described as Hazardous, Class 1, or Class 3 as defined in §335.506 of the TCEQ regulations (relating to Class 2 Waste Determination); and
- Class 3 Wastes-Inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable, as further defined in §335.507 of the TCEQ regulations (relating to Class 3 Waste Determination).

**Prohibited Waste Types:**

The facility will not accept the following wastes:

- Regulated hazardous wastes;
- Polychlorinated biphenyls (PCB) waste;
- Radioactive waste;
- Regulated Asbestos Containing Materials (RACM);
- Certain Special Wastes, including:
  - Hazardous waste other than from CESQGs that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes) provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month. CESQG waste from industrial generators will not be accepted;
  - Class 1 non-hazardous industrial waste;
  - Untreated medical waste
  - Municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
  - Septic tank pumpings;
  - Grease and grit trap wastes;
  - Waste from commercial or industrial waste water treatment plants; air pollution control facilities; and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 code of Federal Regulations (40 CFR), Part 261, Appendix VIII but has not been listed as a commercial product in 40 CFR, §261.33(e) or (f);
  - Slaughterhouse wastes;
  - Incinerator ash; and
  - Soil contaminated by petroleum products, crude oils, or chemicals in concentrations greater than 1,500 mg/kg total petroleum hydrocarbons, or contaminated by constituents of concern exceeding the concentrations listed in Table 1 of 30 TAC §335.521(a)(1);

- Items containing chlorinated fluorocarbons (CFC's), such as refrigerators, freezers, and air conditioners, will only be accepted at the site for processing if the generator or transporter provides written certification that the CFC has been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. If the site accepts any items containing CFC's, the City will have the CFC's evacuated by a certified refrigerant removing technician prior to processing at the transfer station; and
- Liquid waste (any waste material that is determined to contain "free liquids" as deemed by EPA Method 9095 (Paint Filter Test), as described in "Test Methods for Evaluating Solid Wastes, Physical Chemical Methods" (EPA Publication Number SW-846)) shall not be accepted unless it is:
  - Bulk or non-containerized liquid waste that is: household waste other than septic waste, or contained liquid waste and the container is a small container similar in size to that normally found in the household waste, the container is designated to hold liquids for use other than storage, or the waste is a household waste.

A Waste Acceptance Plan is included in Part IV, Appendix IV-1.

## 2.2 Measures for Controlling Prohibited Wastes

In order to address the detection and prevention of regulated hazardous wastes as defined in 40 Code of Federal Regulations (CFR) Part 261 and of polychlorinated biphenyls (PCB) waste as defined in 40 CFR Part 761, a Waste Screening Plan (WSP) and exclusion program will be implemented at the J.C. Elliott Transfer Station. The purpose of the program is to:

1. Prevent the unauthorized entry and disposal of wastes not approved by the rules and regulations of the TCEQ and the Permit Application;
2. Protect the site operating personnel and customers using the facility;
3. Help achieve regulatory compliance;
4. Assure that the site and surrounding areas are protected from contamination from unauthorized wastes; and
5. Provide implementation procedures for the detection and exclusion program.

Procedures to detect and control the receipt of prohibited wastes include:

1. Informing facility customers of prohibited wastes by posting one or more signs at the facility entrance listing prohibited wastes;
2. Informing all drivers of incoming waste hauling vehicles that the following information is available:
  - Posting one or more signs at the facility entrance listing prohibited wastes; and
  - Making a list of prohibited wastes available to all vehicle drivers and operators upon request;
3. Training facility personnel:
  - Training for appropriate facility personnel responsible for inspecting or observing incoming loads to recognize regulated hazardous waste and PCB waste;
  - Conducting random inspections of incoming loads in accordance with procedures described in this section;

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- Maintaining records of all inspections; and
- Notifying the executive director of any incident involving a regulated hazardous waste or a PCB waste.

Facility personnel will be trained to inspect vehicles and identify regulated hazardous waste, polychlorinated biphenyl (PCB) waste, and other prohibited wastes. At a minimum, the gate attendant and equipment operators will be trained in inspection procedures for prohibited waste. Supervisors will provide personnel with on-the-job training. Records of employee training on prohibited waste control procedures will be maintained in the facility operating record. The personnel will be trained to look for the following indications of prohibited waste:

- Yellow hazardous waste or PCB labels;
- DOT hazard placards or markings;
- Liquids;
- 55-gallon drums;
- 85-gallon overpack drums;
- Powders or dusts;
- Odors or chemical fumes;
- Bright or unusual colored wastes; and
- Sludges.

If personnel identify any of the above indicators in an incoming load, then that load will be directed to an area out of the flow of traffic and facility personnel will further assess the load. If the load is determined to contain prohibited waste or if there is any possibility that it may be prohibited waste, then the load will be rejected and directed back to the generator. All gate attendants will be diligent in looking for trucks bringing in waste loads from potential sources of prohibited waste such as industrial facilities, microelectronics manufacturers, electronic companies, metal plating industry, automotive and vehicle repair service companies, and dry-cleaning establishments.

#### 2.2.1 Managing of Prohibited Wastes

Unknown wastes undergoing analysis are properly segregated and protected against the elements, secured against unauthorized removal, and isolated from other waste and activities.

Known prohibited wastes detected during inspection are returned immediately to the hauler. If the hauler is not available, the waste is placed in suitable collection bins. An effort is first made to identify the entity that deposited the prohibited wastes and have them return to the site and properly disposed of. In the event that identification of the source is not possible, the site manager will manage the waste so it is disposed of properly.

If regulated hazardous or PCB wastes are detected, the TCEQ is notified either via phone, facsimile transmission, or e-mail. As soon as is practical, the hauler is required to remove the hazardous waste from the site. Prior to removal, the hauler must obtain an EPA identification number, package the waste in accordance with TxDOT regulations, and properly manifest the waste designating a permitted facility to treat, store, or dispose of the hazardous waste.

### 2.2.2 Load Inspection Procedure

An operator in the transfer station visually inspects all incoming loads. Should any indication of prohibited waste be detected, appropriate personnel will conduct a thorough evaluation of the load. The driver is directed to a load inspection area in an area of the tipping floor where the load is discharged from the vehicle. The inspector breaks up the waste pile and inspects the material for any hazardous or prohibited waste. Known prohibited waste is placed back into the vehicle and the driver is instructed to depart the site. Should any regulated hazardous waste be detected, the entire load will be refused.

The TCEQ is notified whenever regulated hazardous or PCB waste is detected. Records of the notification will be kept in the site operating record and include the date and time of notification, the individual contacted, and the information reported.

In addition to the above procedure, incoming loads are inspected on a random basis. At a minimum, the facility will randomly inspect incoming loads as shown on Table IV-5 of Section 30.0. The random inspection reports will include (at a minimum), the date and time of inspection, the name of the hauling company and driver, the type of vehicle, the contents of the load, and the results of the inspection. The driver of a randomly selected load will be notified and instructed to proceed to the inspection area of the tipping floor. At this point, the operator will visually inspect the contents of the load and document the contents for the type of waste contained. Following any random inspection, documentation of the inspection will be placed in the site's operating record. A record of unauthorized material removal will be maintained in the site operating record.

### 2.3 **Waste Acceptance Rate**

The daily waste acceptance rate will range to a maximum of 2,500 tons per day. An estimate of the amount of waste to be received daily, by waste type, is as follows:

**Table IV-2 Summary of Waste Types**

<b>Waste Type</b>	<b>Estimated Daily Amount</b>
MSW	50% to 100%
C & D	0% to 50%
Yard Waste	0% to 25%
Class 2	0% to 25%
Class 3	0% to 25%

These waste amounts are only estimates and are not intended to be a limitation or constraint on the site operations.

### 2.4 **Waste Storage and Processing Time**

At the estimated peak, the amount of waste (all types as discussed above in Table IV-2) to be received daily will be 2,500 tons per day. Waste storage or holding will occur on the tipping floor, including partially-filled transfer vehicles at the end of the operating day. The maximum volume of waste that will be stored overnight at the facility at any given time is 1,000 tons or less, which includes the waste in fully loaded, covered transfer vehicles waiting to haul waste off-site. No storage of waste materials will occur off the tipping floor, except for waste in fully loaded, covered transfer trailers waiting to be hauled off-site and recyclable materials awaiting transport to a facility authorized to accept such wastes. Solid waste will generally be processed within an average of 4 to 6 hours. The solid waste will not be allowed to accumulate on-site for such a period that will allow the creation of a nuisance or public health hazard due to odors, fly breeding, or harborage of other vectors. Storage periods significantly above average are as a result of equipment breakdown or acts of God, and will only be permitted for the time required to repair or replace



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the malfunctioning equipment or to allow any exigent circumstances to subside. The maximum volume of waste that can be stored at the facility under these circumstances is 1,000 tons which includes the waste in loaded transfer vehicles waiting to haul waste off-site. These holding times apply to both processed and unprocessed wastes. No waste tipping or processing will occur off the tipping floor. The processed solid waste will be transported off-site and disposed of at a TCEQ-permitted landfill.

During time periods including holidays, the solid waste may be temporarily stored at the site not to exceed a time period of 72 hours. If waste remains on the tipping floor during these periods, rather than covered transfer vehicles, closing the overhead doors will be used to control potential odors, flies and other vectors.

In the event the facility is inoperable for periods longer than 24 hours, the alternative waste processing procedure will be to temporarily close and support customers in finding an alternate permitted landfill facility.

## **2.5 Waste Disposal**

All acceptable wastes received will be landfilled at the appropriate type landfill facility permitted by the TCEQ.

## **2.6 Waste and Effluent Testing**

The facility does not accept or process grit trap wastes or sludges for which requirements in §330.203(c)(2) apply, and therefore, waste and effluent sampling and testing is not required for the proposed waste streams. The effluent testing requirements in §330.203(c)(1) do not apply to this facility since wastewaters are pumped directly to a permitted wastewater plant.

### 3.0 FACILITY - GENERATED WASTES

The only wastes that the transfer station facility will generate are the contaminated water from the floor wash down process. The characteristics and approximated constituent concentration of the wastewater from the washdown process consists of the following:

0 – 90 %	water
0 – 20 %	solids (sand, clay, silt, etc.)
trace amounts	oil/grease/gasoline
trace amounts	other

The contaminated water (wastewaters) from incidental liquids in the trucks and the floor wash down process will be managed in accordance with §330.207 as described in Section 4.0. The contaminated water will be pumped directly to a permitted wastewater plant. The facility will not generate sludges, therefore the requirements of §330.205(d) do not apply.

#### 4.0 CONTAMINATED WATER MANAGEMENT

All liquids resulting from the operation of the transfer station structure will be properly managed in a manner that will not cause surface water or groundwater pollution. Implementation of a storm water management plan that is designed to minimize and route storm water away from the waste processing area will protect surface water, thus minimizing the amount of contaminated water generated by the site.

Uncontaminated water is any water that has not come into contact with waste. Contaminated water is any water that has come into contact with waste. The pavement and ground surface around the perimeter of the fully-enclosed building will be graded to promote uncontaminated surface water drainage away from the fully-enclosed building and toward the surface water drainage features. A contaminated water management plan and related details for the handling of the clean stormwater are included in Part III, Attachment 1, Figures III-1.6, III-1.7, and III-1.8.

Solid waste processing operations will be conducted on a concrete-paved area (tipping floor) inside the transfer station structure; therefore, contact of storm water with waste material is limited. To prevent creating odors or attracting vectors, wastewaters will not be allowed to accumulate on the tipping floor. Wastewater will be directed toward at least one end of the sloped tipping floor. The wastewater will be collected via either grated box drains and/or grated trench drains and directly discharged to a permitted treatment facility. A contaminated water management plan, showing the layout of the grated box drain and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the contaminated water management components are included in Part III, Attachment 1, Figures III-1.7 and III-1.8.

Off-site discharge of contaminated waters shall be made only after approval under the Texas Pollutant Discharge Elimination System authority.

The wastewaters discharged to a treatment facility permitted under Texas Water Code, Chapter 26 must not:

1. Interfere with or pass-through the treatment facility processes or operations;
2. Interfere with or pass-through the facility's sludge processes, or use; or
3. Be inconsistent with the prohibited discharge standards, including 40 Code of Federal Regulations Part 403, General Pretreatment Regulations for Existing and New Source Pollution.

## **5.0 STORAGE REQUIREMENTS**

All wastes shall be stored in such a manner that does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors and shall be contained or bundled so as not to result in litter. Other than brush and tires, no waste tipping or processing will occur off the tipping floor.

An on-site storage area for source-separated or recyclable materials will be provided inside the transfer station building that is separate from the tipping floor or process area. Control of odors, vectors, and windblown waste from this storage area will be maintained. Each of the HHWs accepted at the site will have adequate housing until it is properly disposed of. For additional information on the storage areas, see Section 13.0 of this document.

HHWs will be segregated and stored in a separate area. Furthermore, HHWs will be stored until a full load is accumulated or until it is removed for proper disposal but no longer than 3 months. Because the activities (recovery of material from solid waste) listed in §330.209(c) do not occur at the Transfer Station, this regulation does not apply.

Disease vectors, such as flies and rodents, will be controlled by minimizing the accumulation of waste or wastewater in the building. An exterminator will be contracted to spray/place traps at the facility as necessary to control vectors. Additional treatments will be scheduled if the appearance of vectors occurs.



## **6.0 APPROVED CONTAINERS**

Solid waste entering the facility is transferred from the incoming haul vehicle to the tipping floor. Waste that is placed on the tipping floor will be transferred to transfer trailer vehicles via loader equipment. The transfer trailers will be durable and designed for safe handling and cleaning. The transfer trailers will be equipped with tarps or covers to be used during transport.

Food wastes shall be stored in covered or closed containers that are leak-proof, durable, and designed for safe handling and easy cleaning. Non-reusable containers shall be of suitable strength to minimized vector scavenging or rupturing. Reusable containers must be maintained in a clean condition as not to constitute a nuisance, harbor, feed, and propagate vectors. Reusable containers emptied manually must be capable of being serviced without physical contact with waste.

## **7.0 CITIZEN’S COLLECTION STATION**

The J.C. Elliott Transfer Station does not propose a separate Citizen’s Collection Station, therefore, the requirements of §330.213 do not apply. However, citizen vehicles will be directed by personnel to safely enter the tipping floor area for processing in a designated area. If due to growth, a safe area for citizen vehicles within the transfer station structure is not viable, a citizen convenience center will be added at the facility as a permit modification.

## **8.0 REQUIREMENTS FOR STATIONARY COMPACTORS**

The J.C. Elliott Transfer Station will not utilize a stationary compactor; therefore, the requirements of §330.215 do not apply to this facility.

## **9.0 PRE-OPERATION NOTICE**

The J.C. Elliott Transfer Station will not operate a mobile liquid processing unit or perform any type of liquid waste processing; therefore, the requirements of §330.217 do not apply.



## 10.0 RECORD-KEEPING AND REPORTING REQUIREMENTS

A copy of the permit, approved permit application, permit modifications, an as-built set of construction plans, and other required plans and related documents will be maintained in the operating record at the J.C. Elliott Transfer Station. These plans and documents will be furnished upon request to TCEQ representatives and made available for inspection at a reasonable time by TCEQ representatives. These plans and documents are part of the facility's operating record and may consist of hard copies or as electronic documents. The operating record will be maintained in an organized format that will allow information to be easily located and retrieved. All information contained within the operating record and the different required plans will be retained during the active life of the facility and until after certification of closure.

The following records listed in Table IV-3 will be kept, maintained, and filed as part of the facility operating record.

**Table IV-3 Operating Record**

<b>Records To Be Maintained</b>	<b>Rule Citation</b>
1. All location-restriction demonstrations	§330.219(b)(1)
2. Inspection records and training procedures	§330.219(b)(2)
3. Closure plans and any monitoring, testing, or analytical data relating to closure requirements	§330.219(b)(3)
4. Current cost estimates and financial assurance documents relating to financial assurance for closure	§330.219(b)(4)
5. Copies of all correspondence and responses relating to the operation of the facility, modifications to the permit, approvals, and other matters pertaining to technical assistance	§330.219(b)(5)
6. All manifests and trip tickets involving special waste	§330.219(b)(6)
7. Any other document(s) as specified by the approved permit or by the executive director	§330.219(b)(7)
8. Record retention provisions for trip tickets as required by §312.145	§330.219(b)(8)
9. Alternative schedules and notification requirements, if applicable	§330.219(g)
10. Inspection records and training records	§330.221
11. Access control breach and repair notices	§330.223
12. Waste unloading/prohibited waste discovery	§330.225
13. Record of alternative operating hours, if applicable	§330.229(b)
14. A copy of the permit, the permit application, and any other required plan or other related document shall be maintained at the facility. An as-built set of construction plans and specifications shall be maintained at the facility or at an alternate location approved by the executive director.	§330.219(a)
15. Daily litter pickup	§330.233

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All reports and other information requested by the executive director will be signed by the owner or operator (City of Corpus Christi) of the J.C. Elliott Transfer Station as described in §305.44 or by a duly authorized representative of the owner or operator. In accordance with §330.219(c)(1)(A)-(C), a person is a duly authorized representative only if:

1. The authorization is made in writing by the owner or operator as described in §305.44(a);
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the facility or activity or for environmental matters for the owner or operator, such as the position of plant manager, environmental manager, or a position of equivalent responsibility. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and
3. The written authorization is submitted to the executive director of the TCEQ.

If an authorization under this section is no longer accurate because of a change in individuals or position, then a new authorization satisfying the requirement of this section will be submitted to the executive director prior to, or together with, any reports, information, or applications to be signed by an authorized representative. The person signing the report will make the certification in §305.44(b).

## 11.0 FIRE PROTECTION PLAN

Smoking is strictly prohibited within the transfer station building. No burning of waste materials will be permitted at the facility, unless specifically authorized under special conditions from the TCEQ Executive Director. Accidental fires will be promptly extinguished. To minimize any hazards regarding fire, all employees will be instructed in the potential sources of fires and their appropriate control, as described below. All fire extinguishers will be kept fully charged, will have a current inspection, and will be ready for use at all times.

Flammable and combustible liquids will be stored in approved flammable-materials storage cabinets. Smoking, open flames, temporary heaters, and spark-producing containers, devices, or tools will not be permitted in areas where flammable materials are stored or handled. The storage cabinets containing flammable or combustible materials will be labeled.

The operating personnel will observe incoming waste collection vehicles to detect evidence of pre-ignited materials in the vehicle. In most instances, these pre-ignited conditions are evident from the discharge of smoke and odors from the vehicle containing pre-ignited waste materials. The vehicle will be directed to an area of the site outside and not adjacent to any building, where waste can be safely discharged and the fire extinguished. However, the site may also fight the fire inside the transfer station building to keep out of the wind. This process shall include closing the tipping floor to traffic and emptying the load in an open area of the tipping floor so the fire can be extinguished.

If the pre-ignited waste materials are discovered after having been unloaded inside the transfer station, the load will be pushed, if practical, to a safe location for control and extinguishing. The extinguished waste materials and any exhumed material will then be prepared for loading onto the transfer trailers.

Any fires managed at the site will be done so with the employees' safety in mind. If fires are not able to be extinguished by site personnel then the following procedures will be followed:

1. Call the fire department;
2. Notify and request assistance from other operating personnel immediately;
3. Stop all site operations;
4. Push the fire out of the building if practical;
5. Confine fire to a small area; and
6. Approach the fire from any upwind position to minimize exposure to combustible products.

In instances of fires that can't be extinguished quickly, the City of Corpus Christi Fire Department will be notified. Corpus Christi Fire Station 18 is located nearest the facility at 6226 Ayers Street, Corpus Christi, Texas, approximately 1 mile northeast of the site via Greenwood Drive and Ayers Street. **The emergency number is (361) 826-3900 and 911.**

If a fire occurs that is not extinguished within ten minutes of detection, the TCEQ's regional office will be contacted as soon as possible, but no later than four hours by telephone or email, and in writing within 14 days with a description of the fire and the resulting response.

### 11.1 Fire Protection Training

The site manager will train on-site personnel in firefighting techniques, fire prevention, response, and the fire safety and protection aspects of the SOP as explained in the above sections. Personnel will be familiar

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with the use and limitations of firefighting equipment available onsite. Records of this training will be included in the site operating record in accordance with the recordkeeping requirement of Section 10.0 of this Site Operating Plan.



## 12.0 ACCESS CONTROL

A perimeter fence and/or natural barriers encompassing the entire J.C. Elliott Transfer Station and adjacent City-owned property will control public access to the facility. Public access is limited to the gated site entrance located off of the SH 286 service road that will serve the facility as shown on Figure III-7. This site entrance will be secured by a gate that is monitored by the gate attendant during normal site operating hours. During extended operating hours (nights and weekends), the gate attendant may be replaced with an operator. Outside operating hours, the gate will be locked.

### 12.1 Site Security

Site security measures are designed to prevent unauthorized persons from entering the site, to protect the facility and its equipment from possible damage caused by trespassers, and to prevent disruption of facility operations caused by unauthorized site entry. Unauthorized entry into the site is minimized by controlling access with the natural barriers and/or perimeter fence and locking gate. The perimeter fence will consist of a minimum 6-foot high chain-link and/or wood fence.

The site entrance located off of the SH 286 service road will serve the facility for waste delivery vehicles. This site entrance is secured by a gate, and access to the facility is monitored by the gate attendant, who will be on site during operating hours. As needed, the gate attendant may be replaced with an equipment operator. If an equipment operator is used to replace the gate attendant, the equipment operator will be required to have the same training as the gate attendant. Outside operating hours, the gate will be locked. Waste transfer and other City or facility support vehicles may enter and exit from an optional entrance and exit with locking gates.

Entry to the active portion of the transfer station structure is restricted to designated personnel, approved waste haulers, and properly identified persons whose entry is authorized by site management. The general public will not have access to the facility for processing or recycling activities.

The perimeter fencing and entrance/exit gates will be inspected at a frequency shown in Table IV-5. Maintenance will be performed as needed to correct normal wear and tear. Site personnel or a third-party company will perform repairs, as necessary. The facility will comply with the following schedule and notification requirements for any access breach:

**Table IV-4 Schedule and Notification Requirements for Access Breach**

<b>Requirements</b>	<b>Access Breach Repaired within 8 hours</b>	<b>Access Breach Not permanently repaired in 8 hours</b>
Notify region office of breach and repair schedule	Not required	Within 24 hours
Make temporary repairs	Not required	Within 24 hours
Make permanent repairs	Within 8 hours	Within schedule submitted to regional office in initial notice
Notify regional office when permanent repair completed	Not required	Within schedule submitted to regional office in initial notice

### 12.2 Traffic Control

Public access to the facility is limited to the site entrance located off of the SH 286 service road. Only one site entrance for the public will be used at any time. Vehicular traffic to the facility will access the site using this entrance. The access road accommodates two-way traffic. A second optional entrance for waste

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transfer trucks and facility support vehicles will be located at the southwest portion of the property off the existing landfill road owned by the City and will have a locking gate. A second optional exit for waste transfer vehicles and facility support vehicles is approximately 1,200 feet south of the public entry/exit. A locking gate will be located at the egress point for the property. The optional entrance/exit roads for the waste transfer vehicles and facility support vehicles may be used in conjunction or in lieu of the primary entrance/exit shown on the figures. The access road, as well as the internal access roads are designed for the projected facility traffic and will provide the appropriate turning radii for the waste vehicles to prevent a disruption in traffic flow at the facility. Mud and dust will be controlled in accordance with Section 19.0 of this SOP. The gate attendant or other designated employee restricts site access to designated authorized vehicles and directs these vehicles appropriately. All visitor and employee parking and equipment storage will be located in an area outside of the transfer station structure traffic flow.

Signs located at the entrance of the facility direct solid waste transportation vehicles to the appropriate unloading/loading areas. Site personnel provide traffic directions as necessary to facilitate safe movement of vehicles. The site roads are designed with adequate width and turning radii to safely maneuver the waste collection and waste hauling vehicles within the facility property.

### **13.0 UNLOADING WASTE**

The tipping floor, inside the transfer station building, will be the main waste unloading area and will accept all types of approved wastes as detailed in this SOP. Other wastes such as brush and tires may be processed inside or outside the building in a designated area.

Once the incoming vehicle's weight has been recorded, the gate attendant will direct incoming waste traffic to the tipping floor area of the transfer station. The gate attendant will inform the hauler that the waste is only to be unloaded in the area where the hauler is directed to unload by site operating personnel. Signs directing traffic from the scale house to the transfer station structure will be located as needed along the route to the transfer station structure. Personnel inside the transfer station structure will direct and observe the unloading of waste. The owner or operator is not required to accept any solid waste which he/she determines will cause or may cause problems in maintaining full and continuous compliance with the TCEQ regulations.

Unloading waste in unauthorized areas will be prohibited. Any waste identified as having been deposited in an unauthorized area will be immediately moved to the tipping area. The trained personnel working inside the transfer station structure will observe each load that is dumped on the tipping floor. The trained personnel have the authority and responsibility to reject unauthorized loads, have the transporter remove unauthorized material and/or assess appropriate surcharges, and have the unauthorized material removed by on-site personnel or otherwise properly managed by the facility.

Prohibited waste will not be allowed to enter the site. The gate attendant will be the first point of contact with the hauler. The hauler will be asked to inform the gate attendant of the content of the load. The gate attendant will visually inspect open containers to verify contents. In the event that prohibited wastes are identified in the load, the entire load will be turned away from the gate and not be allowed entrance to the facility. In the event that the prohibited waste is not detected in the load until unloading on the tipping floor, the load will be handled as discussed in Section 2.2 of this plan.

## 14.0 SPILL PREVENTION AND CONTROL

Solid waste processing operations will be conducted on a concrete-paved area (tipping floor) under the transfer station structure roof; therefore, contact of storm water with waste material is limited. Uncontaminated water is any water that has not come into contact with waste. Contaminated water is any water that has come into contact with waste. The pavement and ground surface around the perimeter of the fully-enclosed building will be graded to promote uncontaminated surface water drainage away from the building and toward the surface drainage features. A contaminated water management plan and related details for the handling of the clean storm water are included in Part III, Attachment 1, Figures III-1.6, III-1.7, and III-1.8.

Wastewater will be directed toward at least one end of the sloped tipping floor. The wastewater will be collected via grated box drain and pumped directly to a permitted wastewater plant. A contaminated water management plan, showing the layout of the grated trenches and box drains and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the contaminated water management components are included in Part III, Attachment 1, Figures III-1.7, and III-1.8.

The storage and processing areas of the facility are designed to control and contain spills and contaminated water from leaving the facility. Since the tipping floor is covered by a roof and enclosed, the potential “worst case spill or release” would occur when the entire tipping floor is being washed down. Based on manufacturer’s data, a standard pressurized nozzle that provides a maximum flow rate of 10 gallons per minute may be used to wash down the tipping floor and will generate approximately 600 gallons of washwater per hour. Based on manufacturer’s data that one person could washdown approximately 8,400 square feet of floor surface per hour with this nozzle and based on the size of the floor area, it would take approximately 17 hours for one person to wash down the entire tipping floor area (143,130 square feet), generating approximately 10,500 gallons of washwater. The generated contaminated water will be collected and discharged directly to a permitted wastewater plant.



## **15.0 OPERATING HOURS**

To promote efficient, safe and sanitary operations at the J.C. Elliott Transfer Station, and to prevent any disruption of solid waste management services in the area, the facility is permitted to operate 24 hours per day, seven days a week.

The actual hours and days of operation will be posted on the entrance sign.

Hours of operation beyond the standard operating hours listed in 30 TAC § 330.229(a) are necessary to support the hauling operations that will utilize the J.C. Elliott Transfer Station and to ensure the efficient and timely receipt, processing, and transfer of solid waste for offsite disposal. Hauling operations in the area provide routine collection services on Saturdays and during the early morning hours. Extended hours will assist the J.C. Elliott Transfer Station in properly managing the demand and ensuring compliance with the approved site development and operating plans for the facility. General facility operations will typically occur outside waste acceptance and heavy equipment operating hours to avoid interference with solid waste management activities at the facility.

## **16.0 FACILITY SIGN**

A conspicuous and readable sign will be displayed at the site entrance off of the SH 286 service road. The sign will measure at least 4 feet by 4 feet, and have lettering at least 3 inches in height stating the name of the site, type of site, hours and days of operation, an emergency 24-hour contact phone number(s), the local emergency fire department phone number, and the TCEQ permit number. Another sign will list all prohibited wastes from receipt at the facility as discussed in this SOP and will be located along the facility entrance road. Other signs stating rules, operating procedures, and warnings may also be posted in this area.

Within the site, signs may be placed along the access road at an adequate frequency for users to be able to understand where processing areas are and which roads are to be used.

Signs prohibiting smoking will be posted near the facility entrance or scale house. A sign will be prominently displayed at the facility entrance stating that all loads will be properly covered or otherwise secured.

## **17.0 CONTROL OF WINDBLOWN MATERIAL AND LITTER**

Transfer of municipal solid waste will occur within the confines of the fully-enclosed transfer station structure tipping floor and will be protected from the wind. In addition to the waste being confined within the building, the perimeter fence surrounding the site will capture any incidental windblown trash. Litter along fence lines, access roads, or surrounding the building will be collected and brought to the processing area when the facility is operating at a frequency required in Table IV-5. Collection vehicles will be completely enclosed or covered as they enter and exit the facility to minimize windblown trash.

## **18.0 MATERIALS ALONG ROUTE TO THE FACILITY**

The site manager will encourage that vehicles hauling waste to the facility are enclosed or provided with a tarpaulin, net, or other means to effectively secure the load. In addition to routine checks by the gate attendant, actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges or similar measures will be taken to control the spillage of waste on route to the facility. On days when the facility is in operation, the site manager will be responsible for cleanup of waste materials spilled along and within the right-of-way of all public access roads serving the facility for a distance of 2 miles in either direction from the entrance to the facility at a frequency required in Table IV-5. The site manager or his designee will consult with TxDOT officials as necessary concerning cleanup of state highways and rights-of-way consistent with 30 TAC §330.235.



## **19.0 FACILITY ACCESS ROADS**

The scale house area and access road to the facility are designed to be accessible in all weather conditions. The access road and all internal facility roadways are surfaced with asphalt, concrete, gravel, crushed rock, or a similar material. The surface condition of these roads will be maintained and repaired regularly to minimize potholes or low spots that may impound water. The surfacing of all site roadways will minimize the tracking of mud and trash onto public roads. Any tracked mud and associated debris which may be brought into the facility roadways will be cleaned by washing down, sweeping, or scraping, as necessary, to minimize tracking those materials onto the public roadways. Litter and any other debris will be picked up and taken to the transfer station structure for processing as discussed in Section 18.0 of this plan.

Fugitive dust emissions are minimized by the surfacing of all site roadways and regular cleaning procedures, such as spraying access road surfaces with uncontaminated stormwater or water from the water supply line.

## **20.0 NOISE POLLUTION AND VISUAL SCREENING**

The site will be designed to minimize the potential noise pollution and visual impact to neighboring landowners and the public. Waste processing operations will be conducted within the transfer station structure, thereby minimizing noise pollution and screening operations. The fully-enclosed building is set near the south-central portion of the permit boundary with an open land buffer to the east and south, J.C. Elliott Landfill to the west and north, the existing city transfer station to the north. The building is enclosed on all sides to obscure visibility of the waste processing operations within building.

## **21.0 OVERLOADING AND BREAKDOWN**

The facility will not accumulate solid waste in quantities that cannot be processed within such time as will preclude the creation of odors, insect breeding, or harboring of other vectors. If such accumulations occur, additional solid waste shall not be received until the adverse conditions are abated.

If a significant work stoppage should occur at the facility due to a mechanical breakdown or other causes, the facility will accordingly restrict the receipt of solid waste. Under such circumstances, incoming solid waste shall be diverted to an approved backup processing or disposal facility. If the work stoppage is anticipated to last longer than 24 hours or long enough to create objectionable odors, insect breeding, or harboring of vectors, steps shall be taken to remove the accumulated solid waste from the site to an approved backup processing or disposal facility.

In the event the facility is inoperable for periods longer than 24 hours, the alternative waste processing procedure will be to temporarily close and support customers in finding an alternate processing or disposal facility.

## **22.0 SANITATION**

All working surfaces that come in contact with wastes shall be washed down on a weekly basis at the completion of processing.

Washwaters will not be allowed to accumulate on the tipping floor. Washwater will be directed toward at least one side of the sloped tipping floor. The washwater will be collected via grated box drain. Contaminated water will gravity drain from the box drain and pumped directly to a permitted wastewater plant. A contaminated water management plan, showing the layout of the box drain and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the contaminated water management components are included in Part III, Attachment 1, Figures III-1.7, and III-1.8.



## 23.0 VENTILATION AND AIR POLLUTION CONTROL

Ventilation will be provided in accordance with the current TCEQ MSW Air Permitting rules and regulations applicable to municipal solid waste facilities. The transfer station's high ceiling will provide ample passive ventilation. Other ventilation systems may be used, as needed. The transfer station structure is oriented with its walls perpendicular to the prevailing southern wind. Waste caught behind push walls or in push pits will be removed regularly to minimize odors. These design features reduce the likelihood of nuisance odor being created and then carried off the permit boundary.

All air pollution emission capture and abatement equipment or equivalent technology will be properly maintained and operated, as required, during facility operation. Cleaning and maintaining of the abatement equipment will be performed as recommended by the manufacturer and as necessary so that the equipment can be adequately maintained.

The J.C. Elliott Transfer Station will ensure that the operation of the facility does not violate any applicable requirements of the approved state implementation plan developed under the Federal Clean Air Act, Section 110, as amended, and TAC 330.15(d), which prohibits the burning of waste.

The J.C. Elliott Transfer Station will implement an odor management plan as described below.

Ventilation will be provided and odors controlled in accordance with the current TCEQ MSW Air Permitting rules and regulations applicable to municipal solid waste facilities. The transfer station's high ceiling will provide ample passive ventilation.

The transfer station structure is oriented with its walls perpendicular to the prevailing southern wind so any operational odors are less likely to be carried off site. Waste caught behind push walls or in push pits will be removed regularly to minimize odors. These design features reduce the likelihood of nuisance odor being created and then carried off the permit boundary. A minimum 50-foot buffer will be provided between the transfer building and the site boundaries. The neighboring property is owned by the City and consists of open land to the south, and a landfill and transfer station to the north. In addition to the building's design features and ample buffers, the City will take further steps to prevent and control potential odors being generated and migrating off site. These include:

- Prompt & efficient flow of waste through the building.
- Routine washing of the tipping floor.
- Closing overhead doors at the end of day in the event waste is stored overnight in the transfer station.
- The deployment of a deodorizing system, if necessary.

Solid waste processing operations will be conducted under the fully-enclosed building roof on the tipping floor to prevent nuisance odors from developing outside. No waste tipping or processing, other than brush and tires, will occur outside the building.

The site will be graded to prevent the ponding of water in improper locations which are not part of the drainage system. The on-site drainage structures will be maintained to prevent accumulation outside of required detention, and thus minimize any nuisance odors associated with stagnant water.

If a significant work stoppage should occur at the J.C. Elliott Transfer Station due to a mechanical breakdown or other causes, the facility will accordingly restrict the receiving of solid waste. Under such circumstances, incoming solid waste shall be diverted to an approved backup processing or disposal facility.

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If the work stoppage is anticipated to last longer than 24 hours or long enough to create objectionable odors, insect breeding, or harboring of vectors, steps shall be taken to remove the accumulated solid waste from the site to an approved backup processing or disposal facility.

Wastewaters will not be allowed to accumulate on the tipping floor. The wastewater will be collected via grated box drain, gravity drain from the trench and/or box drains, and pumped directly to a permitted wastewater plant. A contaminated water management plan, showing the layout of the grated trench and box drains and associated piping for the handling of contaminated water is included in Part III, Attachment 1, Figure III-1.6. Details of the contaminated water management components are included in Part III, Attachment 1, Figures III-1.7, and III-1.8.

Air emissions from the facility will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act. The facility and constructed air pollution abatement devices will obtain authorization, under Chapter 116 of the MSW regulations (relating to Control of Air Pollution By Permits for New Construction or Modifications) or Subchapter U (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations), as applicable.

Reporting emissions events, if applicable, will occur in accordance with 30 TAC §101.201 and reporting scheduled maintenance will occur in accordance with 30 TAC §101.211.

## **24.0 HEALTH AND SAFETY PLAN**

Designed for safety, the facility features one-way traffic flow thereby greatly reducing risk from backing. This provides a predictable pattern of traffic, tipping and loading. The fully-enclosed building's design includes two loading shoots, pits and push walls which will be amply visible. Facility personnel will be trained in the appropriate sections of the facility's health and safety plan.

Safety training for all personnel will be provided routinely and will be the responsibility of the site manager. The site manager will enforce safety rules and policies and promptly investigate and report all accidents. Operators may be required to wear personal protective equipment such as hard hats, safety glasses, and dust masks when appropriate. Fire extinguishers will be available at all times. The transfer station structure will be supplied by public water supply. Detailed procedures that comprise the Health and Safety Plan for the facility are discussed below.

### **24.1 Emergency Preparedness**

Preparedness and preventive measures to minimize both the frequency and severity of accidents and emergency situations threatening human health will be implemented at the facility. These measures will largely depend on the attentiveness and state of readiness of facility personnel. All personnel will undergo in-house training to introduce the measures below.

#### **24.1.1 General Measures**

The following general measures will be implemented for the overall facility:

- Employee breaks or rest periods will be provided to minimize employee fatigue, improve alertness, and thereby reduce accident potential.
- Access controls will prevent entry of unauthorized personnel.
- Routine preventive equipment maintenance will be provided.
- A management representative will perform regular site inspections.
- Appropriate personnel safety equipment will be maintained on site in good condition.
- Adequate turning area for hauling vehicles will be provided.
- Scavenging will not be allowed and individuals will be required to stay close to their vehicles for their protection.
- Unloading will be restricted to designated areas only.
- Site personnel will be alert for possible prohibited wastes entering site.
- Prohibited wastes will be controlled or contained and removed as necessary.

#### **24.1.2 Measures for the Unloading and Receiving Area**

The following measures will be implemented within the unloading/receiving area of the facility:

- Inspect loads as per procedures developed based on guidelines detailed in Section 2.2 of this SOP.
- Observe incoming vehicles for evidence of improper operation, faulty equipment, or other conditions that could be detrimental to the facility personnel or other persons onsite.
- Make emergency equipment available and maintain a first-aid kit in the facility.

- Display signs of prohibited wastes for transporter's reference.

## 24.2 Emergency and Contingency Procedures

Emergency and contingency procedures will be implemented at the facility in the event of accidents, or environmentally significant releases of waste or waste constituents to air, soil, surface water or groundwater. These procedures constitute an initial response by facility staff that will be supplemented, as necessary, by outside emergency services. Emergency assistance requests will be handled through conventional means (e.g. calling 911).

The following situation-specific procedures are initially proposed and are subject to amendments, as required, based on experience gained with time.

### 24.2.1 Accidents

The procedures to address various types of accidents are discussed in the following sections.

#### 24.2.1.1 *General Procedures*

For an incident involving a spill or release that requires notification, site personnel should:

1. Notify the appropriate federal or state agency affected by the release and report the following information:
  - a) Caller's name and telephone number;
  - b) Name and address of the facility;
  - c) Time and type of release;
  - d) Name and quantity of material(s) involved (to the extent known);
  - e) Extent of injuries, if any; and
  - f) Possible hazards to human health or the environment outside the facility.
2. Take appropriate measures to prevent the spreading or worsening of the situation.
3. Notify the site manager of the details of the spill.
4. Make arrangements to collect, store, treat, or dispose of all recovered waste and clean-up residue.
5. Investigate possible methods of preventing recurrence of the incident.

#### 24.2.1.2 *Vehicular Accidents*

If an accident involving vehicles or site equipment occurs, site personnel should:

1. Determine whether personal injury has occurred; if so, follow the steps outlined in Section 24.2.1.3, which addresses personal accidents.
2. Determine whether the vehicle(s) can be safely moved under its own power;
  - a) If so, move the vehicle(s) out of the way of normal traffic flow.
  - b) If the vehicle(s) cannot move by its own power and is interrupting traffic flow, push the vehicle(s) out of the way using site equipment.
3. Notify the site manager of the details of the accident.



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4. Arrange to have any disabled vehicles towed from the facility in accordance with specific instructions from the site manager.

*24.2.1.3 Personal Accidents*

1. Determine the nature and extent of the injuries.
2. Administer basic emergency first-aid techniques if safe.
3. Call for outside emergency assistance (EMS).
4. Report incident to the site manager.
5. Transport victim(s) to a professional medical care facility by conventional means, if injuries require non-emergency medical attention.

## **25.0 EMPLOYEE SANITATION FACILITIES**

Potable water and sanitary facilities will be provided for all employees and visitors at the scale house and inside the transfer station building. Portable sanitary facilities may be utilized and will be maintained in accordance with instructions from the providers of these facilities.

## **26.0 DISEASE VECTOR CONTROL**

The transfer station structure is designed to prevent the nuisances that can attract disease vectors such as flies and rodents. The fully-enclosed building is designed to allow waste to flow through and not accumulate in the structure. Waste caught behind pushwalls, or in the loading pits will not be allowed to accumulate. If necessary, a licensed professional will apply pesticides for control of vectors to ensure that proper chemicals are used and that they are properly applied.

## **27.0 PROCESSING OF LARGE ITEMS**

Bulky and large items arriving at the facility will be placed on the tipping floor so as to allow the loader to crush and flatten the items prior to loading into the transfer trailer. Where this is not possible, bulky or large items will be loaded into transfer trailers that have been partially filled to prevent damage to the trailer from impact due to the heavy weight of bulky or large items.

Refrigerators, freezers, air conditioners, and any other items containing chlorinated fluorocarbon (CFC) will be handled in accordance with 40 Code of Federal Regulations §82.156(f)(2). Verification that the refrigerant has been evacuated from the appliance or shipment of appliances from whom the appliance or shipment of appliances is obtained, will be required prior to acceptance of the appliances at the facility. The verification will include a signed statement from whom the appliance or shipment of appliances is obtained, the name and address of the person who recovered the refrigerant, and the date the refrigerant was recovered. If the site accepts any items containing CFC's, the City will have the CFC's evacuated by a certified refrigerant removing technician prior to processing at the transfer station.



## **28.0 SALVAGING AND SCAVENGING**

Salvaging will be conducted only by City personnel or City-authorized agents, and will be confined to predetermined areas. Salvaging will be limited to the white-goods salvaging program, recyclable HHW, tires diverted from other waste, and other similar, organized salvaging activities which do not interfere in any way with the safe and efficient operation of the site. Scavenging will not be permitted at the site.

## **29.0 HANDLING OF INDUSTRIAL WASTES**

The J.C. Elliott Transfer Station will not accept Class 1 industrial waste. Class 2 and 3 non-hazardous industrial waste may be accepted at the facility provided the wastes are properly identified and provided the acceptance of such waste does not interfere with site operations. Class 2 industrial waste accepted at the facility will generally consist of plant trash (paper, cardboard, linings, wrappings, paper and/or wooden packaging materials, food waste, uncontaminated wooden materials, and uncontaminated floor sweepings) as defined under 30 TAC §335.508(3) that may be disposed of with regular municipal solid waste. Class 3 non-hazardous industrial wastes will include inert and essentially insoluble industrial solid waste, including materials such as rock, brick, glass, dirt, certain plastics and rubber, etc., that are not readily decomposable as defined in §335.507 (relating to Class 3 Waste Determination).

**30.0 FACILITY INSPECTION AND MAINTENANCE**

Table IV-5 outlines the inspection and maintenance lists of the facility. The site manager or a designee will perform the tasks. The inspection documentation will be retained in the operating record.

**Table IV-5 Facility Inspection and Maintenance List**

ITEM	TASK	Frequency
Fence/Gate	Inspect perimeter fence and gate for damage. Make repairs if necessary.	Weekly
Windblown Waste	Police working area, wind fences, access roads, entrance areas, and perimeter fence for loose trash. Clean up as necessary.	Daily
Waste Spilled on Route to the Facility	Police the entrance areas and the SH 286 service road at least 2 miles from the facility entrances for loose trash. Clean up as necessary.	Daily
Facility Access Road	Inspect facility access road for damage from vehicle traffic or excessive mud accumulation. Maintain as needed. Grading equipment will be used at least once per day to control or remove mud accumulations if being tracked onto the roadway.	Weekly or more often during wet weather or extended dry weather periods.
Facility Signs	Inspect all facility signs for damage, general location, and accuracy of posted information.	Weekly
Random Load Inspections	Randomly inspect loads	One per day
Fire Extinguishers	Inspect facility fire extinguishers.	Annually
SOP Training	Train employees in contents of this SOP.	When hired and annually

**APPENDIX IV-1**



**PART IV – SITE OPERATING PLAN  
APPENDIX IV-1  
WASTE ACCEPTANCE PLAN**

**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**

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November 2024  
Revision 1 – December 2024

FOR PERMITTING PURPOSES ONLY

**PART IV – SITE OPERATING PLAN  
APPENDIX IV-1  
WASTE ACCEPTANCE PLAN**

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

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**SCS Engineers  
TBPE Reg. #F-3407**



## **1.0 INTRODUCTION**

This Waste Acceptance Plan (WAP) outlines the acceptance requirements and review and approval process that will be used to accept special waste and industrial waste as defined by TCEQ at the J.C. Elliott Transfer Station (JCETS).

The TCEQ solid waste regulations define Special Waste as a “solid waste or combination of solid wastes that because of its quantity, concentration, physical, chemical or biological properties requires special handling and disposal to protect human health and the environment” and include a list of specific wastes that are Special Wastes.

Only those special wastes identified below may be accepted at this facility without prior written approval from the Executive Director and shall be handled in accordance with the provisions stated in the rules. Any requests for approval of special waste shall be in accordance with Title 30 Texas Administrative Code (TAC) §330.171(b).

- Hazardous waste from conditionally exempt small-quantity generators (CESQG) that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes) may be accepted provided the amount of waste does not exceed 220 pounds (100 kilograms) per month per generator. These waste materials will be stored inside the transfer station building until removed and taken to a facility that is authorized to accept the waste;
- Deceased animals that are incidental to routine collection of municipal solid waste and that can be systematically processed along with other solid waste;
- Pharmaceuticals, contaminated foods, or contaminated beverages, other than those contained in normal household waste;
- Empty containers which have been used for pesticides, insecticides, herbicides, fungicides, or rodenticides will be accepted provided the containers have been triple rinsed, crushed or rendered unusable upon receipt;
- Incidental amounts of non-regulated asbestos-containing material (Non-RACM). The incidental amount is defined as the maximum of 10 percent of the waste received on an annual basis by scale weight (annual basis is defined as the latest 4 consecutive quarters);

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- Household Hazardous Waste (HHW) including but not limited to lead acid storage batteries, used oil, used oil filters from internal combustion engines, paints, and electronic goods will be stored inside the transfer station building until removed and taken to a facility authorized to accept such wastes;
  - Some accepted HHW or CESQG wastes, such as paints may be in the form of unopened containers (like new) or slightly used containers. Rather than disposing such recyclable/reusable hazardous wastes, the Site Manager may make these wastes available to residential customers and local charities;
  - Electronic goods will be collected inside the transfer station building and recycled as defined in §330.3. Any reusable electronic good (e.g. computer, printer, etc.) can be sent to Goodwill or Electronics Recycler for refurbishment and reuse.
  - Used oil filters from internal combustion engines (to include filters which have been crushed and/or processed to remove free-flowing used oil) will not be intentionally and knowingly sent for disposal to a landfill unless the filter has been or will be:
    - Crushed to less than 20% of its original volume to remove all free-flowing used; or
    - Processed by a method other than crushing to remove all free-flowing used oil. A filter is considered to be processed if:
      - The filter has been separated into component parts and the free-flowing used oil has been removed from the filter element by some means of compression in order to remove free-flowing used oil;
      - The used filter element of a filter consisting of a replaceable filtration element in a reusable or permanent housing has been removed from the housing and pressed to remove free-flowing used oil; or
      - The housing is punctured and the filter is drained for at least 24 hours.
- Waste generated outside the boundaries of Texas that contains any industrial waste which if generated in Texas would be classified as Class 2 or Class 3 industrial waste; any waste associated with oil, gas, and geothermal exploration, production, or development activities, or any material listed in the bullets above.

No special waste shall be received at the facility unless it is compatible with the loading equipment operated at the facility or unless modifications are made to the facility to accommodate the special waste. Any changes in operations must be approved in writing by the Executive Director or the TCEQ prior to implementation.

The facility will not accept the following wastes:

- Regulated hazardous wastes;



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- Polychlorinated biphenyls (PCB) waste;
- Radioactive waste;
- Regulated Asbestos Containing Materials (RACM);
- Certain Special Wastes, including:
  - Hazardous waste other than from conditionally exempt small-quantity generators that may be exempt from full controls under Chapter 335, Subchapter N of this title (relating to Household Materials Which Could Be Classified as Hazardous Wastes) provided the generator provides a certification that it generates no more than 220 pounds of hazardous waste per calendar month. CESQG waste from industrial generators will not be accepted;
  - Class 1 non-hazardous industrial waste;
  - Untreated medical waste;
  - Municipal wastewater treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
  - Septic tank pumpings;
  - Grease and grit trap wastes;
  - Waste from commercial or industrial waste water treatment plants; air pollution control facilities; and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 code of Federal Regulations (40 CFR), Part 261, Appendix VIII but has not been listed as a commercial product in 40 CFR, §261.33(e) or (f);
  - Slaughterhouse wastes;
  - Incinerator ash;
  - Soil contaminated by petroleum products, crude oils, or chemicals in concentrations greater than 1,500 mg/kg total petroleum hydrocarbons, or contaminated by constituents of concern exceeding the concentrations listed in Table 1 of 30 TAC §335.521(a)(1);
  - .
- Items containing chlorinated fluorocarbons (CFC's), such as refrigerators, freezers, and air conditioners, will only be accepted at the site if the generator or transporter provides written certification that the CFC has been evacuated from the unit and that it was not knowingly allowed to escape into the atmosphere. If the site accepts any items containing CFC's, the City will have the CFC's evacuated by a certified refrigerant removing company prior to processing at the transfer station; and
- Liquid waste (any waste material that is determined to contain "free liquids" as deemed by EPA Method 9095 (Paint Filter Test), as described in "Test Methods for Evaluating Solid Wastes, Physical Chemical Methods" (EPA Publication Number SW-846)) shall not be accepted unless it is:
  - Bulk or non-containerized liquid waste that is: household waste other than septic waste, or contained liquid waste and the container is a small container similar in size to that normally found in the household waste, the container is designated to hold liquids for use other than storage, or the waste is a household waste.

**2.0 WASTE ACCEPTANCE**

Special wastes that are received at the transfer station must be approved by the landfill receiving the waste in accordance with the receiving landfill's special waste screening and acceptance procedures. The following information may be provided to the transfer station personnel prior to waste acceptance at the transfer station.

Special waste review procedures may include:

1. The Special Waste Profile (SWP) to be completely filled out and legible including addresses, contact names, phone numbers and signatures. By signing the profile the generator certifies the information is accurate.
2. The information being sufficient to provide the analyst a clear understanding of the waste's type, origin, shipping method rate of delivery and total amount. If the description is insufficient, additional information will be requested of the generator.
3. The physical characteristics of the waste including information on the chemical and physical properties of the waste sufficient to allow the analyst to identify the waste and correlate the properties to the appropriate TCEQ and Federal regulations.
4. The generator providing analytical data to the transfer station showing the results of the analytical testing used to comply with §330.203(c)(2).
5. The analyst confirming that each special waste is acceptable in accordance with local, TCEQ and federal regulations as well the transfer station and receiving landfill.
6. The analyst requesting additional information from the generator including additional analytical, process description, and MSDS.

When a special waste arrives at the site, transfer station personnel will visually compare the material presented for acceptance to the approved SWP to confirm that the physical characteristics (color, odor, appearance) of the material matches what is described on the profile. In the event the physical characteristic of the waste differs from the profile, the load will be detained and appropriate personnel called to investigate/evaluate the matter. The generator will be notified. Additional process and chemical analysis may be requested. If the discrepancies cannot be resolved the load will be rejected.

### **3.0 OPERATING PROCEDURES**

The transfer station personnel will exercise appropriate care and safeguards when processing special wastes. Specific handling procedures are detailed in Table IV-1A for the special wastes that will be processed at the facility.

The landfill will be responsible to ensure the transferred special waste is disposed of in accordance with the landfill's permit.

**TABLE IV-1A**

**Special Waste Processing Procedures Summary**



**Table IV-1A**  
**Special Waste Processing Procedures Summary**  
**J.C. Elliott Transfer Station**

Special Waste	Special Handling Procedures
Deceased animals	Deceased animals that are incidental to routine collection of municipal solid waste and that can be systematically processed along with other solid waste will be accepted at this facility. This waste may contain some animal remains; however, the facility will not accept bulk quantities of deceased animals or animal remains in a specific shipment or load. All deceased animals will be processed upon receipt or covered with a minimum of three feet of solid waste until it is processed into transfer trailers. Antibacterial cleaners will be used to sanitize the tipping floor and loading equipment when special waste containing deceased animal waste is processed.
Pharmaceuticals and contaminated foods that are not considered controlled substances	These wastes will be processed into transfer trailers promptly upon receipt. Operators will observe unloading and loading of these waste materials to ensure no scavenging or salvaging of waste. Antibacterial cleaners will be used to sanitize the tipping floor and loading equipment when special waste containing contaminated food waste is processed.
Empty containers, including paper, cardboard and metal, that have been used for pesticides, insecticides, herbicides, fungicides, or rodenticides	These containers will be processed in the transfer station upon receipt. These containers will not be allowed to accumulate on the tipping floor. All containers received will be handled in accordance with Title 30 TAC §330.171. All containers will be triple rinsed prior to arrival. If containers cannot be processed upon receipt they will be crushed with the loader and rendered unusable.
Incidental amounts of non-regulated asbestos-containing material (Non-RACM)	Loads of Non-RACM will be pushed directly to the loader for loading into the transfer trailer. The wheel loaders will not attempt to compact or travel over the Non-RACM. These procedures will minimize the handling of Non-RACM so that the integrity of the material is maintained.
Waste generated outside the boundaries of Texas that contains any industrial waste; any waste associated with oil, gas, and geothermal exploration, production, or development activities, or any other special waste that is accepted at the facility	This waste shall be handled in accordance with the provisions outlined above for the specific type of waste.