AGENCY CORRESPONDENCE LETTERS AND STUDY AREA MAP

AGENCY RESPONSES

APPENDIX B – PUBLIC INVOLVEMENT

OPEN HOUSE INVITATION LETTERS

Includes:

Project Fact Sheet (with overview map)
PUC Regulatory Process FAQ Document
Comment Card

OPEN HOUSE REMINDER POST CARD

PROJECT FEEDBACK TRIFOLD BROCHURE

COPIES OF PROJECT WEBSITE

OPEN HOUSE DOOR HANGER

PRINTED PUBLIC RELEASE

APPENDIX C – PROJECT MAPS

FIGURE C-1

Alternative Routes and Link Composition with Environmental Constraints

(USGS Topographic Background)

FIGURE C-2

Alternative Routes and Link Composition with Environmental Constraints

(Aerial Background)

APPENDIX A - AGENCY CORRESPONDENCE

AGENCY CORRESPONDENCE LETTERS AND STUDY AREA MAP

Gregory-to-Aransas Pass 138-kV Transmission Line Project
Federal, State, and Local Agencies/Officials Contact List

FEDERAL

Mr. Rob Lowe
Southwest Regional Administrator
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, TX 76177

Mr. Tony Robinson
Region 6 Regional Administrator
Federal Emergency Management Agency
FRC 800 N. Loop 288
Denton, TX 76209-3698

Ms. Kate Hammond
Regions 6, 7, and 8 Acting Director
National Parks Service
IMRextrev@nps.gov

Ms. Kristy Oates
State Conservationist
NRCS Texas State Office
101 South Main Street
Temple, TX 76501

Colonel Rhett Blackmon
District Commander
U.S. Army Corps of Engineers – Galveston District
CESWGRegulatoryInbox@usace.army.mil

Real Estate Division
U.S. Army Corps of Engineers –
Galveston District
swg-re@usace.army.mil

Mr. Matt Kimmel
Regulatory Field Office Supervisor
USACE – Corpus Christi Field Office
Matthew.L.Kimmel@usace.army.mil

Mr. Steven Sample
Executive Director
Military Aviation and Installation Assurance Siting Clearinghouse
3400 Defense Pentagon, Room 5C646
Washington, DC 20301-3400

Ms. Earthea Nance
Region 6 Administrator
U.S. Environmental Protection Agency
1201 Elm Street, Suite 500
Dallas, TX 75270

STATE

Ms. Leslie Savage
Chief Geologist
Railroad Commission of Texas
P.O. Box 12967
Austin, TX 78711-2967

Ms. Susan Clewis
Region 14 Director – Corpus Christi
Texas Commission on Environmental Quality
500 North Shoreline Blvd, Ste 500
Corpus Christi, TX 78401-0318

Mr. Marc D. Williams
Executive Director
Texas Department of Transportation
125 E. 11th ST.
Austin, TX 78701

Mr. Dan Harmon
Director, Aviation Division
Texas Department of Transportation
6230 E. Stassney Lane
Austin, TX 78744

Mr. Doug Booher
Director, Environmental Affairs Division
Texas Department of Transportation
6230 E. Stassney Lane
Austin, TX 78744

Mr. Humberto "Tito" Gonzalez Jr., P.E.
Director, Transportation Planning & Programming
Texas Department of Transportation
6230 E. Stassney Lane
Austin, TX 78744

Mr. Valente Olivarez, P.E.
Corpus Christi District Engineer
Texas Department of Transportation
1701 S. Padre Island Dr.
Corpus Christi, TX 78416

Dr. Dawn Buckingham, M.D.
Commissioner
Texas General Land Office
P.O. Box 12873
Austin, TX 78711-2873

Mr. Edward Lengel
Executive Director/Historic Preservation Officer
Texas Historical Commission
P.O. Box 12276
Austin, TX 78711

Ms. Laura Zebehazy
Program Leader
Wildlife Habitat Assessment Program
Texas Parks and Wildlife Department
WHAB@tpwd.texas.gov

Mr. Bryan McMath
Interim Executive Administrator
Texas Water Development Board
P.O. Box 13231
Austin, TX 78711-3231

SAN PATRICIO COUNTY

The Honorable David R. Krebs
San Patricio County Judge
1301 East Sinton Street, Ste. C
Sinton, TX 78387

The Honorable Sonia Lopez
San Patricio County Commissioner
Precinct 1
520 Harvill St.
Sinton, TX 78387

The Honorable Howard Gillespie
San Patricio County Commissioner
Precinct 4
3141 FM 3512
Aransas Pass, TX 78336

Ms. Susan Boutwell
Floodplain Management Program
San Patricio County
313. N. Rachal Ave, Rm #223
Sinton, TX 78387

Ms. Donna Hutchins
Chair
San Patricio County Historical Commission
516 Voss Avenue
Odem, TX 78370

Mr. A. Larry Kalich
Gregory Director
San Patricio Municipal Water District
P.O. Box 940
Ingleside, TX 78362

Mr. Michael Vanecek
District Manager
San Patricio County Drainage District
701 South San Patricio Street
Sinton, TX 78387

LOCAL

The Honorable Jeronimo B. Garcia
Mayor
City of Gregory
310 Ayers St.
Gregory, TX 78359

Ms. Crystal Lopez
Municipal Court Clerk
City of Gregory
310 Ayers St.
Gregory, TX 78359

Dr. Michelle Cavazos
Superintendent
Gregory-Portland Independent School District
1200 Broadway Blvd.
Portland, TX 78374

Mr. Gary Lee Davis
Manager
McCampbell-Porter-Ingleside Airport
3141 FM 3512
Aransas Pass, TX 78336

NON-GOVERNMENTAL ORGANIZATION

Ms. Veronica Toomey
Interim Executive Director
Coastal Bend Council of Governments
2910 Leopard Street
Corpus Christi, TX 78408

Mr. Chad Ellis
Chief Executive Officer
Texas Agricultural Land Trust
P.O. Box 6152
San Antonio, TX 78209

Mr. Mark Steinbach
Executive Director
Texas Land Conservancy
P.O. Box 162481
Austin, TX 78716

Ms. Lori Olson
Texas Land Trust Council
Executive Director
P.O. Box 2677
Wimberley, TX 78676

Ms. Suzanne Scott
State Director
The Nature Conservancy of Texas
200 E. Grayson St., Suite 202
San Antonio, TX 78215

Ms. Robyn Cobb
President
Coastal Bend Audubon Society
P.O. Box 3604
Corpus Christi, TX 78463

POWER ENGINEERS

POWER ENGINEERS, INC.
7600 N CAPITAL OF TEXAS HWY
SUITE 320
AUSTIN, TX 78731 USA

PHONE 512-735-1800
FAX 512-735-1899

April 30, 2024
(Via Mail)

«Name»
«Company_or_Title»
«Department»
«Address»
«City_State_Zip»

Re: Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project
San Patricio County, Texas
POWER Engineers, Inc. Project No. 0249460

Dear «Name»:

AEP Texas Inc. (AEP Texas) will be filing an application with the Public Utility Commission of Texas (PUC) to amend its Certificate of Convenience and Necessity (CCN) to rebuild and relocate a portion of the existing Gregory to Aransas Pass 69-kilovolt (kV) transmission line with a steel-pole, 138-kV design to be operated at 69 kV in San Patricio County, Texas.

The proposed transmission line rebuild will begin at one of two tap point options along the existing Gregory to Aransas Pass 69-kV transmission line located on the northwest side of Avenue C/Farm to Market (FM) 3284 in the City of Gregory. One tap point is approximately 0.07 mile northwest of the intersection of Avenue C and 9th Street and the second tap point is approximately 0.02 mile southwest of the intersection of Avenue C and 8th Street. From one of these two tap points, the new transmission line will extend approximately 1.30 miles southwest to the AEP Texas 69/138-kV Gregory Substation, which is located on the northwest side of FM 2968 approximately 0.61 mile south-southwest of the intersection of United States Highway 181 and FM 2986. A study area has been developed to consider possible routes connecting the tap point to Gregory Substation to be included in the CCN application for filing with the PUC. Proposed routes for the project have not been developed at this time. The location of the study area, existing 69-kV transmission line, the tap points, Gregory Substation, and approximate locations of other existing transmission facilities are shown on the enclosed map.

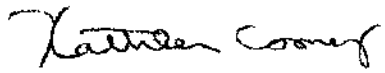
POWER Engineers, Inc. (POWER) is preparing an Environmental Assessment and Alternative Route Analysis to support AEP Texas' CCN application with the PUC. POWER is gathering data on the existing environment and identifying environmental, cultural, and land use constraints within the study area. POWER will identify potential routes between the end points that consider these environmental, cultural, and land use constraints and the need to serve electrical load in the area.

POWER is requesting that your agency/office provide information concerning environmental and land use constraints or other issues of interest to your agency/office within the study area. Your input will be an important consideration in the evaluation of the potential routes and in the assessment of potential impacts of each route. In addition, POWER

would appreciate receiving information about any permits, easements, or other approvals by your agency/office that you believe could affect this project, or if you are aware of any major proposed development or construction in the study area. Upon certification of a final route for the proposed project by the PUC, AEP Texas will identify and obtain necessary permits, if required, from your agency/office.

Thank you for your assistance with this proposed electric transmission line project route development process. Please contact me by phone at 512-735-1823 or by e-mail at kathleen.cooney@powereng.com if you have any questions or require additional information. POWER would appreciate receiving your reply by May 30, 2024.

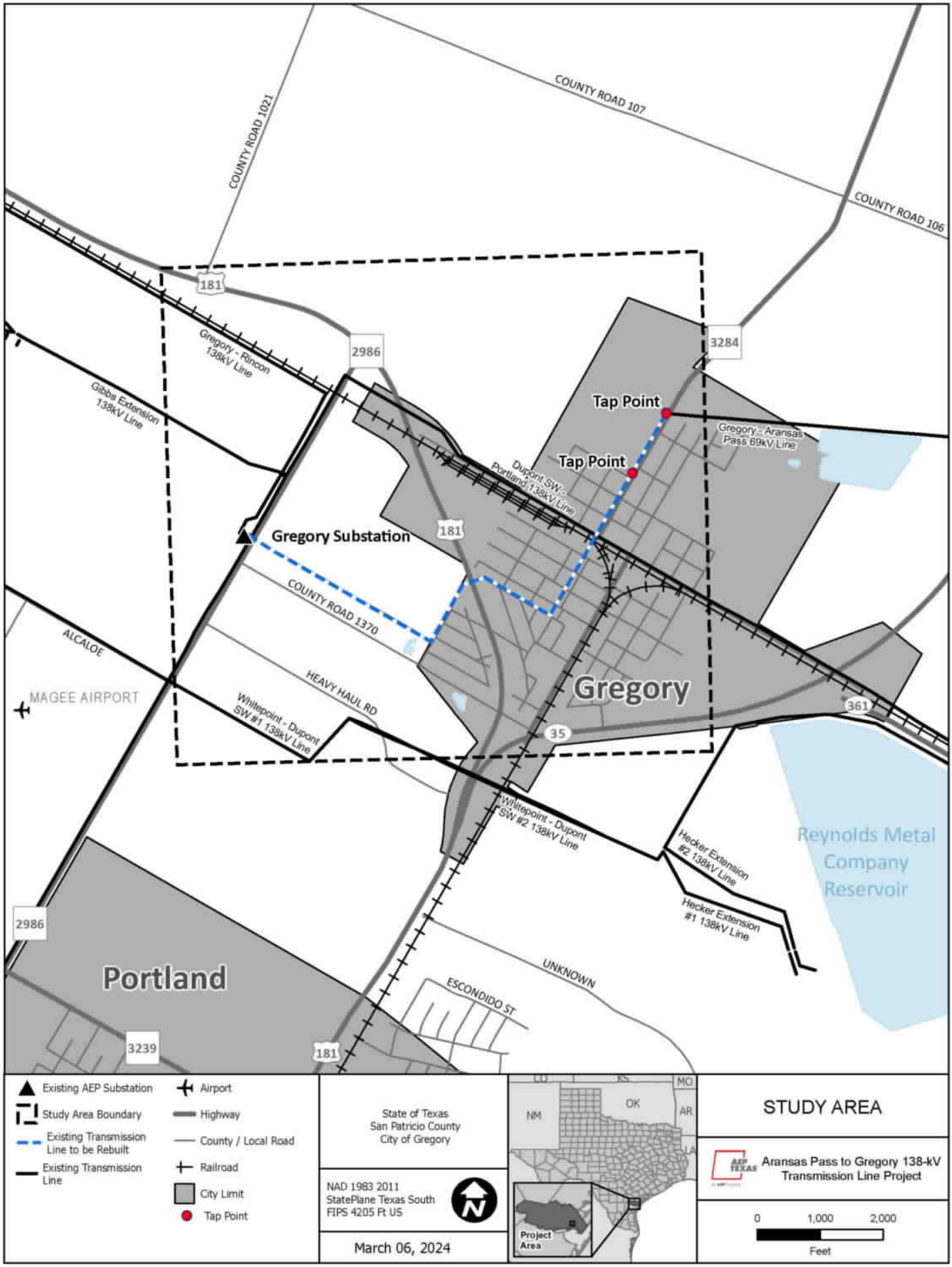
Sincerely,



Kathleen Cooney
Environmental Project Manager

Enclosure(s):
Study Area Map

Sent Via Mail


COUNTY ROAD 107
COUNTY ROAD 1021
COUNTY ROAD 106
181
2986
3284
Gregory - Rincon 138kV Line
Gibbs Extension 138kV Line
Tap Point
Tap Point
Gregory - Aransas Pass 69kV Line
Dupont SW - Portland 138kV Line
Gregory Substation
COUNTY ROAD 1370
ALCALOE
MAGEE AIRPORT
HEAVY HAUL RD
Whitepoint - Dupont SW #1 138kV Line
Gregory
361
35
Whitepoint - Dupont SW #2 138kV Line
Hecker Extension #2 138kV Line
Hecker Extension #1 138kV Line
Reynolds Metal Company Reservoir
2986
Portland
UNKNOWN
ESCONDIDO ST
3239
181
Existing AEP Substation
Study Area Boundary
Existing Transmission Line to be Rebuilt
Existing Transmission Line
Airport
Highway
County / Local Road
Railroad
City Limit
Tap Point
State of Texas
San Patricio County
City of Gregory
NAD 1983 2011
StatePlane Texas South
FIPS 4205 Ft US
March 06, 2024
CO
KS
MO
NM
OK
AR
LA
Project Area
STUDY AREA
Aransas Pass to Gregory 138-kV Transmission Line Project
0
1,000
2,000
Feet

AGENCY RESPONSES

From:	Velazquez, Dana
To:	Cooney, Kathleen
Cc:	Dracoulis, Danielle
Subject:	[EXTERNAL] IMS #24-5-115126-Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project San Patricio County, Texas POWER Engineers, INC. Project No. 0249460
Date:	Tuesday, May 7, 2024 1:52:34 PM

Good day Kathleen Cooney,

Please ensure that you are working with the local floodplain administrator and obtaining floodplain permits and any other federal, state, or local permits that were required with the proposed project.

Best Regards,

Dana M. Velazquez
HM Support Specialist
4586P-TX
Hazard Mitigation Division Branch
W: 202-341-8673 P: 850-321-1803
dana.velazquez@fema.dhs.gov

FEMA

TEXAS GENERAL LAND OFFICE
COMMISSIONER DAWN BUCKINGHAM, M.D.

May 9, 2024

Kathleen Cooney
Power Engineers, Inc.
7600 N Capital Of Texas Hwy Ste 320
Austin, TX 78731-1245

Re: Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project
San Patricio County, Texas
POWER Engineers, Inc. Project No. 0249460

Dear Ms. Cooney:

On behalf of Commissioner Buckingham, I would like to thank you for your letter concerning the above- referenced project.

Using your map depicting the project's study area, it does not appear that the General Land Office will have any environmental issues or land use constraints at this time.

When a final route for this proposed project has been determined, please contact me and we can assess the route to determine if the project will cross any streambeds or Permanent School Fund (PSF) land that would require an easement from our agency.

In the interim, if you would like to speak to me further on this project, I can be reached by email at jeff.burroughs@glo.texas.gov or by phone at (512) 463-7845.

Again, thank you for your inquiry.

Sincerely,

Jeff Burroughs
Manager, Right-of-Way Department
Leasing Operations

From: Holle, Chris - FPAC-NRCS, TX
To: Cooney, Kathleen
Cc: Stahnke, Alan - FPAC-NRCS, TX; Anderson, Ashley - FPAC-NRCS, TX
Subject: [EXTERNAL] EA - San Patricio County Transmission Line Upgrade Project
Date: Thursday, May 30, 2024 8:30:44 AM
Attachments: San Patricio County Transmission Line Upgrade Project_Letter.pdf
San Patricio County Transmission Line Upgrade Project_Soil_Report.pdf

Kathleen,

Attached you will find the soil report and letter for the requested environmental assessment. This assessment is for the Proposed San Patricio County Transmission Line Upgrade Project Letter. Should you have any questions or need additional information, please let me know.

Thanks,

Chris Holle
USDA-NRCS
101 S. Main
Temple, Texas
(254) 742-9951

USDA United States Department of Agriculture
Farm Production and Conservation
Natural Resources Conservation Service
USDA NRCS
W.R. Poage Federal Building
101 South Main Street
Temple, TX 76501

May 29, 2024

Power Engineers, Inc.
7600B N Capital of Texas Hwy
Suite 320
Austin, TX 78731

Attention: Ms. Kathleen Cooney, Environmental Project Manager

Subject: Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project in San Patricio County, TX; Project No. 0249460

Thank you for the opportunity to provide input on the potential environmental effects of the Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project in San Patricio County. The proposed site has been evaluated and does not involve any USDA-NRCS easements.

The soils in the proposed project area have been reviewed. There are a few soil limitations in the project area that should be taken into consideration while planning for the project. As with any project, soil erosion is a main concern and erosion prevention practices are recommended. There is a medium to high potential for steel corrosion and low to moderate potential for concrete corrosion the area. There are no hydric soils, which can be indicators of wetlands. There is no flooding or ponding in the area.

Enclosed is a Web Soil Survey map and reports illustrating the location of the soils as well as the ratings for related interpretations that are described above. We encourage you to consider this information during the construction of the proposed transmission line and substation and take measures to protect the soils and water quality.

If you have further questions, please contact me at (254) 742-9951 or by email at chris.holle@usda.gov.

Sincerely,

Chris Holle

CHRIS HOLLE
USDA/NRCS

Attachment: San Patricio County Transmission Line Upgrade Project_Soil_Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for San Patricio and Aransas Counties, Texas

May 22, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


97° 19' 20" W
97° 16' 36" W
27° 56' 14" N
27° 54' 40" N
665100
665500
665900
666300
666700
667100
667500
667900
668300
668700
669100
669500
3091300
3090900
3090500
3090100
3089700
3089300
3088900
3088500
181
Fm 2986
State
3rd St
Old Us Hwy 181
Sunset
Ramp
78
VcA
PaA
Ec
RaA
Os
Or
Dn
Map Scale: 1:20,400 if printed on A landscape (11" x 8.5") sheet.
Meters
0 300 600 1200 1800
Feet
0 500 1000 2000 3000
N
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

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.

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: San Patricio and Aransas Counties, Texas
Survey Area Data: Version 20, 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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Dn	Delfina loamy fine sand, 0 to 3 percent slopes	2.8	0.2%
Ec	Banquete clay, 0 to 1 percent slopes	306.8	20.2%
Or	Orelia fine sandy loam, 0 to 1 percent slopes	46.2	3.0%
Os	Calallen sandy clay loam, 0 to 1 percent slopes	135.4	8.9%
PaA	Papalote fine sandy loam, 0 to 1 percent slopes	63.6	4.2%
RaA	Raymondville clay loam, 0 to 1 percent slopes	272.0	17.9%
VcA	Victoria clay 0 to 1 percent slopes	691.8	45.6%
Totals for Area of Interest		**1,518.5**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit

descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

San Patricio and Aransas Counties, Texas

Dn—Delfina loamy fine sand, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 30d4p
Elevation: 50 to 750 feet
Mean annual precipitation: 18 to 32 inches
Mean annual air temperature: 70 to 75 degrees F
Frost-free period: 270 to 340 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Delfina and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Delfina

Setting

Landform: Low hills
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Calcareous loamy alluvium

Typical profile

A1 - 0 to 16 inches: loamy fine sand
2Bt2 - 16 to 34 inches: sandy clay loam
2Bk3 - 34 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 30 to 60 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.7 inches)

Interpretive groups

Land capability classification (irrigated): 3e
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C
Ecological site: R150AY543TX - Sandy Prairie
Hydric soil rating: No

Minor Components

Comitas

Percent of map unit: 10 percent
Landform: Sand sheets
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R083AY022TX - Loamy Sand
Hydric soil rating: No

Sarita

Percent of map unit: 5 percent
Landform: Low hills
Down-slope shape: Linear
Across-slope shape: Convex, linear
Ecological site: R083CY021TX - Sandy
Hydric soil rating: No

Ec—Banquete clay, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2v39f
Elevation: 20 to 100 feet
Mean annual precipitation: 29 to 37 inches
Mean annual air temperature: 71 to 73 degrees F
Frost-free period: 301 to 365 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Banquete and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Banquete

Setting

Landform: Flats
Landform position (three-dimensional): Dip
Microfeatures of landform position: Gilgai
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Clayey fluviomarine deposits derived from igneous, metamorphic and sedimentary rock over loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

A - 0 to 6 inches: clay
Bss - 6 to 21 inches: clay
Bkss - 21 to 56 inches: clay
2C - 56 to 80 inches: fine sandy loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 5.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 7.6 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C
Ecological site: R150AY526TX - Southern Blackland
Hydric soil rating: No

Minor Components

Cranell

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R150AY526TX - Southern Blackland
Hydric soil rating: No

Victoria

Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Talf
Microfeatures of landform position: Gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R150AY526TX - Southern Blackland
Hydric soil rating: No

Edroy

Percent of map unit: 5 percent
Landform: Depressions
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R150AY641TX - Lakebed
Hydric soil rating: Yes

Or—Orelia fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2th6q
Elevation: 100 to 250 feet
Mean annual precipitation: 33 to 39 inches
Mean annual air temperature: 69 to 73 degrees F
Frost-free period: 280 to 305 days
Farmland classification: Not prime farmland

Map Unit Composition

Orelia and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orelia

Setting

Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

A - 0 to 5 inches: fine sandy loam
Bt1 - 5 to 21 inches: sandy clay loam
Bt2 - 21 to 39 inches: sandy clay loam
Btk - 39 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 15 percent
Gypsum, maximum content: 2 percent
Maximum salinity: Nonsaline to slightly saline (1.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 20.0
Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1

Hydrologic Soil Group: C
Ecological site: R150AY535TX - Southern Loamy Prairie
Hydric soil rating: No

Minor Components

Wyick
Percent of map unit: 5 percent
Landform: Flats
Landform position (three-dimensional): Rise
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R150AY528TX - Claypan Prairie
Hydric soil rating: No

Greta
Percent of map unit: 3 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R150AY540TX - Salty Prairie
Hydric soil rating: No

Edroy
Percent of map unit: 2 percent
Landform: Closed depressions on interfluves
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R150AY641TX - Lakebed
Hydric soil rating: Yes

Os—Calallen sandy clay loam, 0 to 1 percent slopes

Map Unit Setting
National map unit symbol: 2th6s
Elevation: 20 to 120 feet
Mean annual precipitation: 29 to 37 inches
Mean annual air temperature: 71 to 73 degrees F
Frost-free period: 301 to 365 days
Farmland classification: Not prime farmland

Map Unit Composition
Calallen and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Calallen

Setting

Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Late pleistocene age loamy fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 8 inches: sandy clay loam
Bt - 8 to 26 inches: clay loam
Btk - 26 to 80 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.57 to 1.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Gypsum, maximum content: 5 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 12.0
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 1
Hydrologic Soil Group: B
Ecological site: R150AY639TX - Clay Loam
Hydric soil rating: No

Minor Components

Cranell

Percent of map unit: 10 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R150AY526TX - Southern Blackland
Hydric soil rating: No

Edroy

Percent of map unit: 5 percent
Landform: Depressions
Landform position (three-dimensional): Dip
Down-slope shape: Linear, concave
Across-slope shape: Linear, concave
Ecological site: R150AY641TX - Lakebed

Hydric soil rating: Yes

PaA—Papalote fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: dkyq
Elevation: 100 to 500 feet
Mean annual precipitation: 25 to 36 inches
Mean annual air temperature: 70 to 73 degrees F
Frost-free period: 270 to 305 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Papalote and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Papalote

Setting

Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy fluviomarine deposits

Typical profile

H1 - 0 to 14 inches: fine sandy loam
H2 - 14 to 36 inches: sandy clay
H3 - 36 to 60 inches: sandy clay loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R150AY542TX - Sandy Loam
Hydric soil rating: No

Minor Components

Unnamed

Percent of map unit: 10 percent
Hydric soil rating: No

Edroy

Percent of map unit: 5 percent
Landform: Depressions
Ecological site: R150AY641TX - Lakebed
Hydric soil rating: Yes

RaA—Raymondville clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: dkyx
Elevation: 20 to 200 feet
Mean annual precipitation: 23 to 33 inches
Mean annual air temperature: 72 to 73 degrees F
Frost-free period: 300 to 340 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Raymondville and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Raymondville

Setting

Landform: Meander scrolls
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy fluviomarine deposits of late pleistocene age

Typical profile

H1 - 0 to 14 inches: clay loam
H2 - 14 to 38 inches: clay
H3 - 38 to 60 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None

Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)
Sodium adsorption ratio, maximum: 8.0
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: R150AY639TX - Clay Loam
Hydric soil rating: No

Minor Components

Edroy

Percent of map unit: 5 percent
Landform: Depressions
Ecological site: R150AY641TX - Lakebed
Hydric soil rating: Yes

Unnamed

Percent of map unit: 5 percent
Hydric soil rating: No

VcA—Victoria clay 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2tj1f
Elevation: 20 to 100 feet
Mean annual precipitation: 29 to 37 inches
Mean annual air temperature: 71 to 73 degrees F
Frost-free period: 301 to 365 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Victoria and similar soils: 97 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Victoria

Setting

Landform: Flats
Landform position (three-dimensional): Talf
Microfeatures of landform position: Gilgai
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey fluviomarine deposits derived from igneous, metamorphic and sedimentary rock

Typical profile

Ap - 0 to 6 inches: clay
Bss - 6 to 37 inches: clay
Bnss - 37 to 50 inches: clay
Bkny - 50 to 80 inches: clay

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 19 percent
Gypsum, maximum content: 7 percent
Maximum salinity: Nonsaline to moderately saline (0.5 to 14.5 mmhos/cm)
Sodium adsorption ratio, maximum: 29.0
Available water supply, 0 to 60 inches: Moderate (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 2s
Hydrologic Soil Group: C
Ecological site: R150AY526TX - Southern Blackland
Hydric soil rating: No

Minor Components

Cranell

Percent of map unit: 2 percent
Landform: Flats
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R150AY526TX - Southern Blackland
Hydric soil rating: No

Edroy

Percent of map unit: 1 percent
Landform: Depressions
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Ecological site: R150AY641TX - Lakebed
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Building Site Development

Building site development interpretations are designed to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. As part of the interpretation process, the rating applies to each soil in its described condition and does not consider present land use. Example interpretations can include corrosion of concrete and steel, shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping.

Corrosion of Concrete

ENG

Engineering

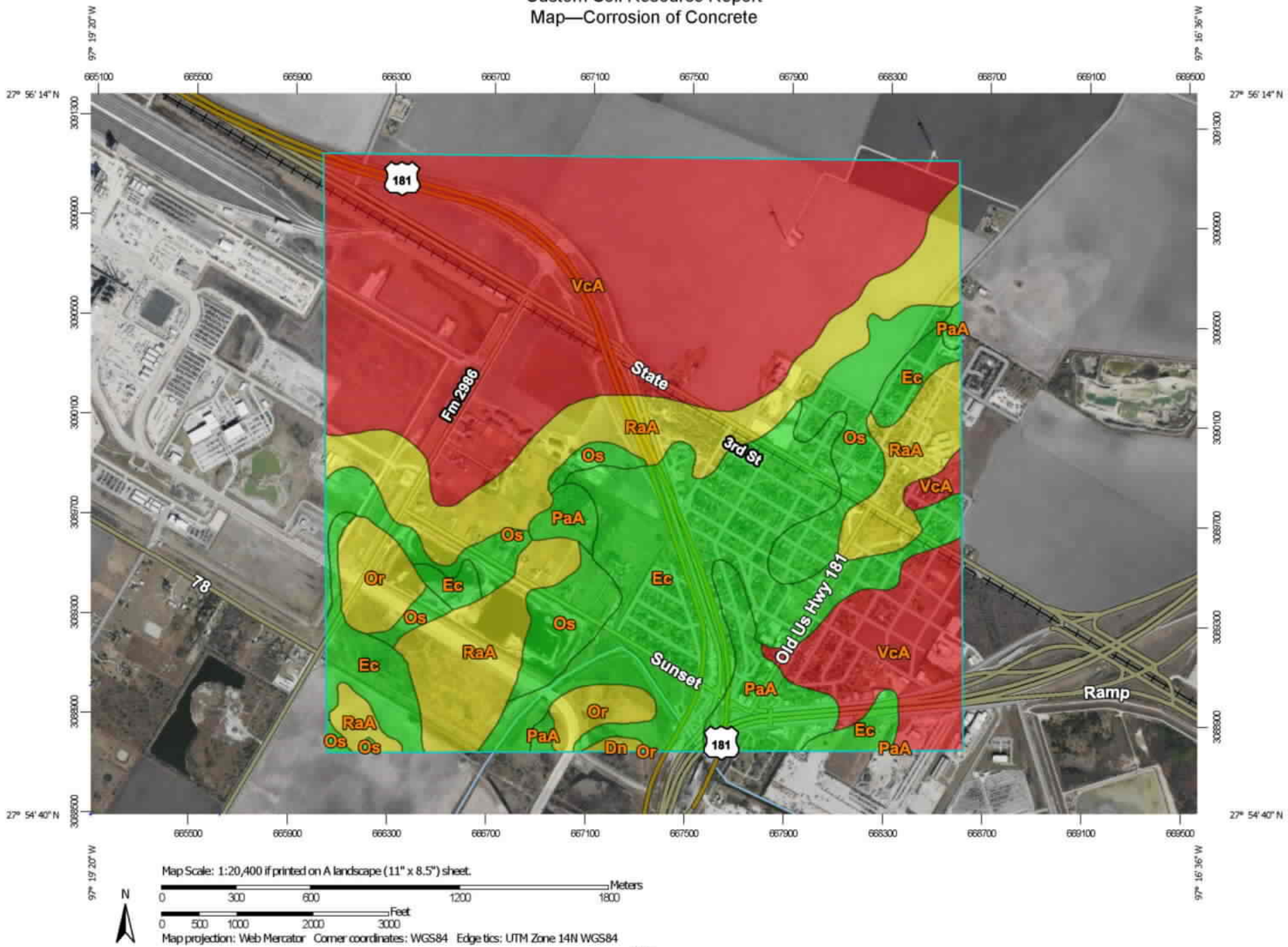
AGR

Agronomy

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens concrete. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the concrete in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."

Map—Corrosion of Concrete



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- High
- Moderate
- Low
- Not rated or not available

Soil Rating Lines

- High
- Moderate
- Low
- Not rated or not available

Soil Rating Points

- High
- Moderate
- Low
- 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.

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: San Patricio and Aransas Counties, Texas
Survey Area Data: Version 20, 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.

Table—Corrosion of Concrete

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Dn	Delfina loamy fine sand, 0 to 3 percent slopes	Moderate	2.8	0.2%
Ec	Banquete clay, 0 to 1 percent slopes	Low	306.8	20.2%
Or	Orelia fine sandy loam, 0 to 1 percent slopes	Moderate	46.2	3.0%
Os	Calallen sandy clay loam, 0 to 1 percent slopes	Low	135.4	8.9%
PaA	Papalote fine sandy loam, 0 to 1 percent slopes	Low	63.6	4.2%
RaA	Raymondville clay loam, 0 to 1 percent slopes	Moderate	272.0	17.9%
VcA	Victoria clay 0 to 1 percent slopes	High	691.8	45.6%
Totals for Area of Interest			**1,518.5**	**100.0%**

Rating Options—Corrosion of Concrete

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Corrosion of Steel

ENG

Engineering

AGR

Agronomy

"Risk of corrosion" pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel in installations that are entirely within one kind of soil or within one soil layer.

The risk of corrosion is expressed as "low," "moderate," or "high."

Map—Corrosion of Steel

Map Scale: 1:20,400 if printed on A landscape (11" x 8.5") sheet.

Meters: 0 300 600 1200 1800

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- High
- Moderate
- Low
- Not rated or not available

Soil Rating Lines

- High
- Moderate
- Low
- Not rated or not available

Soil Rating Points

- High
- Moderate
- Low
- 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.

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: San Patricio and Aransas Counties, Texas
Survey Area Data: Version 20, 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.

Table—Corrosion of Steel

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Dn	Delfina loamy fine sand, 0 to 3 percent slopes	High	2.8	0.2%
Ec	Banquete clay, 0 to 1 percent slopes	Moderate	306.8	20.2%
Or	Orelia fine sandy loam, 0 to 1 percent slopes	Moderate	46.2	3.0%
Os	Calallen sandy clay loam, 0 to 1 percent slopes	Moderate	135.4	8.9%
PaA	Papalote fine sandy loam, 0 to 1 percent slopes	Moderate	63.6	4.2%
RaA	Raymondville clay loam, 0 to 1 percent slopes	High	272.0	17.9%
VcA	Victoria clay 0 to 1 percent slopes	High	691.8	45.6%
Totals for Area of Interest			**1,518.5**	**100.0%**

Rating Options—Corrosion of Steel

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower

positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Map Scale: 1:20,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- 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.

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: San Patricio and Aransas Counties, Texas
Survey Area Data: Version 20, 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.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Dn	Delfina loamy fine sand, 0 to 3 percent slopes	0	2.8	0.2%
Ec	Banquete clay, 0 to 1 percent slopes	5	306.8	20.2%
Or	Orelia fine sandy loam, 0 to 1 percent slopes	2	46.2	3.0%
Os	Calallen sandy clay loam, 0 to 1 percent slopes	5	135.4	8.9%
PaA	Papalote fine sandy loam, 0 to 1 percent slopes	5	63.6	4.2%
RaA	Raymondville clay loam, 0 to 1 percent slopes	5	272.0	17.9%
VcA	Victoria clay 0 to 1 percent slopes	1	691.8	45.6%
Totals for Area of Interest			**1,518.5**	**100.0%**

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Land Management

Land management interpretations are tools designed to guide the user in evaluating existing conditions in planning and predicting the soil response to various land management practices, for a variety of land uses, including cropland, forestland, hayland, pastureland, horticulture, and rangeland. Example interpretations include suitability for a variety of irrigation practices, log landings, haul roads and major skid trails, equipment operability, site preparation, suitability for hand and mechanical planting, potential erosion hazard associated with various practices, and ratings for fencing and waterline installation.

Water Erosion Potential (TX)

"Water Erosion Potential (TX)" is a qualitative interpretation that evaluates a soil's potential to erode through the action of water. The potential assumes that the area being affected is bare, smooth, and exposed to the water erosion processes. The interpretation provides the user with a qualitative rating of the vulnerability of the soil to the action of water; it is not a measure of actual soil loss from erosion.

The water erosion potential of the soil is based on those soil properties or a combination of soil properties and landscape characteristics that contribute to runoff and have low resistance to water erosion processes. Soil features that contribute to water erosivity are surface-layer particle size, saturated hydraulic conductivity, and high runoff landscapes. Conversely, soil features that resist the erosive effect of water are high organic matter content in the surface layer and low runoff landscapes. The water erosion potential is a function of the interaction between those soil features that make the soil susceptible to water erosion and those that resist the water erosion process.

The ratings are both verbal and numerical. Numerical ratings indicate the soil's relative water erosion potential. They are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the greatest water erosion potential (1.00) and the point at which a soil has very low water erosion potential (0.00).

Verbal soil rating classes are based on the highest numerical rating for the most limiting soil feature(s) considered in the rating process. "Very high" (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative water erosion vulnerability. "High" (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative water erosion vulnerability. "Moderate" (numerical value less than or equal to 0.65 to greater than 0.35) indicates that the soil has medium relative water erosion vulnerability. "Low" (numerical value less than or equal to 0.35 to greater than 0.1) indicates that the soil has small relative water erosion vulnerability. "Very low" (numerical value less than or equal to 0.10) indicates that the soil has little or no relative water erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Map Scale: 1:20,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 300 600 1200 1800

Feet
0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Very high water erosion potential
- High water erosion potential
- Moderate water erosion potential
- Low water erosion potential
- Very low water erosion potential
- Not rated or not available

Soil Rating Lines

- Very high water erosion potential
- High water erosion potential
- Moderate water erosion potential
- Low water erosion potential
- Very low water erosion potential
- Not rated or not available

Soil Rating Points

- Very high water erosion potential
- High water erosion potential
- Moderate water erosion potential
- Low water erosion potential
- Very low water erosion potential
- 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.

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: San Patricio and Aransas Counties, Texas
Survey Area Data: Version 20, 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.

Tables—Water Erosion Potential (TX)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Dn	Delfina loamy fine sand, 0 to 3 percent slopes	Very low water erosion potential	Delfina (85%)	Organic matter (0.93) Silt content (0.23) Percs slowly (0.23) LS factor (0.10)	2.8	0.2%
Ec	Banquete clay, 0 to 1 percent slopes	Very low water erosion potential	Banquete (85%)	Percs slowly (1.00) Organic matter (0.95) Silt content (0.43)	306.8	20.2%
Or	Orelia fine sandy loam, 0 to 1 percent slopes	Very low water erosion potential	Orelia (90%)	Percs slowly (1.00) Organic matter (0.94) Silt content (0.23)	46.2	3.0%
Os	Calallen sandy clay loam, 0 to 1 percent slopes	Very low water erosion potential	Calallen (85%)	Organic matter (0.93) Percs slowly (0.92) Silt content (0.49)	135.4	8.9%
PaA	Papalote fine sandy loam, 0 to 1 percent slopes	Very low water erosion potential	Papalote (85%)	Organic matter (0.93) Silt content (0.59) Percs slowly (0.23)	63.6	4.2%
RaA	Raymondville clay loam, 0 to 1 percent slopes	Very low water erosion potential	Raymondville (90%)	Percs slowly (0.99) Organic matter (0.97) Silt content (0.53)	272.0	17.9%
VcA	Victoria clay 0 to 1 percent slopes	Very low water erosion potential	Victoria (97%)	Percs slowly (1.00) Organic matter (0.96) Silt content (0.39)	691.8	45.6%
Totals for Area of Interest					**1,518.5**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very low water erosion potential	1,518.5	100.0%
Totals for Area of Interest	**1,518.5**	**100.0%**

Rating Options—Water Erosion Potential (TX)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Wind Erosion Potential (TX)

The higher the numerical rating the greater the vulnerability rating class. The "very high" potential class (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative wind erosion vulnerability. The "high" class (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative wind erosion vulnerability. The "moderate" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.4 to greater than 0.2) indicates that the soil has small relative wind erosion vulnerability. The "very low" class (numerical value less than or equal to 0.20) indicates that the soil has little or no relative wind erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen, which is displayed on the report. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the Selected Soil Interpretations report with this interpretation included from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site. The Wind Erosion Potential (TX) is a qualitative interpretation which evaluates a soil's potential to erode through the action of wind. The potential assumes that the area being affected is bare, smooth, and has a long distance exposed to the wind. The soil wind erosion potential provides the user with a qualitative rating of the vulnerability of the soil to the action of the wind and is not a measure of actual soil loss from erosion.

The wind erosion potential of the soil is based on those surface soil properties that by themselves or in combination with others contribute to the soil's potential wind erosivity. Those surface soil features that contribute to wind erosivity are particle size and carbonate content. Conversely, surface features that resist the erosive effect of wind are organic matter content and coarse fragments. The soil wind erosion potential is a function of the interaction between surface soil features that make the soil susceptible to wind erosion and those that resist the wind erosion process.

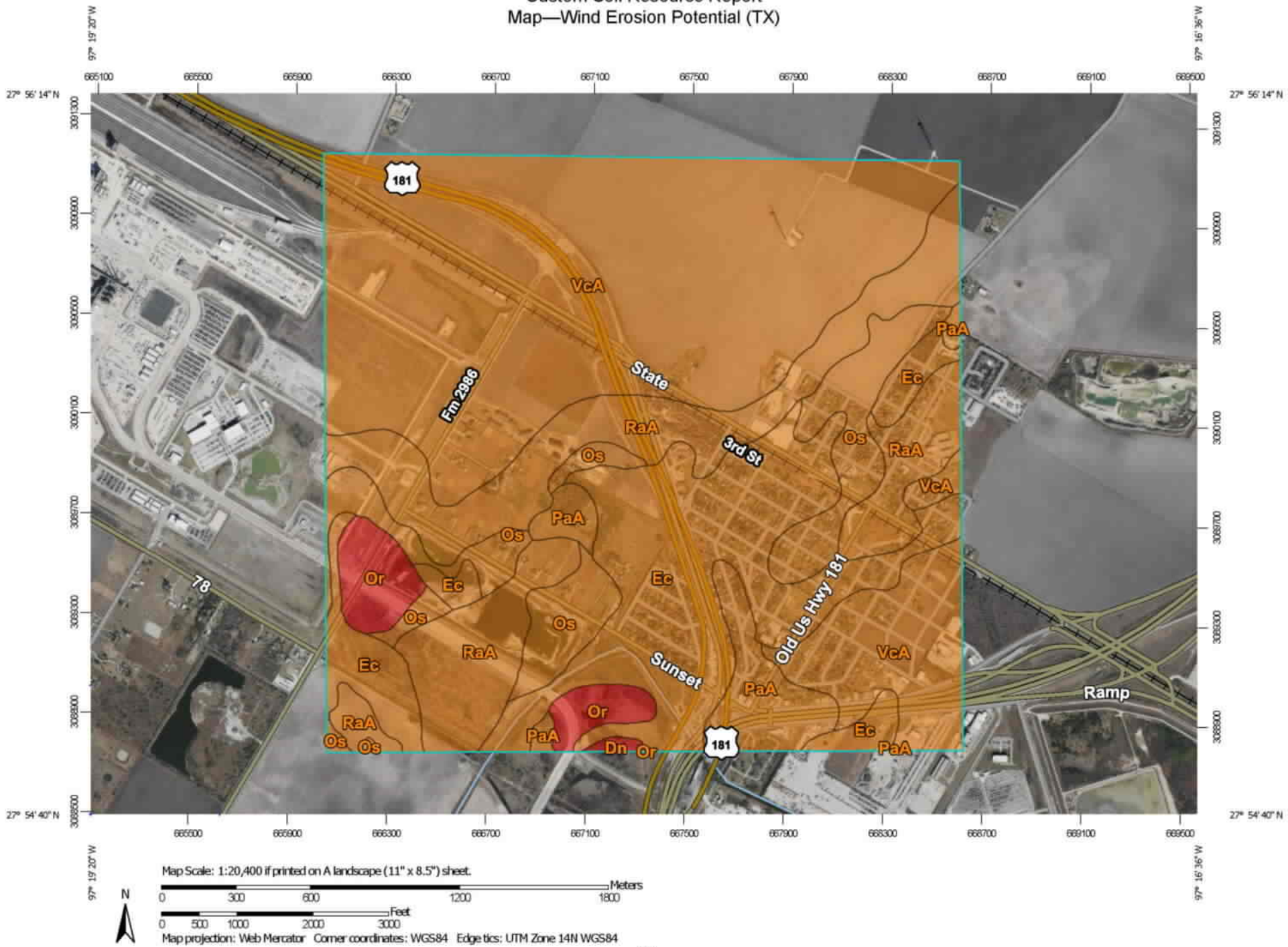
Numerical ratings or values indicate the soil's relative wind erosion potential. Ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil has the greatest wind erosion potential (1.00), and the point at which a soil has very low wind erosion potential (0.00).

The ratings are both verbal and numerical. The potential degree to which a soil is susceptible to wind erosion will range from "very high" to "very low" (from 1.0 to 0.0). Soils that have favorable surface particle size, high organic matter content, or protective coarse fragments will have "very low" wind erosion potential. Soils that have "very high" wind erosion potential are those with a surface layer that has a sandy particle size, high carbonate content, low organic matter content, or no coarse fragment protection.

The higher the numerical rating the greater the vulnerability rating class. The "very high" potential class (numerical values less than or equal to 1.0 to greater than 0.9) indicates that the soil has the greatest relative wind erosion vulnerability. The "high" class (numerical value less than or equal to 0.9 to greater than 0.65) indicates that the soil has large relative wind erosion vulnerability. The "moderate" class (numerical value less than or equal to 0.65 to greater than 0.4) indicates that the soil has medium relative wind erosion vulnerability. The "low" class (numerical value less than or equal to 0.4 to greater than 0.2) indicates that the soil has small relative wind erosion vulnerability. The "very low" class (numerical value less than or equal to 0.20) indicates that the soil has little or no relative wind erosion vulnerability.

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation

Map—Wind Erosion Potential (TX)



Map Scale: 1:20,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 300 600 1200 1800

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

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

Soils

Soil Rating Polygons
- Very high
- High
- Moderate
- Low
- Very low
- Not rated or not available

Soil Rating Lines
- Very high
- High
- Moderate
- Low
- Very low
- Not rated or not available

Soil Rating Points
- Very high
- High
- Moderate
- Low
- Very low
- 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.

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: San Patricio and Aransas Counties, Texas
Survey Area Data: Version 20, 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.

Tables—Wind Erosion Potential (TX)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Dn	Delfina loamy fine sand, 0 to 3 percent slopes	Very high wind erosion potential	Delfina (85%)	Sand content of surface (1.00) Sandy surface texture (0.20)	2.8	0.2%
Ec	Banquete clay, 0 to 1 percent slopes	High wind erosion potential	Banquete (85%)	Clay content of surface (0.85) Sand content of surface (0.33)	306.8	20.2%
Or	Orelia fine sandy loam, 0 to 1 percent slopes	Very high wind erosion potential	Orelia (90%)	Sand content of surface (0.98)	46.2	3.0%
Os	Calallen sandy clay loam, 0 to 1 percent slopes	High wind erosion potential	Calallen (85%)	Sand content of surface (0.65) Clay content of surface (0.46) Silt content of surface (0.00)	135.4	8.9%
PaA	Papalote fine sandy loam, 0 to 1 percent slopes	High wind erosion potential	Papalote (85%)	Sand content of surface (0.89) Silt content of surface (0.01) Rock fragment content of surface (0.00)	63.6	4.2%
RaA	Raymondville clay loam, 0 to 1 percent slopes	High wind erosion potential	Raymondville (90%)	Clay content of surface (0.83) Sand content of surface (0.14) Silt content of surface (0.04)	272.0	17.9%
VcA	Victoria clay 0 to 1 percent slopes	High wind erosion potential	Victoria (97%)	Clay content of surface (0.85) Sand content of surface (0.05) Silt content of surface (0.00)	691.8	45.6%
Totals for Area of Interest					**1,518.5**	**100.0%**

Rating	Acres in AOI	Percent of AOI
High wind erosion potential	1,469.5	96.8%
Very high wind erosion potential	49.0	3.2%
Totals for Area of Interest	**1,518.5**	**100.0%**

Rating Options—Wind Erosion Potential (TX)

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Qualities and Features

This folder contains tabular reports that present various soil qualities and features. The reports (tables) include all selected map units and components for each map unit. Soil qualities are behavior and performance attributes that are not directly measured, but are inferred from observations of dynamic conditions and from soil properties. Example soil qualities include natural drainage, and frost action. Soil features are attributes that are not directly part of the soil. Example soil features include slope and depth to restrictive layer. These features can greatly impact the use and management of the soil.

Soil Features

This table gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage, or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, saturated hydraulic conductivity (Ksat), content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly,

or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high.* It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Features–San Patricio and Aransas Counties, Texas									
Map symbol and soil name	Restrictive Layer				Subsidence		Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness	Initial	Total		Uncoated steel	Concrete
		Low-RV-High	*Range*		*Low-High*	*Low-High*			
		In	*In*		*In*	*In*			
Dn—Delfina loamy fine sand, 0 to 3 percent slopes									
Delfina		—	—		0	0	None	High	Moderate
Ec—Banquete clay, 0 to 1 percent slopes									
Banquete		—	—		0	0	None	Moderate	Low
Or—Orelia fine sandy loam, 0 to 1 percent slopes									
Orelia		—	—		0	0	None	Moderate	Moderate
Os—Calallen sandy clay loam, 0 to 1 percent slopes									
Calallen		—	—		0	0	None	Moderate	Low
PaA—Papalote fine sandy loam, 0 to 1 percent slopes									
Papalote		—	—		0	—	None	Moderate	Low
RaA—Raymondville clay loam, 0 to 1 percent slopes									
Raymondville		—	—		0	—	None	High	Moderate
VcA—Victoria clay 0 to 1 percent slopes									
Victoria		—	—		0	0	None	High	High

Water Features

This folder contains tabular reports that present soil hydrology information. The reports (tables) include all selected map units and components for each map unit. Water Features include ponding frequency, flooding frequency, and depth to water table.

Water Features

This table gives estimates of various soil water features. The estimates are used in land use planning that involves engineering considerations.

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

The four hydrologic soil groups are:

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

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

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

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

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

Surface runoff refers to the loss of water from an area by flow over the land surface. Surface runoff classes are based on slope, climate, and vegetative cover. The concept indicates relative runoff for very specific conditions. It is assumed that the surface of the soil is bare and that the retention of surface water resulting from irregularities in the ground surface is minimal. The classes are negligible, very low, low, medium, high, and very high.

The *months* in the table indicate the portion of the year in which a water table, ponding, and/or flooding is most likely to be a concern.

Water table refers to a saturated zone in the soil. The water features table indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on

observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. The kind of water table, apparent or perched, is given if a seasonal high water table exists in the soil. A water table is perched if free water is restricted from moving downward in the soil by a restrictive feature, in most cases a hardpan; there is a dry layer of soil underneath a wet layer. A water table is apparent if free water is present in all horizons from its upper boundary to below 2 meters or to the depth of observation. The water table kind listed is for the first major component in the map unit.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The table indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Map unit symbol and soil name	Hydrologic group	Surface runoff	Most likely months	Water table			Ponding			Flooding	
				Upper limit	Lower limit	Kind	Surface depth	Duration	Frequency	Duration	Frequency
				Ft	*Ft*		*Ft*				
Dn—Delfina loamy fine sand, 0 to 3 percent slopes											
Delfina	C	Medium	Jan-May	2.5-5.0	6.0	Apparent	—	—	None	—	None
			Jun-Aug	—	—	—	—	—	None	—	None
			Sep-Dec	2.5-5.0	6.0	Apparent	—	—	None	—	None
Ec—Banquete clay, 0 to 1 percent slopes											
Banquete	C	Negligible	Jan-Dec	—	—	—	—	—	None	—	None
Or—Orelia fine sandy loam, 0 to 1 percent slopes											
Orelia	C	Low	Jan-Dec	—	—	—	—	—	None	—	None
Os—Calallen sandy clay loam, 0 to 1 percent slopes											
Calallen	B	Negligible	Jan-Dec	—	—	—	—	—	None	—	None
PaA—Papalote fine sandy loam, 0 to 1 percent slopes											
Papalote	C	Medium	Jan-Dec	—	—	—	—	—	None	—	None
RaA—Raymondville clay loam, 0 to 1 percent slopes											
Raymondville	C	Medium	Jan-Dec	—	—	—	—	—	None	—	None
VcA—Victoria clay 0 to 1 percent slopes											
Victoria	C	Medium	Jan-Dec	—	—	—	—	—	None	—	None

References

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United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

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United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

From: Kimberly Garcia
To: Cooney, Kathleen
Cc: John Hernandez
Subject: [EXTERNAL] Utility Permit
Date: Thursday, June 13, 2024 3:17:17 PM
Attachments: Appendix A.pdf

Good evening Kathleen,

Susan Boutwell received some paper work for Utility Permits and has then forward it to the County Engineers Office at 410 W Market St Sinton, TX 78387.

Attached is the form you will need to read and fill out for said permit. Please do recognize that the county will assign a permit number once it is approved, so there is no need to prefill that section nor the bottom of the second page after approval.

If you have any questions feel free to contact our office. You can reach the San Patricio County Engineer at 361-364-9155 John Hernandez.

Thank you,

Kimberly Garcia
San Patricio County Engineer Office
Office Coordinator
410 W. Market St.
Sinton, TX 78387
PH# 361-364-9548
Email: kgarcia@sanpatriciocountytx.gov

Appendix A

NOTICE OF PROPOSED
UTILITY LINE ACTIVITY

To: County Right of Way Agent
San Patricio County
Judge's Office
400 W Sinton, Room 109
Sinton, Texas 78387

Date_____

Permit No. _____

Notice is hereby given that _____

Owner of the Proposed Line proposes to place a _____

line within the right-of-way of _____
as follows: (give location, length, general design, etc.)

The line will be constructed and maintained on the County right-of-way as shown on the attached drawing(s) and in accordance with the San Patricio County rules for Accommodation of Utility Facilities Within County Rights-of-Way, and all governing laws, including but not limited to the Federal Clean Water Act, the Federal Endangered Species Act, and the Federal Historic Preservation Act. Upon request by San Patricio County, the owner will provide proof of compliance with all governing laws, orders, and regulations.

The owner will use Best Management Practices to minimize erosion and sedimentation resulting from the proposed installation, and will re-vegetate the project area.

The owner will insure that traffic control devices complying with the applicable portions of the Texas Manual On Uniform Traffic Control Devices will be installed and maintained for the duration of the work involved for this installation.

The location and description of the proposed line, along with any appurtenances, is more fully shown on the attached drawings.

It is expressly understood that San Patricio County does not purport to grant any right, claim, title, or easement in, under, or upon this roadway; and it is further understood that San Patricio County may require the owner to relocate this line and any appurtenances, subject to provisions of governing laws, by giving thirty (30) days' notice. The cost associated with the relocation will be borne entirely by the owner.

The installation shall not damage any part of the roadway and adequate provisions must be made to cause minimum inconvenience to the public. In the event the owner fails to comply with any or all of the requirements as set forth herein, the County may take such action as it deems appropriate to compel compliance at all times.

Appendix A Permit No._____

NOTICE OF PROPOSED UTILITY LINE ACTIVITY

The owner agrees to indemnify and save harmless San Patricio County, Texas, it's agents and employees from all suits, actions or claims and from all liability and damages, including but not limited to attorney fees, for any and all injuries or damages sustained by any person or property in consequence of any neglect in the installation, operation or maintenance of the utility facility.

Construction of this line will begin on or after the_____day of_____, 20_____.

By signing below, I certify that I am authorized to represent the owner listed below, and that the owner agrees to the conditions and provisions included in this permit.

Firm:_____ Address: _____

By (Print): _____ _____

Signature: _____ _____

Title:_____ Phone No.: _____

APPROVAL

San Patricio County offers no objections to the location of the proposed utility facility except as noted below.

Please notify_____forty-eight (48) hours prior to start of construction of the line.

San Patricio County, Texas

By:_____Date: _____

Title: _____

From:	Roy Heistermann
To:	Cooney, Kathleen
Cc:	Michael Vanecek; Shelly Heard
Subject:	[EXTERNAL] AEP Study Area, Gregory, Texas
Date:	Tuesday, May 14, 2024 4:23:18 PM
Attachments:	AEP Study Area w SPCDD DE"s.kmz

Dear Mrs. Cooney,

On behalf of the San Patricio County Drainage District (SPCDD), I am sending you information about the existing drainage easements (DE). Once AEP has finalized the alignment, please send us a PDF or kmz file so I can relay detailed information about any SPCDD DE you might be crossing.

Kind regards,

Roy Heistermann, P.E.
Project Manager

Mann Consulting Corp.
Drainage Consultant

TBPE Firm F-12274
36 Virginia Hills
Corpus Christi, Texas 78414
mob. 361-548-0760
mannconsulting@att.net

NUMBER	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

STATE OF TEXAS
ROY HEISTERMANN
68153
LICENSED
PROFESSIONAL ENGINEER

Mann Consulting Corp. mc2
Civil / Drainage Consultants

36 Virginia Hills
Corpus Christi, Texas 78414
(361) 548-0760 manncon sulting@att.net
TBPE F-12274

SAN PATRICIO COUNTY DRAINAGE DISTRICT

Project Number: 20L0033
Date: 5/14/24

HANSON

Hanson Professional Services Inc.
4501 Gollihar Rd.
Corpus Chrisiti, Texas 78411

TBPE F-417
TBPLS F-10039500
TBPG F-50556
TBAE F-BR 2458

Phone: (361) 814-9900
(800) 677-2831
www.hanson-inc.com
Offices Nationwide

AEP Study Area Existing SPCDD DE's Gregory, Texas

1

1 of 1 sheets

From: Roy Heistermann
To: Cooney, Kathleen
Cc: Michael Vanecek; Shelly Heard
Subject: [EXTERNAL] Re: AEP Study Area, Gregory, Texas
Date: Wednesday, May 15, 2024 11:32:55 AM
Attachments: AEP Study Area w SPCDD DE"s.kmz

Mrs. Cooney,

I left off a couple of easements in the last email. Please see the attached drawing and kmz file.
Many thanks,

Roy Heistermann, P.E.
Project Manager

Mann Consulting Corp.
Drainage Consultant

TBPE Firm F-12274
36 Virginia Hills
Corpus Christi, Texas 78414
mob. 361-548-0760
mannconsulting@att.net

NUMBER	REVISION	DATE	DRAWN	DESIGNED	REVIEWED

STATE OF TEXAS
ROY HEISTERMANN
68153
LICENSED
PROFESSIONAL ENGINEER

Mann Consulting Corp. mc2
Civil / Drainage Consultants
36 Virginia Hills
Corpus Christi, Texas 78414
(361) 548-0760 manncon sulting@att.net
TBPE F-12274

SAN PATRICIO COUNTY DRAINAGE DISTRICT

Project Number: 20L0033
Date: 5/14/24

Hanson Professional Services Inc.
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Corpus Chrisiti, Texas 78411

TBPE F-417
TBPLS F-10039500
TBPG F-50556
TBAE F-BR 2458

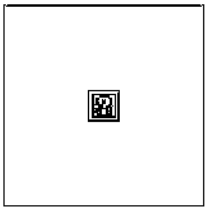
Phone: (361) 814-9900
(800) 677-2831
www.hanson-inc.com
Offices Nationwide

AEP Study Area
Existing SPCDD DE's
Gregory, Texas

1

1 of 1 sheets

From: noreply@thc.state.tx.us
To: Cooney, Kathleen; reviews@thc.state.tx.us
Subject: [EXTERNAL] Aransas Pass to Gregory 138-kV Transmission Line Upgrade
Date: Thursday, June 6, 2024 5:35:33 PM
Attachments: 202410357L.pdf



Re: Project Review under the Antiquities Code of Texas
THC Tracking #202410357
Date: 06/06/2024
Aransas Pass to Gregory 138-kV Transmission Line Upgrade
NW Ave. C to FM 3284
Gregory,TX

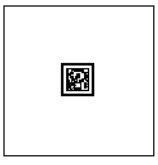
Description: Amend CCN to rebuild and relocate a portion of the existing Gregory to Aransas Pass 69-kV transmission line with a steel pole, 138-kV designed to be operated at 69-kV.

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

A letter response is attached. We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: caitlin.brashear@thc.texas.gov, tracy.lovingood@thc.texas.gov.

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

Sincerely,



for Bradford Patterson
Chief Deputy State Historic Preservation Officer

TEXAS HISTORICAL COMMISSION
REAL PLACES TELLING REAL STORIES

P.O. Box 12276
Austin, Texas 78711-2276
512-463-6100
thc.texas.gov

June 6, 2024

Kathleen Cooney
Power Engineers
7600 N Capital of Texas Hwy.
Austin, TX 78731

Re: Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade, San Patricio County, Texas (THC Tracking No. 202410357)

Dear Mrs. Cooney,

Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic Preservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic Preservation Act.

The review staff, led by Caitlin Brashear and Tracy Lovingood, has completed its review. According to our records, there are no known cultural resources within the proposed study area, including archeological sites and cemeteries. There have been very few archeological investigations within the study area and there are mapped geologic and soil units that would indicate an increased likelihood of buried archeological sites. We recommend consulting with a professional archeologist early in the project process to perform a comprehensive records search for potential historic properties to be avoided, and to identify high-probability areas for archeological survey. Federal regulations require consultation with the USACE and other appropriate agencies to determine if there are any jurisdictional lands along the route. If the project will ultimately involve a federal undertaking, compliance with Section 106 of the National Historic Preservation Act will be required. If any portion of the project should cross lands or waters owned or controlled by the State of Texas or any political subdivision thereof or have the potential to affect a State Antiquities Landmark, those areas will also be subject to the Antiquities Code of Texas, and a Texas Antiquities Permit will be required before conducting survey across these lands. Once the route has been finalized and all regulatory jurisdictions have been established, please submit a scope of work meeting all applicable state and federal requirements for our review. We welcome submissions through our online eTRAC system. Links to the eTRAC portal and a user guide can be found on our website at https://www.thc.texas.gov/etrac-system.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning our review or if we can be of further assistance, please email the following reviewers: tracy.lovingood@thc.texas.gov, caitlin.brashear@thc.texas.gov.

Sincerely,

Tracy Lovingood

For Brad Patterson
Deputy Executive Director for Preservation Programs Texas Historical Commission

BP | trl

From: Kimmel, Matthew L CIV USARMY CESWG (USA)
To: Jordan, Katie
Cc: Cooney, Kathleen; Brewer, Ashley; Brown, Gina S CIV SWG
Subject: [EXTERNAL] RE: Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project
Date: Wednesday, May 1, 2024 6:22:12 AM

Thank you. I forwarded this request to Gina Brown, our Legal Instruments Examiner, for entry into our system and preparation for assignment to a project manager.

Respectfully,

Matthew Kimmel
Project Manager
Corpus Christi, TX Regulatory Office
US Army Corps of Engineers
361-814-5847x1002
Web: https://urldefense.com/v3/__http://www.swg.usace.army.mil__;!!NPlPZ64uwXccAw!usQ_GpvvwfnwIbaZb-MDHVcIphilPfKZIOkSrCt5XYZhKwpPzW8V-ReldcaapXfdZhYIVxGGU0w3tV1v0fVZ6uPr04fSzhgNWwg3_A$
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[flickr[.]com]
To assist us in improving our service to you, please complete the survey found at
https://urldefense.com/v3/__https://regulatory.ops.usace.army.mil/customer-service-survey/__;!!NPlPZ64uwXccAw!usQ_GpvvwfnwIbaZb-MDHVcIphilPfKZIOkSrCt5XYZhKwpPzW8V-ReldcaapXfdZhYIVxGGU0w3tV1v0fVZ6uPr04fSzhiXlu37Pg$ [regulatory[.]ops[.]usace[.]army[.]mil]

-----Original Message-----
From: katie.jordan@powereng.com <katie.jordan@powereng.com>
Sent: Tuesday, April 30, 2024 5:41 PM
To: Kimmel, Matthew L CIV USARMY CESWG (USA) <Matthew.L.Kimmel@usace.army.mil>
Cc: kathleen.cooney@powereng.com; ashley.brewer@powereng.com
Subject: [Non-DoD Source] Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project

Dear Mr. Kimmel,

On behalf of our client, AEP Texas, Inc., attached please find a proposed project information letter.

Thank you for your assistance with this proposed electric transmission line project. Please contact the Project Manager, Kathleen Cooney, by phone at 512-735-1823, or by e-mail at kcooney@powereng.com <mailto:kcooney@powereng.com>

, if you have any questions or require additional information.

Thank you,

Katie Jordan

Environmental Planner I

ENV South Central PM/Planning III Department

832-477-6152 (cell)

POWER Engineers, Inc.

http://www.powereng.com <Blockedhttp://www.powereng.com/>

P Go Green! Please print this email only when necessary.

Thank you for helping POWER Engineers be environmentally responsible.

From: Kimmel, Matthew L CIV USARMY CESWG (USA)
To: Jordan, Katie
Cc: Cooney, Kathleen; Brewer, Ashley; Brown, Gina S CIV SWG
Subject: [EXTERNAL] RE: Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project
Date: Wednesday, May 1, 2024 10:31:24 AM

CAUTION: This Email is from an EXTERNAL source. STOP. THINK before you CLICK links or OPEN attachments.

Also, FYI...

As of 31 July 2024, USACE announced the launch of its new Regulatory Request System (RRS). RRS is designed to make the review of permit requests a transparent and efficient process for the public. RRS, currently in a beta version, provides general information on the Regulatory Program and allows the public to submit pre-application meeting requests and jurisdictional determination requests. Additional capability to submit permit application is scheduled to go live soon. The RRS can be accessed at the following location:
https://urldefense.com/v3/__https://rrs.usace.army.mil/rrs__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxrvJ6viFQ$ [rrs[.]usace[.]army[.]mil]

Until additional capabilities are launched in RRS, we request that all other applications/request be submitted to the Galveston District Regulatory Division email at CESWGRegulatoryInbox@usace.army.mil <mailto:CESWGRegulatoryInbox@usace.army.mil> . Please include the County (project location) and Applicant Name in the subject line of the email. Please do not provide a duplicate paper copy if you have previously submitted electronically.

Let me know if you have any questions.

Matthew Kimmel
Project Manager
Corpus Christi, TX Regulatory Office
US Army Corps of Engineers
361-814-5847x1002
Web: https://urldefense.com/v3/__http://www.swg.usace.army.mil__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxcjPHz_3A$ [swg[.]usace[.]army[.]mil]
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To assist us in improving our service to you, please complete the survey found at https://urldefense.com/v3/__https://regulatory.ops.usace.army.mil/customer-service-survey/__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxe1O-o7DA$ [regulatory[.]ops[.]usace[.]army[.]mil]

-----Original Message-----
From: Kimmel, Matthew L CIV USARMY CESWG (USA)
Sent: Wednesday, May 01, 2024 6:22 AM
To: katie.jordan@powereng.com
Cc: kathleen.cooney@powereng.com; ashley.brewer@powereng.com; Brown, Gina S CIV SWG <Gina.S.Brown@usace.army.mil>
Subject: RE: Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project

Thank you. I forwarded this request to Gina Brown, our Legal Instruments Examiner, for entry into our system and preparation for assignment to a project manager.

Respectfully,

Matthew Kimmel
Project Manager
Corpus Christi, TX Regulatory Office
US Army Corps of Engineers
361-814-5847x1002
Web: https://urldefense.com/v3/__http://www.swg.usace.army.mil__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxcjPHz_3A$ [swg[.]usace[.]army[.]mil]
Facebook:
https://urldefense.com/v3/__http://www.facebook.com/GalvestonDistrict__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxccHi9rlQ$ [facebook[.]com]
DVIDS: https://urldefense.com/v3/__http://www.dvidshub.net/units/USACE-GD__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxdgfDqrXA$ [dvidshub[.]net]
Twitter:
https://urldefense.com/v3/__http://www.twitter.com/usacegalveston__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxcPTa5IXQ$ [twitter[.]com]
Flickr:
https://urldefense.com/v3/__http://www.flickr.com/photos/98857835@N08/__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxc1RrblPQ$ [flickr[.]com]
To assist us in improving our service to you, please complete the survey found at https://urldefense.com/v3/__https://regulatory.ops.usace.army.mil/customer-service-survey/__;!!NPIPZ64uwXccAw!rCXUWXKB0ifIk2ZwAnP_kwNGvGqrNXBMsr6z48MR4C2QH1xmHJE_V9ZMR78KLAD2h4ZM4xRdK0mTLfdbZsQ-pECNNIdZxe1O-o7DA$ [regulatory[.]ops[.]usace[.]army[.]mil]

-----Original Message-----
From: katie.jordan@powereng.com <katie.jordan@powereng.com>
Sent: Tuesday, April 30, 2024 5:41 PM
To: Kimmel, Matthew L CIV USARMY CESWG (USA) <Matthew.L.Kimmel@usace.army.mil>
Cc: kathleen.cooney@powereng.com; ashley.brewer@powereng.com
Subject: [Non-DoD Source] Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project

Dear Mr. Kimmel,

On behalf of our client, AEP Texas, Inc., attached please find a proposed project information letter.

Thank you for your assistance with this proposed electric transmission line project. Please contact the Project Manager, Kathleen Cooney, by phone at 512-735-1823, or by e-mail at kcooney@powereng.com <mailto:kcooney@powereng.com> , if you have any questions or require additional information.

Thank you,

Katie Jordan

Environmental Planner I

ENV South Central PM/Planning III Department

832-477-6152 (cell)

POWER Engineers, Inc.

http://www.powereng.com <Blockedhttp://www.powereng.com/>

P Go Green! Please print this email only when necessary.

Thank you for helping POWER Engineers be environmentally responsible.

From: Brown, Gina S CIV SWG
To: Cooney, Kathleen
Cc: Wood, Kristie A CIV USARMY CESWG (USA)
Subject: [EXTERNAL] SWG-2024-00315 (AEP /Aransas Pass Transmission Line Upgrade Project / San Patricio Co.)
Date: Wednesday, May 1, 2024 10:58:09 AM
Attachments: image002.png

We received your application on 30 April 2024. It has been assigned Corps of Engineers file number SWG-2024-00315 and has been to Ms. Kristie Wood. Ms. Wood may be reached at 361-814-5847 ext. 1005 or by e-mail at Kristie.A.Wood@usace.army.mil. We ask that you please allow the Corps regulator assigned this action time to review this action and note that they will contact you if further information is required.

The Corps of Engineers' doors are open. We are available and encouraging in-person meetings. At any time during your permit evaluation process, you would like to meet in-person, please let us know. We will do what we can to accommodate your request.

Please reference the above number on any future correspondence to this office.

Very Respectfully,

Gina S. Brown
Legal Instruments Examiner
Regulatory Division
Corpus Christi Field Office

From: Wood, Kristie A CIV USARMY CESWG (USA)
To: Cooney, Kathleen
Subject: [EXTERNAL] SWG-2024-00315 - Pre-app - Proposed Aransas Pass to Gregory 138-kV Transmission Line Upgrade Project
Date: Friday, August 16, 2024 10:09:33 AM
Attachments: SWG-2024-00315 potential WOTUS.pdf
SWG-2024-00315_20240430_Letter.pdf

Good morning Ms. Cooney,

This email is in reference to your letter dated Aril 30, 2024, requesting information for a proposed 138-kV Transmission Line Upgrade Project from a portion of the Aransas Pass to Gregory transmission line(attached for reference), in San Patricio County, Texas.

The Corps of Engineers (Corps), Regulatory Division, regulates the work and/or structures in/or affecting navigable waters of the United States (U.S.) under the authority of Section 10 of the Rivers and Harbors Act of 1899 (Section 10). Navigable waters of the U.S. include all waters that are navigable today, in the past or reasonably foreseeable future and those affected by the daily tide. The Corps, Regulatory Division, also regulates the discharge of dredged and/or fill material into waters of the U.S. under the authority of Section 404 of the Clean Water Act (Section 404). Waters of the U.S. include aquatic features such as the navigable waters of the U.S., rivers, lakes, streams, tidal and mud flats, and adjacent wetlands. Additionally, activities that affect Federal Interests (federal projects and/or work areas) would also be subject to federal regulation under the authority of Section 14 of the Rivers and Harbors Act (aka Section 408). Section 408 makes it unlawful for anyone to alter in any manner, in whole or in part, any work (ship channel, flood control channels, seawalls, bulkhead, jetty, piers, etc.) built by the United States unless it is authorized by the Corps of Engineers (i.e. Navigation and Operations Division).

If any activity is performed that triggers any of the aforementioned federal regulations, a Department of Army permit will be required prior to the activity occurring. Based on the information provided, we have confirmed that there are no waters listed on the Galveston District's Section 10 Navigable Waters List within the project area indicated in your submission. However, the proposed line does appear to cross an unnamed stream feature. Due to the limited information submitted with this request, we cannot address any specific permitting requirements but do note that potentially jurisdictional aquatic resources have been located within the vicinity (refer to attached map). To address any specific permit requirement we will require specific project details.

Please not that this response is not an authorization. Please reference the subject file number SWG-2024-00315 in future correspondence pertaining to this subject. If you have any questions, please don't hesitate to contact me.

Sincerely,

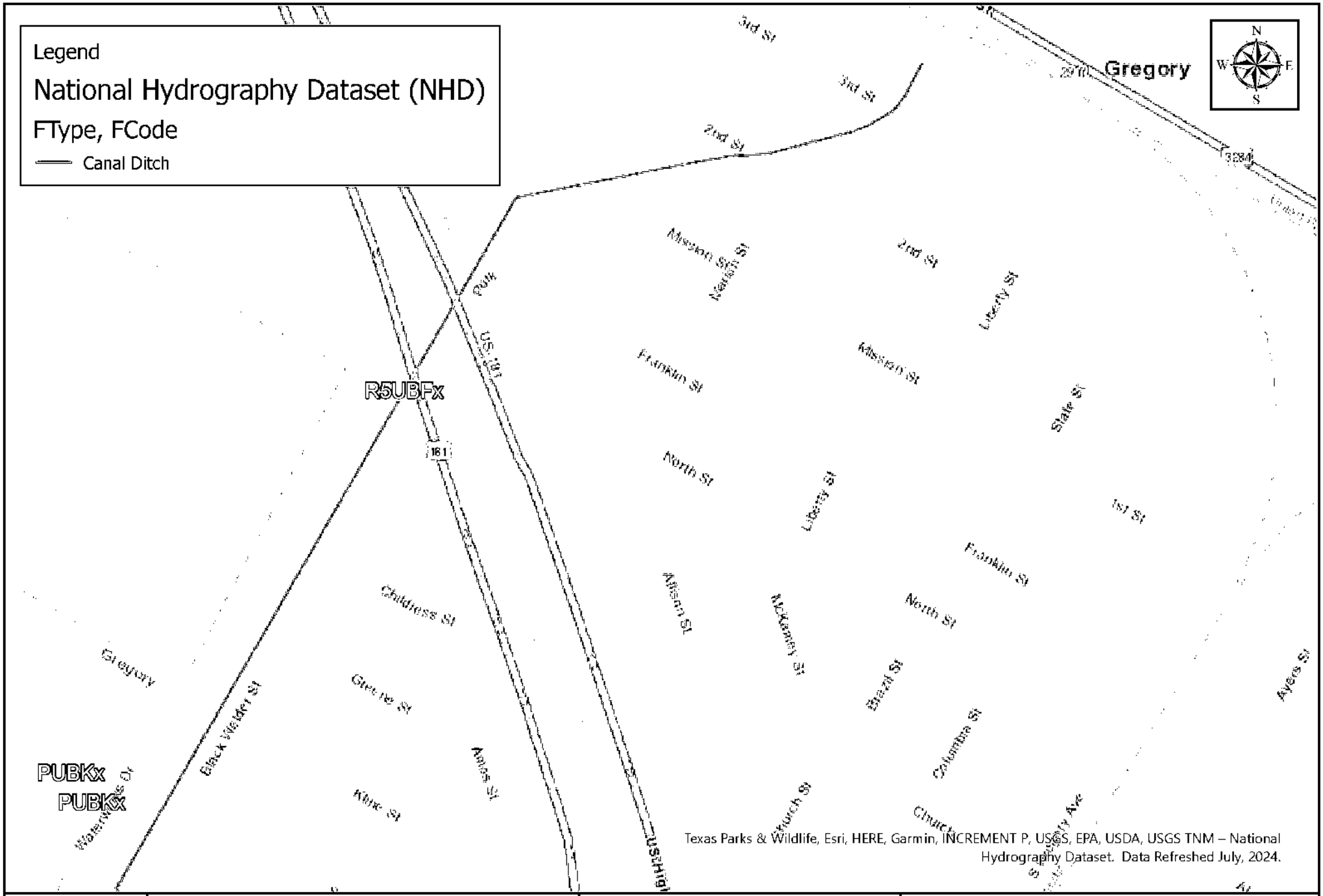
Kristie A. Wood
Supervisor, Corpus Christi Regulatory Field Office

Galveston District - Regulatory Division
U.S. Army Corps of Engineers
5151 Flynn Parkway, Suite 306
Corpus Christi, Texas 78411-4318
Cell: 361-946-4125
Office: 361-814-5847 x.1005
Email: Kristie.A.Wood@usace.army.mil
(she, her, hers)

Galveston District Regulatory Hotline: 409-766-3869
Galveston District Regulatory Website:
https://www.swg.usace.army.mil/Missions/Regulatory/ [swg.usace.army.mil]
NEW - Submit your permit application through our Regulatory Request System:
https://rrs.usace.army.mil/rrs [rrs.usace.army.mil]

We are open and encouraging in-person meetings! At any time during your permit evaluation process, you would like to meet in-person, please let us know. We will do what we can to accommodate your request.

Please let us know how we are doing by completing the survey found at:
https://regulatory.ops.usace.army.mil/customer-service-survey/
[regulatory.ops.usace.army.mil]



SWG-2024-00315

0 0.04 0.07 0.14

mi

Map Center: 97.296371°W 27.920848°N

Map Created by: PM NAME

Date: 8/16/2024

Coordinate System: WGS 1984 Web Mercator Auxiliary Sphere

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal & Central Plains Esfo
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
Phone: (281) 286-8282 Fax: (281) 488-5882

In Reply Refer To: 06/16/2024 02:38:41 UTC
Project Code: 2024-0119172
Project Name: Aransas Pass-Gregory

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, Fort Worth, 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.

For questions or coordination for projects occurring in counties not listed above, please contact arles@fws.gov.

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 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 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/library/collections/habitat-conservation-planning-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/library/collections/threats-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
- Bald & Golden Eagles
- 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 & Central Plains Esfo
17629 El Camino Real, Suite 211
Houston, TX 77058-3051
(281) 286-8282