Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: 09/19/2024
Facility Name: BVR Waste and Recycling Transfer Station
Permit or Registration No.: _____

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

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

Table 1 - Municipal Solid Waste Correspondence

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

Table 2 - Industrial & Hazardous Waste Correspondence

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

Type V Transfer Station Registration Application

BVR Waste and
Recycling Transfer Station
College Station
Brazos County, Texas

Prepared for:

Brannon Industrial Group, LLC
1555 TX-36
Brenham, TX 77833

Prepared by:

Roux Associates, Inc.
19450 State Highway 249, Suite 260
Houston, Texas 77070

INTENDED FOR PERMITTING PURPOSES ONLY

SEPTEMBER 2024

4759.0001H100/R

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September 2024

Cover Letter

September 19, 2024

Electronically submitted via TCEQ Secure FTP Site
Hardcopy transmitted via FedEx delivery to:

Ms. Megan Henson, Section Manager
Texas Commission on Environmental Quality (TCEQ)
Municipal Solid Waste Permits Section, Waste Permits Division, MC-124
12100 Park 35 Circle, Bldg. F
Austin, Texas 78753

Re: BVR Waste and Recycling Transfer Station
Type V Transfer Station
Registration Application
College Station, Brazos County, Texas
CN603110115 / RN105669931

Dear Ms. Henson:

On behalf of Brannon Industrial Group, LLC ("BIG"), Roux Associates, Inc. is submitting a Registration Application (RA) for the Texas Commission on Environmental Quality (TCEQ) Municipal Solid Waste (MSW) Permits Section, Waste Permits Division. This RA pertains to the operation of a Type V Transfer Station located in Brazos County, Texas, within the extraterritorial jurisdiction of the City of College Station. The BVR Waste and Recycling Transfer Station, encompassing 4.419 acres, is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway).

This cover letter accompanies the following items, as required by 30 TAC §330.57 and applicable Chapter 330 rules for a RA:

- A TCEQ Core Data Form.
- Four sets of mailing labels of the adjacent landowners.
- A Plain Language Summary (PLS) in English and Spanish.
- A completed Public Involvement Plan Form (TCEQ-20960).
- A completed Regulatory Checklist (TCEQ Administrative and Technical Review Checklist for a Type V Transfer Station RA).
- One original and three copies of the RA, containing the required Part I Application Form, and Parts I through IV.

If further information or documentation is required, please do not hesitate to contact us at (281) 397-3805.

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch, P.E.
Technical Director

4759.0001H100/CV-LET

TCEQ Core Data Form (Form-10400)

TCEQ Use Only

TCEQ Core Data Form

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

SECTION I: General Information

1. Reason for Submission (*If other is checked please describe in space provided.*)

☒ New Permit, Registration or Authorization (*Core Data Form should be submitted with the program application.*)

☐ Renewal *(Core Data Form should be submitted with the renewal form)* ☐ Other

2. Customer Reference Number *(if issued)*	Follow this link to search for CN or RN numbers in Central Registry**	**3. Regulated Entity Reference Number** *(if issued)*
CN 603110115		**RN 105669931**

SECTION II: Customer Information

4. General Customer Information	**5. Effective Date for Customer Information Updates** (mm/dd/yyyy)	09/12/2024

☐ New Customer ☒ Update to Customer Information ☐ Change in Regulated Entity Ownership
☐ Change in Legal Name (Verifiable with the Texas Secretary of State or Texas Comptroller of Public Accounts)

The Customer Name submitted here may be updated automatically based on what is current and active with the Texas Secretary of State (SOS) or Texas Comptroller of Public Accounts (CPA).

6. Customer Legal Name *(If an individual, print last name first: eg: Doe, John)*	*If new Customer, enter previous Customer below:*
Brannon Industrial Group, LLC	

7. TX SOS/CPA Filing Number	**8. TX State Tax ID** (11 digits)	**9. Federal Tax ID** (9 digits)	**10. DUNS Number** *(if applicable)*
0801423172	32044219809	27-2037777	N/A

11. Type of Customer: ☒ Corporation ☐ Individual Partnership: ☐ General ☐ Limited

Government: ☐ City ☐ County ☐ Federal ☐ Local ☐ State ☒ Other ☐ Sole Proprietorship ☐ Other:

12. Number of Employees	**13. Independently Owned and Operated?**
☐ 0-20 ☒ 21-100 ☐ 101-250 ☐ 251-500 ☐ 501 and higher	☒ **Yes** ☐ **No**

14. Customer Role (Proposed or Actual) – *as it relates to the Regulated Entity listed on this form. Please check one of the following*

☐ Owner ☐ Operator ☒ Owner & Operator
☐ Occupational Licensee ☐ Responsible Party ☐ VCP/BSA Applicant ☐ Other:

15. Mailing Address:	8825 Stewarts Meadow						
	City	College Station	**State**	TX	**ZIP**	77845	**ZIP + 4**

16. Country Mailing Information *(if outside USA)*	**17. E-Mail Address** *(if applicable)*
	[redacted]

18. Telephone Number	19. Extension or Code	20. Fax Number *(if applicable)*
(979) 260-0006		( ) -

SECTION III: Regulated Entity Information

21. General Regulated Entity Information *(If 'New Regulated Entity" is selected, a new permit application is also required.)*

☐ New Regulated Entity ☐ Update to Regulated Entity Name ☒ Update to Regulated Entity Information

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

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

BVR Waste and Recycling Transfer Station

23. Street Address of the Regulated Entity: ***(No PO Boxes)***	8825 Stewarts Meadow							
	City	College Statiom	**State**	TX	**ZIP**	77845	**ZIP + 4**	
24. County	Brazos							

If no Street Address is provided, fields 25-28 are required.

25. Description to Physical Location:	

26. Nearest City	**State**	**Nearest ZIP Code**
College Station	TX	77845

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

27. Latitude (N) In Decimal:			**28. Longitude (W) In Decimal:**		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
30	34	18.37	96	24	21.56

29. Primary SIC Code (4 digits)	**30. Secondary SIC Code** (4 digits)	**31. Primary NAICS Code** (5 or 6 digits)	**32. Secondary NAICS Code** (5 or 6 digits)
4953		56211	

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

Processing non-putrescible waste

34. Mailing Address:	**8825 Stewarts Meadown**							
	City	**College Station**	**State**	**TX**	**ZIP**	**77845**	**ZIP + 4**	

35. E-Mail Address:	[redacted]

36. Telephone Number	**37. Extension or Code**	**38. Fax Number** *(if applicable)*
(979) 260-0006		( ) -

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

☐ Dam Safety	☐ Districts	☐ Edwards Aquifer	☐ Emissions Inventory Air	☐ Industrial Hazardous Waste
☒ Municipal Solid Waste	☐ New Source Review Air	☐ OSSF	☒ Petroleum Storage Tank	☐ PWS
100200, 47043			87831	
☐ Sludge	☒ Storm Water	☐ Title V Air	☐ Tires	☐ Used Oil
	TXR05GD63			
☐ Voluntary Cleanup	☐ Wastewater	☐ Wastewater Agriculture	☐ Water Rights	☐ Other:

SECTION IV: Preparer Information

40. Name:	Gary R. Horwitch, P.E.	**41. Title:**	Technical Director

42. Telephone Number	**43. Ext./Code**	**44. Fax Number**	**45. E-Mail Address**
(713) 252-1581		( ) -	ghorwitch@rouxinc.com

SECTION V: Authorized Signature

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

Company:	Brannon Industrial Group, LLC	**Job Title:**	General Manager
Name *(In Print):*	Chad Lechler	**Phone:**	(979) 260- **0006**
Signature:	Chad Lechler	**Date:**	9/23/24

Plain Language Summary – English

Texas Commission on Environmental Quality

Plain Language Summary of Municipal Solid Waste Permit or Permit Amendment Application

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

A. Purpose of the Proposed Facility

The BVR Waste and Recycling Transfer Station ("Facility") will be operated as a Type V-Transfer Station, receiving non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.

B. Information About the Applicant

Name: Brannon Industrial Group, LLC

Applicant Type: MSW Type V Transfer Station Registration Application

Facility Name: BVR Waste and Recycling Transfer Station

Permit Application Number:

Customer Number (CN): 603110115

Regulated Entity Reference Number (RN): 105669931

C. Location of the Proposed Facility

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

8825 Stewarts Meadow, College Station, Texas 77845

Link to Map of Facility Location (TCEQ Location Mapper[2]): https://arcg.is/1vHmXn3

D. Information about Facility Operation

What types of waste would be received?

The Facility will receive non-putrescible solid waste and source-separated recyclable materials. The Facility will recover a minimum of 10% or more by weight of the incoming waste stream. The non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers.

What geographical area would the wastes come from?

The source of these waste streams shall be from residential and commercial construction and demolition sites within the counties included within the Brazos Valley Council of Governments.

[1] www.tceq.texas.gov/goto/view-30tac
[2] www.tceq.texas.gov/gis/hb-610-viewer

What days and hours would the facility operate?

The Facility will receive and process waste at a maximum of 24 hours per day, 7 days per week. Hours of operation may vary slightly.

At what rate would wastes be accepted?

The maximum daily volume of incoming waste material is approximately 3,150 cubic yards.

How would wastes be managed?

In general, wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) in roll-off containers which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.

E. Pollution Control Methods

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

The design capacity of the solid waste processing Facility will not be exceeded during operation. The Facility will not accumulate solid waste in quantities that cannot be processed within such a time as to avoid the creation of adverse conditions such as odors, insect breeding, or harborage of other vectors. If such accumulations occur, additional solid waste will not be received until the adverse conditions are abated. In the event that the Facility becomes inoperable for periods longer than 24 hours the Facility will restrict the receipt of solid waste to the Facility and the incoming waste stream will be diverted to another Type V Transfer Station registered with the state or sent to a permitted landfill for disposal.

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

Windblown waste and litter resulting from operation will be collected at least once per day to minimize unsightly conditions and fire hazards on Old Jones Rd and Stewarts Meadow. Any noted waste materials that may have spilled from the waste hauling vehicles traveling to the Facility will be cleaned-up. The Maintenance and Administrative Supervisors will consult with the TxDOT concerning the clean-up of state highways and right-of-ways.

Plain Language Summary – Spanish

Comisión de Calidad Ambiental de Texas

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

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

A. Objetivo de la instalación propuesta

La estación de transferencia de residuos y reciclaje BVR ("Instalación") se operará como una estación de transferencia tipo V, recibiendo residuos sólidos no putrescibles y materiales reciclables separados en origen, incluyendo escombros de construcción y demolición y basura de actividades municipales y comerciales.

B. Información sobre el solicitante

Nombre: Brannon Industrial Group, LLC

Tipo de solicitante: Solicitud de Registro de Estación de Transferencia Tipo V de RSU

Nombre de la instalación: BVR Waste and Recycling Transfer Station

Número de solicitud de permiso:

Número de cliente (CN): 603110115

Número de referencia de la entidad regulada (RN): 105669931

C. Ubicación de la instalación propuesta

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

8825 Stewarts Meadow, College Station, Texas 77845

Enlace al mapa de ubicación de las instalaciones en TCEQ Location Mapper[2]:

https://arcg.is/1vHmXn3

D. Información sobre el funcionamiento de las instalaciones

¿Qué tipos de residuos se recibirían?

La instalación recibirá residuos sólidos no putrescibles y materiales reciclables separados en origen. La instalación recuperará un mínimo del 10% por peso del flujo de residuos entrantes. El material no reciclable se cargará para su disposición en un vertedero autorizado por la TCEQ a menos de 50 millas de la instalación. Los reciclables se almacenarán temporalmente para enviarlos a los recicladores.

¿De qué zona geográfica procederían los residuos?

La fuente de estos flujos de residuos será de sitios residenciales y comerciales de construcción y demolición dentro de los condados incluidos en el Consejo de Gobiernos del Valle de Brazos.

[1] www.tceq.texas.gov/goto/view-30tac
[2] www.tceq.texas.gov/gis/hb-610-viewer

¿Qué días y horas funcionará la instalación?

La instalación recibirá y procesará residuos con un máximo de 24 horas al día, 7 días a la semana. El horario de operación puede variar ligeramente.

¿A qué ritmo se aceptarían los residuos?

El volumen máximo diario de material de desecho entrante es aproximadamente de 3,150 yardas cúbicas.

¿Cómo se gestionarían los residuos?

En general, los residuos entrarán por el lado noroeste de la Estructura de Procesamiento de Almacenamiento de Residuos en contenedores rodantes que serán descargados en la WSPS. Los residuos serán clasificados y los materiales reciclables serán retirados y colocados en cajas rodantes ubicadas fuera de las paredes este de la Estructura de Procesamiento de Almacenamiento de Residuos.

E. Métodos de control de la contaminación

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

La instalación no acumulará residuos sólidos en cantidades que no puedan ser procesadas en un tiempo tal que evite la creación de condiciones adversas como olores, cría de insectos o refugio de otros vectores. Si ocurren tales acumulaciones, no se recibirán residuos sólidos adicionales hasta que las condiciones adversas sean mitigadas. En el evento de que la instalación se vuelva inoperable por períodos mayores a 24 horas, la instalación restringirá la recepción de residuos sólidos a la instalación y el flujo de residuos entrantes será desviado a otra Estación de Transferencia Tipo V registrada con el estado o enviada a un vertedero autorizado para su disposición.

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

Los residuos y la basura arrastrados por el viento resultantes de la operación serán recolectados al menos una vez al día para minimizar las condiciones antiestéticas y los peligros de incendio en Old Jones Rd y Stewarts Meadow. Cualquier material de desecho observado que pueda haberse derramado de los vehículos de transporte de residuos que viajan a la Instalación será limpiado. Los Supervisores de Mantenimiento y Administrativos consultarán con el TxDOT sobre la limpieza de las autopistas estatales y los derechos de paso.

TCEQ Public Involvement Plan Form (Form-20960)

Texas Commission on Environmental Quality

Public Involvement Plan Form for Permit and Registration Applications

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

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

Section 1. Preliminary Screening

☒ New Permit or Registration Application

☐ New Activity – modification, registration, amendment, facility, etc. (see instructions)

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

Section 2. Secondary Screening

☒ Requires public notice,

☐ Considered to have significant public interest, **and**

☐ Located within any of the following geographical locations:

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

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

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

Section 3. Application Information

Type of Application (check all that apply):

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

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

Water Quality

☐ Texas Pollutant Discharge Elimination System (TPDES)

☐ Texas Land Application Permit (TLAP)

☐ State Only Concentrated Animal Feeding Operation (CAFO)

☐ Water Treatment Plant Residuals Disposal Permit

☐ Class B Biosolids Land Application Permit

☐ Domestic Septage Land Application Registration

Water Rights New Permit

☐ New Appropriation of Water

☐ New or existing reservoir

Amendment to an Existing Water Right

☐ Add a New Appropriation of Water

☐ Add a New or Existing Reservoir

☐ Major Amendment that could affect other water rights or the environment

Section 4. Plain Language Summary

Provide a brief description of planned activities.

The BVR Waste and Recycling Transfer Station ("Facility") will be operated as a Type V-Transfer Station, receiving non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities. The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.

The proposed Facility will occupy an approximate 4.419 acre area within a 10.00-acre site. The processing will occur on a constructed waste storage and processing structure (WSPS). The non-putrescible solid waste will be placed into the conveyor and will manually sorted for recyclable and reusable materials. The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.

Section 5. Community and Demographic Information

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

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

College Station

(City)

Brazos

(County)

000207

(Census Tract)

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

☒ City ☐ County ☐ Census Tract

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

52.3%

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

$49,215

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

White: 68.2%
Black or African: 8.1%
Asian: 8.9%

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

Spanish: 1.3%
Other Indo-European Language: 0.95%
Asian and Pacific Island Languages: 3.17%

(e) Languages commonly spoken in area by percentage

English: 80.6%
Spanish: 8.6%
Other Indo-European Language: 4.6%

(f) Community and/or Stakeholder Groups

N/A

(g) Historic public interest or involvement

N/A

Section 6. Planned Public Outreach Activities

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

☒ Yes ☐ No

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

☒ Yes ☐ No

If Yes, please describe.

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

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

☒ Yes ☐ No

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

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

☑ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

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

☒ Yes ☐ No

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

☒ Yes ☐ No

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

☐ TCEQ Regional Office ☐ TCEQ Central Office

☑ Public Place (specify) Larry J. Ringer Library, College station

Section 7. Voluntary Submittal

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

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

☒ Yes ☐ No

What types of notice will be provided?

☒ Publish in alternative language newspaper

☐ Posted on Commissioner's Integrated Database Website

☐ Mailed by TCEQ's Office of the Chief Clerk

☐ Other (specify)

Regulatory Checklist

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

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

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

Applicant Information

Company:	Brannon Industrial Group, LLC				
First name:		Last name			
Applicant Title:			Prefix:		
Street Address:	8825 Stewarts Meadow				
City:	College Station	State:	TX	Zip code:	77845
Applicant E-Mail:					

Consultant Information

First name:	Gary	Last name:	Horwitch		
Consultant Title:	Technical Director		Prefix:		
Consultant Firm:	Roux Associates, Inc.				
Consultant Address:	19450 State Highway 249, Suite 260				
City:	Houston	State:	TX	Zip code:	77070
Consultant E-Mail:	[redacted]				

Application Information

Facility Name:	BVR Waste and Recycling Transfer Station		
Application Date			
CN:	6.03E+08	MSW ID:	
RN:	1.06E+08	Authorization Type:	Registration
County:	Brazos	Application Type:	New Registration

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

32	General	Include drawing number and a page number on each drawing and figure	Required	330.57(h)(4)(E)	Yes	Included in Registration Application		Format-Maps/Drawings
33	General	Include a north arrow on each map or plan drawing	Required	330.57(h)(5)(A)	Yes	Included in Registration Application		Format-Maps/Drawings
34	General	Include a reference to base map & date of most current base map used, if the map is based upon another map	Required	330.57(h)(5)(B)	Yes	Included in Registration Application		Format-Maps/Drawings
35	General	Include a legend on each map or plan drawing	Required	330.57(h)(5)(C)	Yes	Included in Registration Application		Format-Maps/Drawings
36	General	Provide match lines and section lines that reference the drawing where the match or section is shown.	Required	330.57(h)(6)	Yes	Included in Registration Application		Format-Maps/Drawings
37	General	Indicate that the registration is for an MSW transfer station facility that is used in the transfer of MSW to a solid waste processing or disposal facility from any of the following: a municipality with a population of less than 50,000; a county with a population of less than 85,000; a facility used in the transfer of MSW that transfers or will transfer 125 tons per day or less or a transfer station located within the permitted boundaries of an MSW Type I or Type IV facility	Required	330.9(b)(1) - (4)	Yes	NA	NA	Application Eligibility
38	General	Provide a demonstration that the facility will recover 10% or more by weight or weight equivalent of the total incoming waste stream for reuse or recycling, ensure that the incoming waste has already been reduced by at least 10% through a source-separation recycling program; or, also operate one or more source-separation recycling programs in the county where the transfer station is located and those source-separation recycling programs manage a total weight or weight equivalent of recyclable materials equal to 10% or more by weight or weight equivalent of the incoming waste stream to all transfer stations to which credit is being applied	Required if Requested	330.9(f)(1)	Yes	Part I Report, Section 2.1		Application Eligibility
39	General	Provide a demonstration that the facility will transfer the remaining nonrecyclable waste to a landfill not more than 50 miles from the facility.	Required if Requested	330.9(f)(2)	Yes	Part I report, Section 2.1		Application Eligibility
45	General	Acknowledge that the construction and operation of the waste management facility shall comply with Subchapter U of 30 TAC Chapter 330 (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations) or other approved air authorizations. Owners or operators of these types of facilities should consult with the Air Permits Division on or before the date that the municipal solid waste application is filed with the executive director	Acknowledgement	330.55(a)	Yes	Part I report, Section 2.3		Other Authorizations
46	General	Acknowledge that all liquids resulting from the operation of solid waste facilities shall be disposed of in a manner that will not cause surface water or groundwater pollution. Facilities shall provide for the treatment of wastewaters resulting from waste management activities and from cleaning and washing. Owners or operators shall ensure that storm water and wastewater management is in compliance with the regulations of the commission.	Acknowledgement	330.55(a)	Yes	Part I report, Section 2.3		Other Authorizations

49	General	It is the responsibility of an owner or operator to possess or acquire a sufficient interest in or right to the use of the surface estate of the property for which a permit is issued, including the access route. The granting of a permit does neither convey any property rights or interest in either real or personal property; nor does it authorize any injury to private property, invasion of personal rights, or impairment of previous contract rights; nor any infringement of federal, state, or local laws or regulations outside the scope of the authority under which a permit is issued	Informational	330.67(a)				General Information
51	General	Executive director approval or a permit will be required if any on-site operations subsequent to closure of a landfill facility involve disturbing the cover or liner of the landfill.	Informational	330.67(c)				General Information
52	General	It is the responsibility of an owner or operator to obtain any permits or approvals that may be required by local agencies such as for building construction, discharge of uncontaminated waters into ditches under control of a drainage district, discharge of effluent into a local sanitary sewer system, etc.	Informational	330.67(d)				General Information
54	General	The owner or operator shall provide notice of the opportunity to request a public meeting and post notice signs for all registration applications not later than 45 days of the executive director's receipt of the application in accordance with the procedures contained in 30 TAC §39.501(c)	Informational	330.69(b)				General Information
55	General	The owner or operator and the commission shall hold a public meeting in the local area, prior to facility authorization, if a public meeting is required based on the criteria contained in 30 TAC §55.154(c) or by Texas Health and Safety Code, §361.111(c)	Informational	330.69(b)				General Information
56	General	Notice of a public meeting shall be provided as specified in §39.501(e)(3) and (4) of this title	Informational	330.69(b)				General Information
57	General	At the owner's or operator's expense, a sign or signs must be posted at the site of the proposed facility declaring that the application has been filed and stating the manner in which the commission and owner or operator may be contacted for further information. Such signs must be provided by the owner or operator and must substantially meet the requirements of 30 TAC §330.69(b)(1) - (3)	Informational	330.69(b)				General Information
58	General	If at any time during the life of the facility the owner or operator becomes aware of any condition in the permit or registration that necessitates a change to accommodate new technology or improved methods or that makes it impractical to keep the facility in compliance, the owner or operator shall submit to the executive director requested changes to the permit or registration in accordance with 30 TAC §305.62 or §305.70 and must be approved prior to their implementation	Informational	330.73(a)				General Information

60	General	The owner or operator shall obtain and submit certification by a Texas-licensed professional engineer that the facility has been constructed as designed in accordance with the issued registration or permit and in general compliance with the regulations prior to initial operation. The owner or operator shall maintain that certification on site for inspection	Informational	330.73(d)				General Information
61	General	After all initial construction activity has been completed and prior to accepting any solid waste, the owner or operator shall contact the executive director and region office in writing and request a pre-opening inspection. A pre-opening inspection shall be conducted by the executive director within 14 days of notification by the owner or operator that all construction activities have been completed, accompanied by representatives of the owner or operator and the engineer	Informational	330.73(e)				General Information
62	General	The MSW facility shall not accept solid waste until the executive director has confirmed in writing that all applicable submissions required by the permit or registration and this chapter have been received and found to be acceptable, and that construction is in compliance with the permit or registration and the approved site development plan. If the executive director has not provided a written or verbal response within 14 days of completion of the pre-opening inspection, the facility shall be considered approved for acceptance of waste	Informational	330.73(f)				General Information
63	General	Identify if the Regulated Entity or Customer has any delinquent fees	Required	330.59(h), 330.671, 330.675	Yes	Part I report, Section 2.4		Delinquent Fees
64	Part I	Provide a copy of the application, including all revisions and supplements on a publicly accessible Web site	Required in Part I Form	330.57(i)(1)				Part I Form
65	Part I	Provide the commission with the Web address link for the application materials	Required in Part I Form	330.57(i)(1)				Part I Form
66	Part I	Signature Page must have signature and notarization	Required in Part I Form	330.59(a)(1)				Part I Form
67	Part I	Applicant's name, mailing address & phone no.	Required in Part I Form	330.59(a)(1)				Part I Form
68	Part I	Description of the nature of the business	Required in Part I Form	330.59(a)(1)				Part I Form
69	Part I	Activities that require a permit (conducted at the facility)	Required in Part I Form	330.59(a)(1)				Part I Form
70	Part I	Location description, facility name & mailing address	Required in Part I Form	330.59(b)(1); 305.45(a)(1)				Part I Form
71	Part I	Access routes	Required in Part I Form	330.59(b)(2)				Part I Form
72	Part I	Lat. & Long. of the facility	Required in Part I Form	330.59(b)(3)				Part I Form
73	Part I	Lat. & Long. depicted	Required in Part I Form	330.59(c)(1)(A)				Part I Form
74	Part I	All maps should show the facility location	Required in Part I Form	305.45(a)(6)				Part I Form
76	Part I	All maps should show other structures or locations regarding the regulated facility and associated activities	Required in Part I Form	305.45(a)(6)				Part I Form
77	Part I	At least one map with a scale not less than 1 inch = 1 mile	Required in Part I Form	305.45(a)(6)				Part I Form
78	Part I	Permit/Registration boundary and 1 mile beyond to show the following:	Required in Part I Form	330.59(c)(1)(B)				Part I Form
79	Part I	Wells, springs, surface water bodies	Required in Part I Form	305.45(a)(6)(A)				Part I Form
80	Part I	Character of adjacent land including public roads, towns, development as residential, commercial, agricultural, etc.	Required in Part I Form	305.45(a)(6)(B)				Part I Form
81	Part I	Location of any waste disposal activities conducted on the tract but not included in the application	Required in Part I Form	305.45(a)(6)(C)				Part I Form

82	Part I	General location map, TXDOT, scale of ½ inch = 1 mile and most current map used	Required in Part I Form	330.59(c)(2)				Part I Form
83	Part I	Land Ownership Map, within ¼ mile & mineral interest ownership	Required in Part I Form	330.59(c)(3)(A)				Part I Form
84	Part I	Land Ownership List both in hardcopy and electronic form (alternatively pre-printed mailing labels)	Required in Part I Form	330.59(c)(3)(B)				Part I Form
85	Part I	Legal description of property or other documentation of ownership	Required in Part I Form	330.59(d)(1)(A)				Part I Form
86	Part I	If Platted; plat record with county, book, page number and acreage information	Required in Part I Form	330.59(d)(1)(B)				Part I Form
87	Part I	Signed, sealed and dated surveyed metes and bounds description of the facility	Required in Part I Form	330.59(d)(1)(C)				Part I Form
88	Part I	Signed & sealed metes & bounds drawing	Required in Part I Form	330.59(d)(1)(D)				Part I Form
89	Part I	Signed property owner affidavit	Required in Part I Form	330.59(d)(2)				Part I Form
90	Part I	Acknowledge that State may hold owner responsible	Required in Part I Form	330.59(d)(2)(A)				Part I Form
92	Part I	Acknowledge that the owner & State shall have access during life of the facility and during closure	Required in Part I Form	330.59(d)(2)(C)				Part I Form
94	Part I	Verified legal status of applicant and list of persons with 20% or more ownership in the facility	Required in Part I Form	330.59(e)				Part I Form
95	Part I	Ownership status as federal, state, private, public, or other	Required in Part I Form	305.45(a)(2)				Part I Form
96	Part I	List of all Texas solid waste sites that the owner or operator has owned or operated within the last ten years. The site name, site type, permit or registration number, county, and dates of operation shall also be submitted.	Required in Part I Form	330.59(f)(1)				Part I Form
97	Part I	List of all solid waste sites in all states, territories, or countries in which the owner or operator has a direct financial interest. The type of site shall be identified by location, operating dates, name, and address of the regulatory agency, and the name under which the site was operated.	Required in Part I Form	330.59(f)(2)				Part I Form
98	Part I	Shall employ a licensed solid waste facility supervisor before operating	Required in Part I Form	330.59(f)(3)				Part I Form
99	Part I	Names of principals & supervisors owner or operators organization together with previous affiliations with other organizations involved with solid waste activities	Required in Part I Form	330.59(f)(4)				Part I Form
101	Part I	Signatory meets 305.44, documentation of delegated signatory authority	Required in Part I Form	330.59(g)				Part I Form
102	Part I	Corporations – signed by a corporate officer	Required in Part I Form					Part I Form
103	Part I	Partnership or proprietorship –signed by a general partner or proprietor	Required in Part I Form					Part I Form
104	Part I	Municipality, public agency –signed by an executive officer or elected official	Required in Part I Form					Part I Form
105	Part I	Signatory certification statement	Required in Part I Form					Part I Form
106	Part I	Hazardous Waste Management	Required in Part I Form	305.45(a)(7)(A)				Part I Form
107	Part I	Underground Injection Control	Required in Part I Form	305.45(a)(7)(B)				Part I Form
108	Part I	NPDES	Required in Part I Form	305.45(a)(7)(C)				Part I Form
109	Part I	Prevention of Significant Deterioration	Required in Part I Form	305.45(a)(7)(D)				Part I Form
110	Part I	Nonattainment Program	Required in Part I Form	305.45(a)(7)(E)				Part I Form
111	Part I	NESHAPS	Required in Part I Form	305.45(a)(7)(F)				Part I Form
112	Part I	Ocean dumping permit	Required in Part I Form	305.45(a)(7)(G)				Part I Form
113	Part I	Dredge & fill permit	Required in Part I Form	305.45(a)(7)(H)				Part I Form
114	Part I	Licenses under the TRCA	Required in Part I Form	305.45(a)(7)(I)				Part I Form

115	Part I	Other environmental permits	Required in Part I Form	305.45(a)(7)(K)				Part I Form
116	Part I	Registration Application Fee is $150.00	Required in Part I Form	330.59(h)(1)				
117	Part I	A copy of the payment receipt to the MSW Permits Section, if paid by check.	Required in Part I Form	330.59(h)(1)				Part I Form
118	Part I	Prepared by PE, PG, or qualified person	Required in Part I Form	330.57(f)				Part I Form
119	Part I	Description of facility & systems	Required in Part I Form	305.45(a)(8)(A)				Part I Form
120	Part I	Volume, average & max rate of disposal for each place of disposal	Required in Part I Form	305.45(a)(8)(B)(i)				Part I Form
121	Part I	Physical, chemical, thermal, organic, bacteriological, radiological properties of waste	Required in Part I Form	305.45(a)(8)(B)(ii)				Part I Form
122	Part I	Other reasonable information	Required in Part I Form	305.45(a)(8)(C)				Part I Form
123	Part II	Provide the sources and characteristics of all waste to be accepted.	Required	330.61(b)(1)	Yes	Part II Report, Section 1.1		Waste Acceptance Plan
124	Part II	Specify parametric limitations of each type of waste to be managed by the facility	Required	330.61(b)(1)	Yes	Part II Report, Section 1.1		Waste Acceptance Plan
125	Part II	Provide a brief description of the general sources and generation areas contributing wastes to the facility. This description shall include an estimate of the population or population equivalent served by the facility	Required	330.61(b)(1)(A)	Yes	Part II Report, Section 1.2		Waste Acceptance Plan
126	Part II	Provide a descriptive narrative that describes the percentage of incoming waste that must be recovered and its intended use	Required if Requested	330.61(b)(1)(A)	Yes	Part II Report, Section 1.2		Waste Acceptance Plan
127	Part II	Provide the maximum amount of solid waste to be received daily and annually projected for five years. Provide the maximum amount of solid waste to be stored and the maximum and average lengths of time that solid waste is to remain at the facility. Provide the intended destination of the solid waste received at this facility.	Required	330.61(b)(1)(B)	Yes	Part II Report, Section 1.2		Waste Acceptance Plan
129		Provide information to establish why a facility qualifies for a registration in accordance with 30 TAC §330.9	Required	330.61(b)(2)	Yes	Part II Report, Section 1.3		
130	Part II	Provide any site specific conditions that require special design considerations & possible mitigation of conditions identified under sections (h) – (o)	Required	330.61(a)	Yes	Part II Report, Section 2.0		Facility Impact
131	Part II	Provide information regarding the likely impacts of the facility on cities, communities, groups of property owners, or individuals.	Required	330.61(h)	Yes	Part II Report, Section 2.2		Facility Impact
132	Part II	Provide information on the compatibility of the facility with surrounding land use, zoning in the vicinity, community growth patterns, and other factors associated with the public interest.	Required	330.61(h)	Yes	Part II Report, Section 2.2.1		Facility Impact
133	Part II	Provide information on the character of surrounding land use within one mile	Required	330.61(h)(2)	Yes	Part II Report, Section 2.2.2		Existing Conditions
134	Part II	Provide information about the growth trends within five miles & directions of development	Required	330.61(h)(3)	Yes	Part II Report, Section 2.2.3		Existing Conditions
135	Part II	Indicate the proximity to residences & items listed in 330.61(c)(4) & (12), ~ no. of residences & commercial establishments including direct & distance to nearest, population density, all within one mile.	Required	330.61(h)(4)	Yes	Part II Report, Section 2.2.4		Existing Conditions
136	Part II	Indicate all wells and the well density within 500 ft.	Required	330.61(h)(5)	Yes	Part II Report, Section 2.2.5		Existing Conditions
137	Part II	Provide any other information requested by the ED	Required	330.61(h)(6)	Yes	Part II Report, Section 2.2.6		Existing Conditions
138	Part II	Provide data on availability & adequacy of access roads	Required	330.61(i)(1)	Yes	Part II Report, Section 2.3		Transportation

139	Part II	Provide the existing & expected traffic volumes on access roads within one mile of the facility during the expected life of the facility	Required	330.61(i)(2)	Yes	Part II Report, Section 2.3.2		Transportation
140	Part II	Provide an estimate of traffic volume generated by the facility on access roads within one mile of the facility	Required	330.61(i)(3)	Yes	Part II Report, Section 2.3.2		Transportation
141	Part II	Provide documentation of coordination for roadway improvements and documentation of coordination with TXDOT for traffic and location restrictions	Required	330.61(i)(4)	Yes	Part II Report, Section 2.3.3 and Attachment IIC		Transportation
146	Part II	Provide notice to the airport & the FAA for MSW units within 6 miles of a small airport or within 5 miles of a large commercial airport.	Required	330.545(b)	Yes	Part II Report, Section 2.4		Transportation
148	Part II	Discuss in general terms the geology and soils of the proposed site	Required	330.61(j)(1)	Yes	Part II Report, Section 2.5		Geology
152	Part II	Provide data on site specific groundwater conditions	Required	330.61(k)(1)	Yes	Part II Report, Section 2.6.1		Groundwater and Surface Water
153	Part II	Provide data on surface water at or near the site	Required	330.61(k)(2)	Yes	Part II Report, Section 2.6.2		Groundwater and Surface Water
154	Part II	Provide information on how facility will comply with applicable Texas Pollutant Discharge Elimination System (TPDES) storm water permitting requirements and the Clean Water Act, §402, as amended.. This may include the information requires by 30 TAC 330.61(k)(3)(A) & (B)	Required	330.61(k)(3)	Yes	Part II Report, Section 2.6.3		Groundwater and Surface Water
155	Part II	As applicable, provide a certification statement indicating the owner/operator will obtain the appropriate TPDES permit coverage when required	Required	330.61(k)(3)(A)	Yes	Part II Report, Section 2.6.4		Groundwater and Surface Water
156	Part II	As applicable, provide a copy of permit number under an individual wastewater permit	Required	330.61(k)(3)(B)	Yes	Part II Report, Section 2.6.5		Groundwater and Surface Water
157	Part II	Provide the location of any water wells.	Required	330.61(l)(1)	Yes	Part II Report, Section 2.7		Abandoned Oil and Water Wells
158	Part II	All water supply wells must be outside monitoring system or approved in the permit	Informational	330.61(l)(1)				Abandoned Oil and Water Wells
160	Part II	Provide the location of oil & gas wells production wells may remain if identified & don't disrupt operations	Required	330.61(l)(2)	Yes	Part II Report, Section 2.7		Abandoned Oil and Water Wells
161	Part II	Production wells may remain if identified & they do not disrupt facility operations	Informational	330.61(l)(2)				Abandoned Oil and Water Wells
162	Part II	Indicate if the facility is within the 100yr floodplain. If facility within a floodplain see location restrictions in 30 TAC Chapter 330 Subchapter M	Required	330.61(m)(1)	Yes	Part II Report, Section 2.8.1		Floodplains and Wetlands
165	Part II	Acknowledge that the construction and operation of the facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species.	Acknowledgement	330.61(n)(1)	Yes	Part II Report, Section 2.9		Endangered Species
165	Part II	Acknowledge that the construction and operation of the facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species. If the WWTP permit contains a coordination and a review letter from the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Acknowledgement	330.61(n)(1)	Yes	Part II Report, Section 2.9 and Attachment IIE		Endangered Species

166	Part II	Provide a demonstration of whether facility is located within species range and provide a biological assessment.	Required	330.61(n)(2)	Yes	NA	This is not a landfill.	Endangered Species
166	Part II	Provide a demonstration of whether facility is located within species range and provide a biological assessment. If the WWTP permit contains a coordination and a review letter from the United States Fish and Wildlife Service and the Texas Parks and Wildlife Department, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Required	330.61(n)(2)	Yes	NA	This is not a landfill.	Endangered Species
167	Part II	Provide documentation of compliance with Natural Resource Code, Chapter 191 (Texas Antiquities Code)	Required	330.61(o)	Yes	Part II Report, Section 2.10 and Attachment IIA		Historical Commission
167	Part II	Provide documentation of compliance with Natural Resource Code, Chapter 191 (Texas Antiquities Code). If the WWTP permit contains coordination and a review letter from the Texas Historical Commission, the owner or operator shall submit these documents as an attachment/appendix to the registration application and by referencing where this information is addressed in the WWTP Permit and/or permit application.	Required	330.61(o)	Yes	Part II Report, Section 2.10 and Attachment IIA		Historical Commission
168	Part II	Provide documentation that Parts I and II of the application were submitted for review to the applicable council of governments for compliance with regional solid waste plans.	Required	330.61(p)	Yes	Part II Report, Section 2.11 and Attachment IIF		COG Review
169	Part II	Acknowledgement that the owner or operator requested a review letter from any local government, as appropriate for compliance with local solid waste plans. A review letter is not a prerequisite to a final determination on a permit or registration application.	Acknowledgement	330.61(p)	Yes	Part II Report, Section 2.11 and Attachment IIF		COG Review
170	Part II	Provide a constructed map showing boundary, zoning, & land use within one mile including info from 330.61(c)(4), (5), & (10) (schools, hospitals, etc.)	Required	330.61(g)	Yes	Figure II-7		Maps/Drawings
171	Part II	Provide the prevailing wind direction with a wind rose.	Required	330.61(c)(1)	Yes	Figure II-4		Maps/Drawings
172	Part II	Provide the location of all known water wells within 500 feet of the proposed permit boundary with the state well numbering system designation for Water Development Board "located wells".	Required	330.61(c)(2)	Yes	Figure II-5		Maps/Drawings
173	Part II	Provide the location of all structures and inhabitable buildings within 500 feet of the facility	Required	330.61(c)(3)	Yes	Figure II-6		Maps/Drawings
174	Part II	Provide the location of all schools, licensed day-cares, churches, hospitals, cemeteries, ponds, lakes, residential, commercial, & recreational areas within one mile of the facility	Required	330.61(c)(4)	Yes	Figure II-7A		Maps/Drawings
175	Part II	Provide the location and surface type of roads used for access within one mile of the facility	Required	330.61(c)(5)	Yes	Figure II-8		Maps/Drawings
176	Part II	Provide the latitude & longitude of the facility	Required	330.61(c)(6)	Yes	Figure I-1		Maps/Drawings
177	Part II	Provide the location of all area streams	Required	330.61(c)(7)	Yes	Figure II-2		Maps/Drawings
178	Part II	Provide the location of all airports within six miles	Required	330.61(c)(8)	Yes	Figure II-9		Maps/Drawings
179	Part II	Indicate the property boundary of facility	Required	330.61(c)(9)	Yes	Figure II-2		Maps/Drawings
180	Part II	Indicate all drainage, pipeline, and utility easements within & adjacent to the facility	Required	330.61(c)(10)	Yes	Figure I-14		Maps/Drawings
181	Part II	Provide the location of all access control features	Required	330.61(c)(11)	Yes	Figure I-14		Maps/Drawings

182	Part II	Provide the location of all archaeological sites, historical sites, and sites with an aesthetic quality adjacent to the facility	Required	330.61(c)(12)	Yes	Section 2.10		Maps/Drawings
183	Part II	Provide a facility layout map	Required	330.61(d)	Yes	Part II Report, Section 2.1.2, Figures II-14 and II-14A		Maps/Drawings
184	Part II	A set of maps may be provided	Informational	330.61(d)				Maps/Drawings
186	Part II	Provide the location of interior roads	Required	330.61(d)(2)	Yes	Figures II-14 and II-14A		Maps/Drawings
187	Part II	Indicate the location of monitor wells	Required	330.61(d)(3)	Yes	Figure II-14		Maps/Drawings
188	Part II	Provide the location of all facility buildings	Required	330.61(d)(4)	Yes	Figures II-14 and II-14A		Maps/Drawings
189	Part II	Provide notes on sequence of development	Required	330.61(d)(5)	Yes	Figures II-14 and II-14A		Maps/Drawings
190	Part II	Indicate the location of all facility fencing	Required	330.61(d)(6)	Yes	Figures II-14 and II-14A		Maps/Drawings
192	Part II	Indicate the location of site entrance roads	Required	330.61(d)(8)	Yes	Figures II-14 and II-14A		Maps/Drawings
198	Part II	Provide a general topographic maps: USGS 7.5 minute or equivalent one map at scale 1 in. = 2,000 ft.	Required	330.61(e)	Yes	Part II Report, Section 2.1.3 and Figure II-2		Maps/Drawings
199	Part II	Provide Aerial Photograph(s) that are at least 9 in. by 9 in. at scale range of one inch = 1,667-3,334 ft. that covers an area at least one mile in radius of the site. Facility boundary and fill areas (as applicable) must be shown.	Required	330.61(f)	Yes	Part II Report, Section 2.1.4 and Figure II-3		Maps/Drawings
200	Part II	A series of photos showing growth trends may be used	Informational	330.61(f)(2)				Maps/Drawings
201	Part II	All submitted prints & photocopies must be legible	Informational	330.61(f)(3)				Maps/Drawings
202	Part II	Provide zoning map within two miles and a copy of any nonconforming use or special permit required for the facility	Required	330.61(h)(1)	Yes	Figure II-11		Maps/Drawings
210	Part II	No solid waste disposal operations are permitted in the 100yr. floodway	Informational	330.547(a)				Floodplains and Wetlands
211	Part II	Demonstrate that, a facility located in 100 year flood plains, does not restrict the flow of the 100 yr. flood, reduce temporary storage capacity, or result in washout of solid waste so as to pose a hazard to human health and the environment	Required	330.547(b)	Yes	Part II Report, Section 2.8.2		Floodplains and Wetlands
212	Part II	Demonstrate that storage and processing facilities are located outside of the 100 year floodplain.	Required	330.547(c)	Yes	Part II Report, Section 2.8.3		Floodplains and Wetlands
213	Part II	For storage and processing facilities located within the 100 year floodplain, please provide a demonstration that the facility is designed to prevent washout during a 100 year storm event, or a conditional letter of map amendment from the Federal Emergency Management Administration administrator	Required	330.547(c)	Yes	Part II Report, Section 2.13.2		Floodplains and Wetlands
214	Part II	Acknowledge if the facility will be located in wetlands.	Acknowledgement	330.553(a) & (b)	Yes	Part II Report, Section 2.8.4	The Facility is not located on the wetlands.	Floodplains and Wetlands
215	Part II	Demonstrate, if located within wetlands, that there is no practicable alternative location	Required	330.553(b)(1)	Yes	Part II Report, Section 2.8.4	The Facility is not located on the wetlands.	Floodplains and Wetlands
216	Part II	Acknowledge that the facility's construction & operations shall not cause or contribute to violations of state water quality standards, violation of any applicable toxic effluent standard or prohibition under the Clean Water Act §307; jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of a critical habitat, protected under the Endangered Species Act of 1973, or violate any requirement under the Marine protection, Research, & Sanctuaries Act	Acknowledgement	330.553(b)(2)(A) - (D)	Yes	NA	This is not a landfill.	Floodplains and Wetlands

217	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing erosion, stability, & migration potential of native wetland soils, muds, and deposits used to support the landfill unit	Required	330.553(b)(3)(A)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
218	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing erosion, stability, & migration potential of dredged and fill materials used to support the landfill	Required	330.553(b)(3)(B)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
219	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the volume and chemical nature of the waste managed in the landfill unit	Required	330.553(b)(3)(C)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
220	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the impacts on fish, wildlife, and other aquatic resources and their habitat for the release of solid waste	Required	330.553(b)(3)(D)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
221	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing the potential effects of catastrophic release of waste to the wetlands and the resulting impacts on the environment	Required	330.553(b)(3)(E)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
222	Part II	If wetlands are located within the facility, submit a demonstration for the integrity of landfill unit by addressing any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected	Required	330.553(b)(3)(F)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
223	Part II	Sufficient information shall be provided to the ED to allow a reasonable determination to be made with respect to the demonstrations cited in 30 TAC §330.553(b)	Informational	330.553(b)(5)				Floodplains and Wetlands
224	Part II	Provide the steps taken to achieve no net loss of wetlands	Required	330.553(b)(4)	Yes	NA	This is not a landfill.	Floodplains and Wetlands
225	Part II	Acknowledge that the operation of this facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species	Acknowledgement	330.551(a)	Yes	Part II Report, Section 2.9		Endangered Species
226	Part II	The term "Harassing" means; An intentional or negligent act or omission that creates the likelihood of injury to wildlife	Informational	330.551(b)(1)				Endangered Species
227	Part II	The term "Harming" means; An act of omission that actually injures or kills wildlife, including acts that annoy it to such an extent as to significantly disrupt essential behavioral patterns	Informational	330.551(b)(2)				Endangered Species
228	Part II	The term "Taking" means; collecting an endangered or threatened species or attempting to engage in such conduct	Informational	330.551(b)(3)				Endangered Species
229	Part II	Acknowledge that no solid waste unloading, storage, disposal, or processing operations shall occur within any easement, buffer zone, or right-of-way that crosses the facility	Acknowledgement	330.543(a)	Yes	Part II Report, Section 2.12		Easements and Buffer Zone
268	Part II	Submit information for on-site local geologic or geomorphologic features	Required	330.559(2)	Yes	NA	This is not a landfill.	Geology
269	Part II	Identify local human-made features or events	Required	330.559(3)	Yes	NA	This is not a landfill.	Geology
270	Part III	Describe facility access control features	Required	330.63(b)(1)	Yes	Part III Report, Section 2.1		General Facility Design
271	Part III	Submit a process design for the facility [that includes items 330.63(b)(2)(A) through 330.63(b)(2)(I)]	Required	330.63(b)(2)	Yes	Part III Report, Section 2.2		General Facility Design

272	Part III	Submit a flow diagram(s) to describe the storage, processing, and disposal sequences for each type of waste and/or	Required	330.63(b)(2)(A)	Yes	Figure III-1		General Facility Design
273	Part III	Submit a schematic view drawing(s) showing phases for collection, separation and processing/disposal of each type of waste and/or feedstock/recyclable material	Required	330.63(b)(2)(B)	Yes	Figure III-1		General Facility Design
274	Part III	Provide ventilation & odor control measures for each unit	Required	330.63(b)(2)(C)	Yes	Part III Report, Section 2.2.3		General Facility Design
275	Part III	Provide construction details of storage, processing units & components, dimensions, capacity, materials used, etc.	Required	330.63(b)(2)(D)	Yes	Part III Report, Section 2.2.4		General Facility Design
276	Part III	Provide performance data for all storage and processing units and ancillary equipment	Required	330.63(b)(2)(D)	Yes	Part III Report, Section 2.2.4		General Facility Design
278	Part III	Submit location and engineering designs for containment of storage, processing and loading & unloading areas including freeboard	Required	330.63(b)(2)(F)	Yes	Part III Report, Section 2.2.4		General Facility Design
279	Part III	Describe the storage and handling of grease, oil and sludge, including the maximum time waste will be on-site and details of ultimate disposition	Required	330.63(b)(2)(G)	Yes	Part III Report, Section 2.2.5	No grease trap, grit, trap waste or septage	General Facility Design
280	Part III	Provide details of effluent disposal	Required	330.63(b)(2)(H)	Yes	Part III Report, Section 2.2.6		General Facility Design
281	Part III	Provide designs for noise pollution control	Required	330.63(b)(2)(I)	Yes	Part III Report, Section 2.2.7		General Facility Design
282	Part III	Describe how the processing areas will be designed for proper cleaning and to prevent surface water runoff onto, into, and off the treatment areas	Required	330.63(b)(3)(A)	Yes	Part III Report, Section 2.3.1		General Facility Design
283	Part III	Describe construction material used for walls and floors that can be hosed down and scrubbed	Required	330.63(b)(3)(B)	Yes	Part III Report, Section 2.3.2		General Facility Design
284	Part III	Describe water or steam connections and equipment for cleaning	Required	330.63(b)(3)(C)	Yes	Part III Report, Section 2.3.3		General Facility Design
285	Part III	Provide adequate floor drains and/or sumps	Required	330.63(b)(3)(D)	Yes	Part III Report, Section 2.3.4		General Facility Design
286	Part III	Describe proper disposal of liquids resulting from waste processing, cleaning, and washing and provide for the treatment of waste water	Required	330.63(b)(4)	Yes	Part III Report, Section 2.3.5		General Facility Design
287	Part III	Describe how facility will be designed to protect endangered species	Required	330.63(b)(5)	Yes	Part III Report, Section 2.4 and Attachment IIE		General Facility Design
336	Part III	Submit if applicable, a floodplain development permit from any agency with jurisdiction over the proposed improvements	Required if Requested	330.63(c)(2)(D)(ii)	Yes	NA	This section is not applicable.	Surface Water Drainage Report
337	Part III	Submit if applicable a Conditional Letter of Map Amendment from FEMA	Required if Requested	330.63(c)(2)(D)(iii)	Yes	NA	This section is not applicable.	Surface Water Drainage Report
338	Part III	Submit if applicable, Corps of Engineers Section 404 Specification of Disposal Sites for Dredged or Fill Material permit for construction of all necessary improvements	Required if Requested	330.63(c)(2)(D)(iv)	Yes	NA	This section is not applicable.	Surface Water Drainage Report
339	Part III	Provide for storage & transfer units a description of design features for the rapid processing and minimum detention of solid waste at the facility	Required	330.63(d)(1)(A)	Yes	Part III Report, Section 4.1.1		Waste Management Unit Design
340	Part III	Provide design features for a facility to prevent the creation of nuisances or public health hazards	Required	330.63(d)(1)(A)	Yes	Part III Report, Section 4.1.1		Waste Management Unit Design
545	Part III	Indicate that a characterization of the contaminated groundwater, including concentrations of assessment constituents as defined in §330.409	Required	330.63(f)(7)(A)	Yes	NA	This is not a landfill.	Groundwater Sampling & Analysis Plan

701	Part III	Specify in the closure plan that the operator will begin closure no later than 30 days after final receipt of waste or no later than one year if the unit has remaining capacity and additional waste may be received	Required	330.457(f)(3)	Yes	NA	This is not a landfill.	Closure Plan
702	Part III	Provide for closure activities to be completed within 180 days of initiation	Required	330.457(f)(4)	Yes	NA	This is not a landfill.	Closure Plan
704	Part III	Acknowledge that following receipt of closure documents and the inspection report by the TCEQ region, the ED may acknowledge termination of operation & closure & deem the facility properly closed	Acknowledgement	330.457(f)(6)	Yes	NA	This is not a landfill.	Closure Plan
706	Part III	Indicate that notice of closure will be published in the newspaper of largest circulation 90 days prior to the initiation of a final facility closure. The notice shall provide the name, address, and physical location of the facility; the TCEQ authorization number; and the last date of intended receipt of waste.	Required	330.461(a)	Yes	Attchment IIIA, Section 2.1		Closure Plan
707	Part III	Acknowledge that notice of closure will be provided to the ED 90 days prior to the initiation of a final facility closure and that the owner or operator will also make available an adequate number of copies of the approved final closure and post-closure plans (if applicable) for public access and review	Acknowledgement	330.461(a)	Yes	Attchment IIIA, Section 2.1		Closure Plan
708	Part III	Acknowledge that least one closure sign will be posted at every point of access and notify all persons who utilize the facility of the date of closure and the prohibition against further receipt of waste materials.	Acknowledgement	330.461(b)	Yes	Attchment IIIA, Section 2.1		Closure Plan
709	Part III	Indicate that suitable barriers will be installed at all access points to adequately prevent the unauthorized dumping of solid waste at the closed facility.	Required	330.461(b)	Yes	Attchment IIIA, Section 2.1		Closure Plan
710	Part III	Indicate that an Affidavit to the Public will be submitted to the ED by registered mail, if waste will remain onsite and indicate that The Owner or Operator will also record a certified notation on the deed to the facility property that the land has been used as a landfill and submit a certified copy of the modified deed to the ED.	Required if Requested	330.461(c)(1)	Yes	NA	No waste will remain onsite. This is not a landfill.	Closure Plan
711	Part III	Acknowledge that a certification, signed by a P.E., will be provided within 10 days of final closure activities, verifying that final facility closure has been completed in accordance with the approved closure plan and will include all applicable documentation necessary for certification	Acknowledgement	330.461(c)(2)	Yes	Attchment IIIA, Section 3.0		Closure Plan
713	Part III	The owner or operator may request permission from the ED to remove the notation from the deed if all wastes are removed from the facility	Informational	330.461(d)				Closure Plan
714	Part III	Submit a closure plan for Storage and Processing units to remove all waste, waste residues, and any recovered materials. Units shall be dismantled and removed off-site or decontaminated.	Required	330.459(a)	Yes	Attchment IIIA, Section 2.3		Closure Plan For Processing Facilities
715	Part III	Provide plans for the evacuation of all material on-site to an authorized facility and the disinfecting of all contaminated water handling units, tipping areas, processing and post-processing areas (as applicable)	Required	330.459(b)	Yes	Attchment IIIA, Section 2.3		Closure Plan For Processing Facilities
716	Part III	Acknowledge that if there is evidence of a release, the ED may require an investigation, assessment, and or corrective action.	Acknowledgement	330.459(c)	Yes	Attchment IIIA, Section 2.4		Closure Plan For Processing Facilities

717	Part III	Submit a plan (if combustible material is stored outdoors) for closure of a recycling facility that includes collecting processed and unprocessed materials, and transporting the materials to an authorized facility for disposition	Required	330.459(d)(1)	Yes	Attchment IIIA, Section 2.5		Closure Plan For Processing Facilities
718	Part III	Provide for the closure plan to be implemented (if combustible material is stored outdoors) and completed within 180 days following the most recent acceptance of processed or unprocessed materials	Required	330.459(d)(2)	Yes	Attchment IIIA, Section 2.5		Closure Plan For Processing Facilities
737	Part III	Submit cost estimates for closure & post-closure. Existing facilities must submit a copy of the financial assurance documentation. New facilities must submit financial assurance within 60 days prior to receipt of waste	Required	330.63(j)	Yes	Attchment IIIB, Section 1.2		Closure Cost Estimates
742	Part III	Provide cost estimates to close a Recycling facility that stores combustible materials outdoors.	Required	330.505(a)(1)	Yes	Attchment IIIB, Section 1.2.1		Closure Cost Estimates
743	Part III	Provide a closure cost estimate that equals the costs of closure of the facility, including disposition of the maximum inventories of all waste; processed and unprocessed combustible materials stored outdoors on site during the life of the facility	Required	330.505(a)(2)(A)	Yes	Attchment IIIB, Section 1.2.2		Closure Cost Estimates
744	Part III	Provide a closure cost estimate that is based on the costs of hiring a third party that is not affiliated with the owner or operator; and is based on a per cubic yard and/or short ton measure for collection and disposition costs.	Required	330.505(a)(2)(B-(C)	Yes	Attchment IIIB, Section 1.2.3		Closure Cost Estimates
745	Part III	Provide for the closure cost estimate & financial assurance to be increased if conditions change which increase the maximum cost of closure at any time during the active life of the facility	Required	330.505(a)(3)	Yes	Attchment IIIB, Section 1.3.1		Closure Cost Estimates
746	Part III	A reduction in the closure cost estimate and the amount of financial assurance may be approved if the cost estimate exceeds the maximum cost of closure at any time during the remaining life of the facility.	Required if Requested	330.505(a)(4)	Yes	Attchment IIIB, Section 1.3.2		Closure Cost Estimates
747	Part III	Provide for the maintenance of financial assurance for Recycling facilities that store combustible materials outdoors or that pose a risk	Required	330.505(b)(1)	Yes	Attchment IIIB, Section 1.3.3		Closure Cost Estimates
748	Part III	Provide for the maintenance of financial assurance until closure is approved by ED.	Required	330.505(b)(2)	Yes	Attchment IIIB, Section 1.3.4		Closure Cost Estimates
758	Part IV	A site operating plan shall cover all on-site units in accordance with Subchapters D & E of Chapter 330.	Informational	330.65(a)				Site Operating Plan
785	Part IV	Indicate that the facility will provide the reports required by 30 TAC §330.675 to the Executive Director	Required	330.675	Yes	Part IV Report, Section 1.1	Part IV Report	Site Operating Plan
988	Part IV	Provide information identifying any permit required under the TPDES and any permit requirements imposed by other agencies for a grease, grit, & septage processing facility	Required	330.65(d)	Yes	Part IV Report, Section 1.2 - NA	No grease trap, grit, trap waste or septage	Site Operating Plan
989	Part IV	Identify source & characteristics of wastes that will be received and Specify any limiting parameters that may influence the design and operation of the facility	Required	330.203(a)	Yes	Part IV Report, Section 2.1		Site Operating Plan
990	Part IV	Provide estimate of the amount of each waste to be received daily, max amount stored at any one time, max & average time waste will remain on-site, max & average processing time, intended destination of generated wastes, & description of how 10% will be recovered if applicable.	Required	330.203(b)	Yes	Part IV Report, Section 2.2.1		Site Operating Plan

991	Part IV	Acknowledge that 10% recovery of material for beneficial use is considered to be the recovery of fats, oil, and greases, but does not include the recovery of water.	Acknowledgement	330.203(b)	Yes	Section 2.2.3		Site Operating Plan
992	Part IV	Provide a description of the method of sampling and analysis for the effluent discharged to a trap, interceptor, or treatment facility permitted under Texas Water Code, Chapter 26. At a minimum, the method of sampling, the frequency of sampling, and the tests to be made shall be part of the sampling and analysis plan. All sampling and analysis shall be done according to approved United States Environmental Protection Agency (EPA) methods.	Required	330.203(c)(1)	Yes	NA	This is a type V transfer station.	Site Operating Plan
993	Part IV	Indicate that records of sampling analysis of wastes and effluent shall be maintained for a three-year period.	Required	330.203(c)(1)	Yes	NA	This is a type V transfer station.	Site Operating Plan
994	Part IV	Provide a sampling and analysis plan that includes at minimum analyses for benzene, lead, & TPH for waste received	Required	330.203(c)(2)	Yes	NA	This is a type V transfer station.	Site Operating Plan
995	Part IV	Provide for the annual analysis of grit trap wastes for BOD, TSS, benzene, TPH, & lead	Required	330.203(c)(2)	Yes	NA	No grease trap, grit, trap waste or septage	Site Operating Plan
996	Part IV	Indicate that sludges to be landfilled must be analyzed annually for benzene, lead, & TPH.	Required	330.203(c)(2)	Yes	NA	No sludges	Site Operating Plan
997	Part IV	Indicate that effluent must be analyzed annually for TPH, fats, oil & grease, & pH	Required	330.203(c)(2)	Yes	NA	No grease trap, grit, trap waste or septage	Site Operating Plan
998	Part IV	Indicate if applicable that grit trap waste proposed to be accepted is solely from commercial car washes and not from other generators.	Required If Requested	330.9(g)	Yes	NA	No grease trap, grit, trap waste or septage	Site Operating Plan
999	Part IV	Acknowledge that a report with supporting documentation shall be submitted on a quarterly basis to demonstrate at least 10% of the volume of the waste received was processed to recover solid material that was recycled or reused	Acknowledgement	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan
1000	Part IV	Acknowledge that failure to achieve the relevant 10 percent recycling rate in any two quarters within any one-year period will cause a registration to terminate and will require the owner or operator of the facility to obtain a permit to continue facility operations.	Acknowledgement	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan
1001	Part IV	Provide for a quarterly report to be submitted that will include volume of waste received, percent solids, and the method of determining the percent solids, processed, disposed, and recycled or reused.	Required	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan
1002	Part IV	Provide in the quarterly report, the method(s) utilized to achieve at least 10% recycling or reuse of incoming material	Required	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan
1003	Part IV	Submit a quarterly report that reconciles the volume of waste with the amounts on manifests, shipping documents, or trip tickets and indicate where the recyclable material was taken for recycling.	Required	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan
1004	Part IV	Acknowledge that the addition of any material such as lime, polymer, or flocculent added as part of the recycling process is not allowed to be considered as part of the 10% recovery of material from the waste stream and must be subtracted from the material considered as recycled.	Acknowledgement	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan
1005	Part IV	Acknowledge that diverting material from the waste stream without processing is not considered to be recycling as part of this activity.	Acknowledgement	330.9(g)(1)	Yes	Part IV Report, Section 2.2.3.1		Site Operating Plan

1006	Part IV	Provide the characteristics and constituent concentrations of wastes generated by the facility and indicate that documentation that all wastes leaving the facility can be adequately managed by other authorized facilities will be provided	Required	330.205(a)	Yes	Part IV Report, Section 3.3.1		Site Operating Plan
1007	Part IV	Indicate that all wastes generated by a facility must be processed or disposed at an authorized solid waste management facility	Required	330.205(b)	Yes	Part IV Report, Section 3.1.2		Site Operating Plan
1008	Part IV	Indicate that all wastewaters generated by a facility shall be managed as contaminated water in accordance with 330.207	Required	330.205(c)	Yes	Part IV Report, Section 3.1.3		Site Operating Plan
1010	Part IV	Indicate that the facility shall be designed and operated to produce a sludge that is acceptable at municipal solid waste landfills and does not exceed standards specified in 30 TAC §330.205(d)	Required If Requested	330.205(d)	Yes	Part IV Report, Section 3.1.4 indicates this section is not applicable.		Site Operating Plan
1011	Part IV	Indicate that sludges exceeding the limits shall not be disposed in municipal solid waste landfills and must be sent to an authorized facility for further processing or disposal as a hazardous waste, as appropriate or disposed in a municipal solid waste landfill with dedicated Class 1 industrial solid waste cells if the sludge is nonhazardous.	Required If Requested	330.205(d)	Yes	Part IV Report, Section 3.1.4 indicates this section is not applicable.		Site Operating Plan
1012	Part IV	The owner or operator shall not discharge contaminated water without specific written authorization.	Informational	330.207(a)				Site Operating Plan
1013	Part IV	Provide a plan that describes how all liquids resulting from the operation of the facility shall be disposed of in a manner that will not cause surface water or groundwater pollution.	Required	330.207(a)	Yes	Part IV Report, Section 3.1.5		Site Operating Plan
1014	Part IV	Indicate that contaminated water shall be collected and contained until properly managed.	Required	330.207(b)	Yes	Part IV Report, Section 3.1.6		Site Operating Plan
1015	Part IV	Indicate that leachate shall be collected and contained until properly managed.	Required	330.207(b)	Yes	Part IV Report, Section 3.1.7 indicates this section is not applicable	No leachate generation	Site Operating Plan
1016	Part IV	Indicate that collection units other than storage tanks shall have a clay or synthetic liner and the liner shall be constructed in accordance with 30 TAC §330.331(b)	Required If Requested	330.207(b)	Yes	Part IV Report, Section 3.1.7 indicates this section is not applicable		Site Operating Plan
1018	Part IV	Indicate that the use of leachate & gas condensate in mining process is prohibited.	Required	330.207(c)	Yes	NA	No leachate & gas condensate, no mining process	Site Operating Plan
1019	Part IV	Indicate that the facility will not discharge to a septic system	Required	330.207(d)	Yes	Part IV Report, Section 3.1.9		Site Operating Plan
1020	Part IV	Indicate that off-site discharge of contaminated waters shall be made only after approval under the Texas Pollutant Discharge Elimination System authority	Required	330.207(e)	Yes	Part IV Report, Section 3.1.10		Site Operating Plan
1021	Part IV	Acknowledge that wastewaters discharged to a facility permitted under Texas Water Code, Chapter 26 must not interfere with or pass-through the treatment facility processes or operations, interfere with or pass-through its sludge processes, use, or disposal or otherwise be inconsistent with the prohibited discharge standards, including 40 Code of Federal Regulations Part 403, General Pretreatment Regulations for Existing and New Source Pollution	Acknowledgement	330.207(f)(1)	Yes	Part IV Report, Section 3.1.11		Site Operating Plan

1022	Part IV	Indicate that the daily effluent design standard for oil and grease concentration leaving the facility and entering a public sewer system shall not exceed 200 milligrams per liter, the concentration established in the wastewater discharge permit pretreatment limit or the concentration established by the treatment facility permitted under Texas Water Code, Chapter 26, the National Pollutant Discharge Elimination System, or the limits established in 30 TAC §330.207, if the discharge points do not require compliance with locally set limits.	Required	330.207(g)	Yes	Part IV Report, Section 3.1.12 indicates this section is not applicable		Site Operating Plan
1023	Part IV	Indicate that lagoons, open-top storage tanks, open vessels, and underground storage units are prohibited at liquid waste transfer facilities	Required	330.207(h)	Yes	NA	No liquid waste accepted.	Site Operating Plan
1024	Part IV	Provide plans demonstrating that all waste shall be stored in such a manner that it does not constitute a fire, safety, or health hazard or provide food or harborage for animals and vectors, and shall be contained or bundled so as not to result in litter	Required	330.209(a)	Yes	Part IV Report, Section 3.2.1		Site Operating Plan
1025	Part IV	Provide a description of on-site storage area for source-separated or recyclable materials that is separate from a transfer station or process area and provides for the control of odors, vectors, and windblown waste	Required If Requested	330.209(b)	Yes	Part IV Report, Section 3.2.2		Site Operating Plan
1026	Part IV	Provide plans for process area of transfer stations that recover material from putrescible or liquid waste. Such plans shall provide for the storage of processed and unprocessed waste & recycled materials in enclosed buildings, vessels, or containers.	Required If Requested	330.209(c)	Yes	Part IV Report, Section 3.2.3 indicates this section is not applicable		Site Operating Plan
1027	Part IV	Provide a plan that describes how all waste containing food wastes shall be stored in covered or closed containers that are leak-proof, durable, and designed for safe handling and easy cleaning	Required	330.211	Yes	Part IV Report, Section 3.3.1		Site Operating Plan
1028	Part IV	Indicate that nonreusable containers shall be of suitable strength to minimize vector scavenging or rupturing.	Required	330.211(1)	Yes	Part IV Report, Section 3.3.2		Site Operating Plan
1029	Part IV	Indicate that reusable containers must be maintained in a clean condition as not to constitute a nuisance, harbor, feed, and propagate vectors.	Required	330.211(2)	Yes	Part IV Report, Section 3.3.3		Site Operating Plan
1030	Part IV	Indicate that any containers emptied manually must be capable of being serviced without physical contact with waste.	Required	330.211(2)(A)	Yes	Part IV Report, Section 3.3.4		Site Operating Plan
1031	Part IV	Indicate that containers that are mechanically handled must be designed to prevent spillage/leakage during storage, handling, and transport.	Required	330.211(2)(B)	Yes	Part IV Report, Section 3.3.5		Site Operating Plan
1032	Part IV	Provide a plan that describes how a citizen's collection stations shall be operated in accordance with 30 TAC §330.213	Required If Requested	330.213(a)	Yes	Part IV Report, Section 3.4 indicates this section is not applicable	The Facility does not server a citizen's collection center.	Site Operating Plan
1033	Part IV	Indicate that it is the responsibility of the person that owns or operates the collection center to provide for the collection of deposited waste on a scheduled basis and supervise the facility in order to maintain it in a sanitary condition.	Required If Requested	330.213(a)	Yes	Part IV Report, Section 3.4 indicates this section is not applicable	The Facility does not server a citizen's collection center.	Site Operating Plan

1034	Part IV	A citizen's collection station may accept sharps from single-family or multi-family dwellings, hotels, motels, or other establishments that provide lodging and related services for the public. The sharps will not be considered medical waste, as defined in 30 TAC §330.3	Required If Requested	330.213(b)	Yes	Part IV Report, Section 3.4 indicates this section is not applicable	The Facility does not server a citizen's collection center.	Site Operating Plan
1035	Part IV	Provide operational standards for stationary compactors that describe how they will operated and maintained in such a way as not to create a public nuisance through material loss or spillage, odor, vector breeding or harborage, or other condition.	Required If Requested	330.215(1) and (2)	Yes	Part IV Report, Section 3.5 indicates this section is not applicable		Site Operating Plan
1036	Part IV	Indicate that a copy of the permit or registration, application, and any other plans or related documents, and as-built plans will be maintained in the site operating record and shall be made available for inspections by agency representatives or other interested parties	Required	330.219(a)	Yes	Part IV Report, Section 4.4.1		Site Operating Plan
1037	Part IV	Indicate that operator shall record & retain location restriction demonstrations, inspection records, training procedures, closure plans, monitoring, testing, analytical data relating to closure, cost estimates, financial assurance documents, all correspondence, modification, approvals, manifests, shipping documents, tickets relating to special waste, & documents as specified by the executive director in the operating record.	Required	330.219(b)(1) – (7)	Yes	Part IV Report, Section 4.1.2		Site Operating Plan
1038	Part IV	Indicate that trip tickets will be maintained according to the record retention provisions in 30 TAC §312.145.	Required	330.219(b)(8)	Yes	Part IV Report, Table IV-2		Site Operating Plan
1039	Part IV	Indicate that recordkeeping provisions to justify, on a quarterly basis, that the relevant percentage of the incoming waste is processed to recover recycled products for applicable facilities, that failure to achieve the relevant percent recycling rate in any two quarters within any one-year period will cause a change in a facility's status and require the owner or operator of the facility to obtain a registration or permit, as appropriate, to continue facility operations and that the owner or operator shall submit an annual report to the executive director by March 1st summarizing the recycling activities and percent of incoming solid waste that was recycled during the past calendar year	Required	330.219(b)(9)	Yes	Part IV Report, Table IV-2		Site Operating Plan
1040	Part IV	Indicate that all reports will be signed by a person who is a duly authorized as a signatory for reports. A person is duly authorized if authorized in in writing by the owner or operator in accordance with 30 TAC §305.44(a) and the authorization specifies individual or position with responsibility and this written authorization is submitted to the executive director	Required	330.219(c)(1)(A) - (C)	Yes	Part IV Report, Section 4.1.3		Site Operating Plan
1041	Part IV	Acknowledge that if the authorization to sign is not longer accurate a new authorization will be submitted	Acknowledgement	330.219(c)(2)	Yes	Part IV Report, Section 4.1.4		Site Operating Plan
1042	Part IV	Indicate that any person signing a report shall make the certification in 305.44(b).	Required	330.219(c)(3)	Yes	Part IV Report, Section 4.1.5		Site Operating Plan
1043	Part IV	Indicate that the operator shall maintain records on-site, available for inspection by the executive director for a period consisting of the two most recent calendar years	Required	330.219(d)	Yes	NA	No composting or landfill mining.	Site Operating Plan

1045	Part IV	Indicate that the results of final product testing under 30 TAC §330.613 or §332.71 will be maintained in the site operating record	Required	330.219(d)(2)	Yes	NA	No composting or landfill mining.	Site Operating Plan
1046	Part IV	Indicate that copies of annual reports will be maintained in the site operating record for 5yrs	Required	330.219(d)(3)	Yes	NA	No composting or landfill mining.	Site Operating Plan
1047	Part IV	Indicate that the site operating record shall be furnished and available for inspection by executive director.	Required	330.219(e)	Yes	Part IV Report, Section 4.1.6		Site Operating Plan
1048	Part IV	Indicate that the operator shall retain site operating record for the life of the facility.	Required	330.219(f)	Yes	Part IV Report, Section 4.1.7		Site Operating Plan
1049	Part IV	Indicate that the executive director may set alternative recordkeeping & notification schedules.	Required	330.219(g)	Yes	Part IV Report, Section 4.1.8		Site Operating Plan
1051	Part IV	Provide a fire protection plan that describes the source of fire protection (a local fire department, fire hydrants, fire extinguishers, water tanks, water well, etc.), procedures for using the fire protection source, and employee training and safety procedures. The fire protection plan shall comply with local fire codes.	Required	330.221(c)	Yes	Part IV Report, Section 5.1		Site Operating Plan
1052	Part IV	Provide a description of the availability of water under pressure for firefighting purposes	Required	330.221(a)	Yes	Part IV Report, Section 5.1.2		Site Operating Plan
1053	Part IV	Provide a description of on-site firefighting equipment	Required	330.221(b)	Yes	Part IV Report, Section 5.1.3		Site Operating Plan
1054	Part IV	Indicate that all employees shall be trained in the contents and use of the fire protection plan	Required	330.221(c)	Yes	Part IV Report, Section 5.1.4		Site Operating Plan
1055	Part IV	Provide a description of the artificial barriers, natural barriers, or a combination of both, appropriate to protect human health and safety and the environment that are used to control access to the facility and indicate that uncontrolled access to the facility shall be prevented.	Required	330.223(a)	Yes	Part IV Report, Section 5.2.1		Site Operating Plan
1056	Part IV	Provide a description of the, minimum two lane, access road from the public road and how it is designed for expected traffic volumes and adequate turning radii.	Required	330.223(b)	Yes	Part IV Report, Section 5.2.2		Site Operating Plan
1057	Part IV	Provide a description of vehicle parking for equipment, employees, and visitors. Indicate that safety bumpers at hoppers must be provided for vehicles. And provide a description of the positive means to control dust and mud	Required	330.223(b)	Yes	Part IV Report, Section 5.2.3		Site Operating Plan
1058	Part IV	Provide a description of perimeter control fencing that includes having lockable gates and attendant on site during operating hours. Operating and transport areas shall be enclosed by walls or fencing	Required	330.223(c)	Yes	Part IV Report, Section 5.2.4		Site Operating Plan
1059	Part IV	Provide a description of the unloading areas and indicate that unloading areas will be confined to as small an area as practical and be monitored by attendant.	Required	330.225(a)	Yes	Part IV Report, Section 5.3.1		Site Operating Plan
1060	Part IV	Provide a description of the signs & forced access lanes used to prevent indiscriminate dumping	Required	330.225(a)	Yes	Part IV Report, Section 5.3.2		Site Operating Plan
1061	Part IV	Indicate that the facility is not required to accept any solid waste that he/she determines will cause or may cause problems in maintaining full and continuous compliance	Required	330.225(a)	Yes	Part IV Report, Section 5.3.3		Site Operating Plan
1062	Part IV	Provide procedures to ensure that waste in unauthorized areas is removed immediately and disposed of properly.	Required	330.225(b)	Yes	Part IV Report, Section 5.3.4		Site Operating Plan
1063	Part IV	Provide procedures for the detection and prevention of the unloading of processing of prohibited wastes.	Required	3330.225©	Yes	Part IV Report, Section 5.3.5		Site Operating Plan

1064	Part IV	Indicate that prohibited waste must be returned immediately to the transporter or generator.	Required	330.225(c)	Yes	Part IV Report, Section 5.3.6		Site Operating Plan
1065	Part IV	Provide a description of how storage & processing areas are designed to control and contain worst case spill or release and will account for precipitation from a 25-year, 24-hour storm.	Required	330.227	Yes	Part IV Report, Section 5.4		Site Operating Plan
1066	Part IV	Specify the waste acceptance and facility operating hours	Required	330.229(a)	Yes	Part IV Report, Section 5.5.1		Site Operating Plan
1067	Part IV	The waste acceptance hours may be any time between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday, unless otherwise approved by the executive director or commission for a permit. The operating hours for operating heavy equipment and transporting materials on- or off-site may be any time between the hours of 5:00 a.m. and 9:00 p.m., Monday through Friday, unless otherwise approved in the authorization.	Required	330.229(a)	Yes	Part IV Report, Section 5.5.2		Site Operating Plan
1068	Part IV	Specify alternative operating hours of up to five days in a calendar year to accommodate special occasions, special purpose events, holidays, or other special occurrences	Required	330.229(b)	Yes	Part IV Report, Section 5.5.3		Site Operating Plan
1069	Part IV	Indicate that the facility will record in the site operating record the dates, times, and duration when any alternative operating hours are utilized.	Required	330.229(d)	Yes	Part IV Report, Section 5.5.4		Site Operating Plan
1070	Part IV	Indicate that the commission's regional offices may allow additional temporary operating hours to address disaster or other emergency situations, or other unforeseen circumstances that could result in the disruption of waste management services in the area.	Required	330.229(c)	Yes	Part IV Report, Section 5.5.5		Site Operating Plan
1071	Part IV	Indicate that a sign measuring at least 4' X 4' must be displayed at all entrances. Indicate that information on the sign must including the facility name and type, hours and days of operation, authorization number, and facility rules.	Required	330.231	Yes	Part IV Report, Section 5.6		Site Operating Plan
1072	Part IV	Indicate that windblown material and litter shall be collected as necessary, throughout the facility, along fences and access roads, and at the gate, at least once per day on days that the facility is in operation, to minimize unhealthy, unsafe, or unsightly conditions.	Required	330.233(a)	Yes	Part IV Report, Section 5.7.1		Site Operating Plan
1073	Part IV	Indicate the measures used to control windblown waste.	Required	330.233(a)(1)	Yes	Part IV Report, Section 5.7.2		Site Operating Plan
1074	Part IV	Provide a description of fence or screen used to minimize windblown waste if the facility is not completely enclosed.	Required	330.233(b)	Yes	Part IV Report, Section 5.7.3		Site Operating Plan
1075	Part IV	Provide procedures to encourage waste hauling vehicles to cover loads that may include posting signs, reporting offenders, and assessing surcharges.	Required	330.235	Yes	Part IV Report, Section 5.8		Site Operating Plan
1077	Part IV	Provide a description of all weather access roads at the facility and how the tracking of mud and debris onto public roadways will be minimized.	Required	330.237(a)	Yes	Part IV Report, Section 5.9.1		Site Operating Plan
1078	Part IV	Provide procedures use to ensure that dust from on-site and other access roadways shall not become a nuisance to surrounding areas and indicate that a water source and necessary equipment or other means of dust control shall be provided.	Required	330.237(b)	Yes	Part IV Report, Section 5.9.2		Site Operating Plan
1079	Part IV	Provide procedures to be used to maintain on site roads and minimize depressions, ruts, and potholes.	Required	330.237(c)	Yes	Part IV Report, Section 5.9.3		Site Operating Plan

1080	Part IV	Describe screening or other means used to prevent noise pollution & adverse visual impacts.	Required	330.239	Yes	Part IV Report, Section 5.10		Site Operating Plan
1081	Part IV	Provide procedures used to ensure that the design capacity of the facility shall not be exceeded and that waste will not be allowed to accumulate in quantities that create a nuisance, create odors, or harbor vectors.	Required	330.241(a)	Yes	Part IV Report, Section 5.11.1		Site Operating Plan
1082	Part IV	Provide procedures that describe how unprocessed grease, grit, & septage will only be stored up to 72hrs.	Required	330.241(a)(1)	Yes	NA	No grease trap, grit, trap waste or septage	Site Operating Plan
1083	Part IV	Provide procedures that provide for the restriction, diversion or removal of waste if the facility experiences a significant work stoppage.	Required	330.241(b)	Yes	Part IV Report, Section 5.11.2		Site Operating Plan
1084	Part IV	Provide an alternative processing/disposal procedures for when facility is inoperable for more than 24hrs.	Required	330.241(c)	Yes	Part IV Report, Section 5.11.3		Site Operating Plan
1085	Part IV	Provide procedures for washing down all working surfaces in contact with waste at least weekly or twice per week for facilities that operate continuously.	Required	330.243(a)	Yes	Part IV Report, Section 5.12.1		Site Operating Plan
1086	Part IV	Provide procedures to ensure that wash water shall not be allowed to accumulate without proper treatment.	Required	330.243(b)	Yes	Part IV Report, Section 5.12.2		Site Operating Plan
1087	Part IV	Provide procedures that demonstrate that wash water shall be collected & disposed of in an authorized manner.	Required	330.243(c)	Yes	Part IV Report, Section 5.12.3		Site Operating Plan
1088	Part IV	Acknowledge that air emissions from municipal solid waste facilities must not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act.	Acknowledgement	330.245(a)	Yes	Part IV Report, Section 5.13.1		Site Operating Plan
1090	Part IV	Provide a description of odor-retaining containers & vessels used to store liquid and solid waste	Required	330.245(c)	Yes	Part IV Report, Section 5.13.3		Site Operating Plan
1091	Part IV	Provide a description of how the facility has been designed and will be operated to provide adequate ventilation and prevent nuisance odors from leaving boundary of facility	Required	330.245(d)	Yes	Part IV Report, Section 5.13.4		Site Operating Plan
1092	Part IV	Indicate that air pollution emission capture & abatement equipment shall be cleaned and maintained per manufacturer's recommendations and as necessary so that the equipment efficiency can be adequately maintained.	Required	330.245(e)	Yes	Part IV Report, Section 5.13.5		Site Operating Plan
1093	Part IV	Provide a description of the measures/equipment, in accordance with 30 TAC §330.245(f)(1) – (4), that will be use to control odor at the facility.	Required	330.245(f)(1) – (4)	Yes	Part IV Report, Section 5.13.6		Site Operating Plan
1094	Part IV	Indicate that the process areas that recover material from solid waste that contains putrescibles shall be maintained totally within an enclosed building and describe how openings to the process area shall be controlled to prevent releases of nuisance odors from leaving the property boundary of the facility.	Required	330.245(g)	Yes	Part IV Report, Section 5.13.7 indicates this section is not applicable		Site Operating Plan
1095	Part IV	Provide a description of how facility shall be designed to allow a minimal time of exposure of liquid waste to the air and minimize waste contact with air during unloading of liquid waste into the facility.	Required	330.245(h)	Yes	NA	No liquid waste is accepted.	Site Operating Plan
1096	Part IV	Acknowledge that the reporting of emissions events shall be made in accordance with §101.201 of this title (relating to Emissions Event Reporting and Recordkeeping Requirements) and reporting of scheduled maintenance shall be made in accordance with §101.211 of this title (relating to Scheduled Maintenance, Startup, and Shutdown Reporting and Recordkeeping Requirements).	Acknowledgement	330.245(j)	Yes	Part IV Report, Section 5.13.8		Site Operating Plan

1097	Part IV	Provide procedures for the control of ponded water to avoid its becoming a nuisance and alleviate any objectionable odors	Required	330.245(k)	Yes	Part IV Report, Section 5.13.9		Site Operating Plan
1098	Part IV	Indicate that facility personnel will be trained in the appropriate sections of the facility's health and safety plan.	Required	330.247	Yes	Part IV Report, Section 6.0		Site Operating Plan
1099	Part IV	Indicate that the facility shall provide potable water and sanitary facilities for all employees and visitors.	Required	330.249	Yes	Part IV Report, Section 5.14		Site Operating Plan

PART I - APPLICATION FORM

Part I Application Form (Form-0650)

Texas Commission on Environmental Quality

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

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

Application Tracking Information

Facility Regulated Entity Name[3]:
BVR Waste and Recycling Transfer Station

Site Operator (Permittee or Registrant Name)[4]:
Brannon Industrial Group, LLC

MSW Authorization Number: _____

Initial Submission Date: 09/19/2024

Revision Date: _____

Application Data

1. Submission Type	
☒ Initial Submission	☐ Notice of Deficiency (NOD) Response

2. Authorization Type	
☐ Permit	☒ Registration

3. Application Type	
☐ New Permit	
☐ Permit Major Amendment	☐ Permit Limited Scope Major Amendment
☒ New Registration	

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

4. Application Fee

Amount

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

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

Payment Method

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

Enter ePay Trace Number: _____

☐ Check (send to TCEQ Financial Administration Division)

Payor Name: _____ Check Number: _____

5. Electronic Versions of Application

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

6. Party Responsible for Publishing Notice

Indicate who will be responsible for publishing notice:

☒ Applicant ☐ Agent in Service ☐ Consultant

Contact Name: Cherry Fratus

Title: Executive Assistant

Email Address: cfratus@bigcompany.com

7. Alternative Language Notice

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

Is an alternative language notice required for this application?

☒ Yes ☐ No

Indicate the alternative language: Spanish

8. Public Place for Copy of Application

Name of the Public Place: Larry J. Ringer Library

Physical Address: 1818 Harvey Mitchell Pkwy. S.

City: College Station County: Brazos State: TX Zip Code: 77845

Phone Number: (979) 209-6347

9. Consolidated Permit Processing

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

☐ Yes ■ No

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

10. Confidential Documents

Does the application contain confidential documents?

☐ Yes ■ No

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

11. Permits and Construction Approvals

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

Table 1. Permits and Construction Approvals.

Permit or Approval	Received	Pending	Not Applicable
Hazardous Waste Management Program under Texas Solid Waste Disposal Act			N/A
Underground Injection Control Program under Texas Injection Well Act			N/A
National Pollutant Discharge Elimination System Program under Clean Water Act; Waste Discharge Program under Texas Water Code, Chapter 26			N/A
Prevention of Significant Deterioration Program under Federal Clean Air Act (FCAA); Nonattainment Program under the FCAA			N/A
National Emission Standards for Hazardous Air Pollutants Preconstruction Approval under the FCAA			N/A
Ocean Dumping Permits under Marine Protection Research and Sanctuaries Act			N/A
Dredge or Fill Permits under Clean Water Act			N/A
Licenses under the Texas Radiation Control Act			N/A
Other (describe): TPDES General Stormwater Permit	R		
Other (describe): Municipal Solid Waste Processing Permit	R		

PAGE REVISION DATE: _____

12. General Information About the Facility

Facility Regulated Entity Name:
BVR Waste and Recycling Transfer Station

Contact Name: Chad Lechler Title: General Manager

MSW Authorization Number (if existing): _____

Regulated Entity Reference Number: **RN** 105669931

Physical or Street Address (if available): 8825 Stewarts Meadow

City: College Station County: Brazos State: TX Zip Code: 77845

Phone Number: (979) 260-0006

Latitude (decimal degrees, six decimal places): 30.574722

Longitude (decimal degrees, six decimal places): -96.406388

Elevation (above mean sea level): Aprx 287 feet (benchmark elevation for landfills)

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

Approximate 2.2 mile southwest of the intersection of Highway 47 and FM 60 / Raymond Stotzer Parkway in College Station, Texas.

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

Starting from the intersection of Highway 47 and FM 60 / Raymond Stotzer Parkway, head southwest on FM60/Raymond Stotzer Parkway for approximately 2 miles. Make a right onto Old Jones Road and proceed for 900 feet. The entrance will be on the right, just before reaching the intersection with Stewarts Meadow.

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

☐ Yes ☒ No

13. Facility Types

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

Indicate facility type (select all that apply):

☐ Type I ☐ Type IV ☒ Type V

☐ Type IAE ☐ Type IVAE ☐ Type VI

14. Activities Conducted at the Facility

☒ Storage ☒ Processing ☐ Disposal

15. Facility Waste Management Units

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

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

16. Description of Proposed Facility or Changes to Existing Facility

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

The BVR Waste and Recycling Transfer Station ("Facility") will be operated as a Type V-Transfer Station, receiving non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities. The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.

The proposed Facility will occupy an approximate 4.419 acre area within a 10-acre site. The processing will occur on a constructed Waste Storage Processing Structure (WSPS). The non-putrescible solid waste will be placed into the conveyor and will manually sorted for recyclable and reusable materials. The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.

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17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: Brannon Industrial Group, LLC

Customer Reference Number: **CN** 603110115

Contact Name: Cody Sheffield Title: Operations Manager

Mailing Address: 8825 Stewarts Meadow

City: College Station County: Brazos State: TX Zip Code: 77845

Phone Number: (979) 260-0006

Email Address: csheffield@bigcompany.com

Operator (if different from *Site Operator*)

Name: _____

Customer Reference Number: **CN**_____

Contact Name: _____ Title: _____

Mailing Address: _____

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

Phone Number: _____

Email Address: _____

Consultant (if applicable)

Firm Name: Roux Associates, Inc.

Consultant Name: Roux Associates, Inc.

Texas Board of Professional Engineers Firm Registration Number: F-13676

Contact Name: Gary Horwitch, P.E. Title: Technical Director

Mailing Address: 19450 State Highway 249, Suite 260

City: Houston County: Harris State: TX Zip Code: 77070

Phone Number: (713) 252-1581

Email Address: ghorwitch@rouxinc.com

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

Name: _____

Mailing Address: _____

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

Phone Number: _____

Email Address: _____

18. Facility Supervisor License

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

☐ Class A Supervisor License ■ Class B Supervisor License

19. Facility Ownership

Facility Owner

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

■ Yes ☐ No

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

Other Owner Name: _____

What is Owned: ■ Facility Units ■ Property

☐ Other (describe): _____

Mailing Address: 8825 Stewarts Meadow

City: College Station County: Brazos State: TX Zip Code: 77845

Phone Number: (979) 260-0006

Email Address: cfratus@bigcompany.com

20. Other Government Entities Information

Texas Department of Transportation

District: Brya

District Engineer's Name: Chad Bohne, P.E.

Mailing Address: 2591 N Earl Rudder Fwy

City: Bryan County: Brazos State: TX Zip Code: 77083

Phone Number: (979) 778-9764

Email Address: _____

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: Brazos County Road and Bridge Departm

Contact Person's Name: Prarthana Banerji, P.E., CFM

Mailing Address: 2617 W. Hwy 21

City: Bryan County: 2617 W. Hwy 21 State: TX Zip Code: 77083

Phone Number: (979) 822-2127

Email Address: pbanerji@brazoscountytx.gov

City Mayor Information

City Mayor's Name: John Nichols

Mailing Address: 1101 Texas Ave

City: College Station County: Brazos State: TX Zip Code: 77840

Phone Number: (979) 764-3500

Email Address: jnichols@cstx.gov

City Health Authority

Authority Name: Brazos County Health District

Contact Person's Name: Santos Navarrette

Contact Person's Title: Director of Health Department

Mailing Address: 201 North Texas Avenue

City: Bryan County: Brazos State: TX Zip Code: 77083

Phone Number: (979) 361-4440

Email Address: healthdept@brazoscountytx.gov

County Judge Information

County Judge's Name: Jerrell Wise

Mailing Address: 200 S. Texas Ave. Suite 332

City: Bryan County: Brazos State: TX Zip Code: 77083

Phone Number: (979) 361-4102

Email Address: dpeters@brazoscountytx.gov

County Health Authority

Agency Name: Brazos County Health District

Contact Person's Name: Santos Navarrette

Contact Person's Title: Director of Health Department

Mailing Address: 201 North Texas Avenue

City: Bryan County: Brazos State: TX Zip Code: 77083

Phone Number: (979) 361-4440

Email Address: healthdept@brazoscountytx.gov

State Representative Information

House District Number: 10

State Representative's Name: Michael T. McCaul

District Office Mailing Address: 175 Century Square Drive, Suite 210

City: College Station County: Brazos State: TX Zip Code: 77840

Phone Number: (979) 431-6480

Email Address: _____

State Senator Information

District Number: 5

State Senator's Name: Charles Schwertner

District Office Mailing Address: 3000 Briarcrest Drive, Suite 202

City: Bryan County: Brazos State: TX Zip Code: 77802

Phone Number: (979) 776-0222

Email Address: _____

Council of Governments (COG)

COG Name: Brazos Valley Council of Governments

COG Representative's Name: Michael Parks

COG Representative's Title: Executive Director

Mailing Address: 3991 E 29th St

City: Bryan County: Brazos State: TX Zip Code: 77802

Phone Number: (979) 595-2800

Email Address: Michael.Parks@bvcog.org

River Basin Authority

Authority Name: Brazos River Authority

Contact Person's Name: Wayne Wilson

Watershed Sub-Basin Name: White Creek-Brazos River

Mailing Address: 4600 Cobbs Drive

City: Waco County: McLennan State: TX Zip Code: 76710

Phone Number: (254) 761-3100

Email Address: _____

Local Drainage or Flood Management Authority

Authority Name: City of College Station's Planning and Development Services Department

Contact Person's Name: Carol Cotter, P.E., CFM, City Engineer

Mailing Address: 1101 Texas Ave

City: College Station County: Brazos State: TX Zip Code: 77845

Phone Number: (979) 764-3570

Email Address: cspds@cstx.gov

U.S. Army Corps of Engineers District

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

☐ Albuquerque, NM ☐ Galveston, TX

☒ Fort Worth, TX ☐ Tulsa, OK

Local Government Jurisdiction

Within City Limits of: N/A

Within Extraterritorial Jurisdiction of: College Station

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

☐ Yes ■ No

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

Applicant Signature Page

Site Operator (Permittee or Registrant Name) or Authorized Signatory

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

Name: Blake Brannon Title: President

Email Address: brannon@bigcompany.com

Signature: _____ Date: 9/18/2024

Authorization by Facility Owner for Operator to Submit Application

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

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

Name: Blake Brannon Title: President

Email Address: bbrannon@bigcompany.com

Signature: _____ Date: 9/18/24

Notary

SUBSCRIBED AND SWORN to before me by the said BLAKE BRANNON

On this 18th day of SEPTEMBER, 2024

My commission expires on the 3RD day of SEPTEMBER, 2027

Cherry Anne Fratus

Notary Public in and for

WASHINGTON COUNTY, TEXAS (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public

CHERRY ANNE FRATUS NOTARY PUBLIC STATE OF TEXAS ID 132156655 EXP. 09-03-2027

Property Owner Affidavit

Property Owner Affidavit for Landfill Facility

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

Name: Blake Brannon

Email Address: bbrannon@bigcompany.com

Signature: _____ Date: 9/18/24

Property Owner Affidavit for Processing Facility

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

Name: Blake Brannon

Email Address: bbrannon@bigcompany.com

Signature: _____ Date: 9/18/24

Notary

SUBSCRIBED AND SWORN to before me by the said Blake Brannon

On this 18th day of September, 2024

My commission expires on the 3rd day of September, 2027

_____

Notary Public in and for

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

Note: Application Must Bear Signature & Seal of Notary Public

CHERRY ANNE FRATUS NOTARY PUBLIC STATE OF TEXAS ID. 132156655 EXP. 09-03-2027

Part I Attachments

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

Attachments Table 1. Required attachments.

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

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

Attachments Table 2. Additional attachments as applicable.

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

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

Type V Transfer Station Registration Application, Part I Report

BVR Waste and
Recycling Transfer Station
College Station
Brazos County, Texas

Prepared for:

Brannon Industrial Group, LLC
1555 TX-36
Brenham, Texas 77833

Prepared by:

Roux Associates, Inc.
19450 State Highway 249, Suite 260
Houston, Texas 77070

INTENDED FOR PERMITTING PURPOSES ONLY

SEPTEMBER 2024

STATE OF TEXAS
GARY RUSSELL HORWITCH
84511
LICENSED
PROFESSIONAL ENGINEER
INTENDED
FOR PERMITTING
PURPOSES ONLY
09-17-24

4769.0001H100/R

Environmental Consulting
& Management
+1.800.322.ROUX
rouxinc.com

Table of Contents

Tables

Figures

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Attachments

1. Purpose of the Application

The purpose of this Registration Application (“RA”) is to register a new Type V **BVR Waste and Recycling Transfer Station** (“Facility” or “Site”) located in Brazos County, Texas. The RA is being submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division by Brannon Industrial Group, LLC (“BIG”).

2. Supplementary Technical Report 30 TAC §305.45(a)(8)

A supplementary technical report is being submitted in connection with this application. The report has been prepared by either a Texas licensed professional engineer, a Texas licensed professional geoscientist, or by a qualified person who is competent and experienced in the field to which the application relates and thoroughly familiar with the operation or project for which the application is made.

The **Part I Report** has been prepared in accordance with 30 TAC §330.59, pertaining to the contents of Part I of the application.

2.1 Facilities and Systems 30 TAC §305.45(a)(8)(A), 30 TAC §330.9(f)(1) - (2)

The Facility is currently operating under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200 as Brazos Valley Recycling, a Type V Transfer Station in accordance with the requirements of 30 TAC §330 and as identified in this RA. The Facility is eligible for registration as it recovers at least ten percent or more by weight or weight equivalent of the total incoming waste stream for reuse or recycling and disposes of the remaining non-recyclable or non-usable waste stream at a landfill not more than 50 miles from the facility.

The Facility will receive non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities, which will be processed for recyclable and reusable materials. After the recyclable and reusable materials are removed the remaining unusable and non-recycle materials will be re-containerized and shipped off-site for disposal at a TCEQ permitted solid waste landfill within 50 miles of the Facility. At the present time, the BVR Waste and Recycling Transfer Station proposed to utilize the following permitted landfills for disposing of their non-recycled materials:

Table I-1. TCEQ Permitted Landfill for Waste Disposal

Landfill Name	Type	Permit Number	Distance to Landfill
Twin Oaks Landfill	IV	2292	20.0

Source: TCEQ, Feb 2022, Active Municipal Solid Waste Landfills in Texas

2.2 Waste Volume and Rate 30 TAC §305.45(a)(8)(B)

The BVR Waste and Recycling Transfer Station has a projected maximum daily waste acceptance rate of 3,150 Cubic Yard (CY). Waste volume and rate are discussed in greater detail in the **Part II Report**.

2.3 Other Authorizations 30 TAC §330.55(a)

The construction and operation of this Facility will comply with Subchapter U of 30 TAC Chapter 330 (relating to Standard Air Permits for Municipal Solid Waste Landfill Facilities and Transfer Stations) or other approved air authorizations.

All liquids resulting from the operation of this solid waste Facility will be disposed of in a manner that will not cause surface or groundwater pollution. The Facility will provide for the treatment of wastewater resulting from waste management activities from cleaning and washing operations. **Part II Report** Section 2.4 describes how liquids resulting from the operation of this solid waste Facility will be managed.

2.4 Delinquent Fees 30 TAC §330.59(h), 330.671, 330.675

BIG and the Facility have no delinquent TCEQ fees at this time.

3. Facility Location 30 TAC §330.59(b)(1-3)

The BVR Waste and Recycling Transfer Station is a proposed 4.419-acre Type V Transfer Station in Brazos County, Texas. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under the NOI MSW-100200.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

The Facility is located on a property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

4. Maps 30 TAC §330.59(c)(1-3)

4.1 General Location Maps

The following maps collectively comply with the requirements of 30 TAC §330.59(c)(1-2).

A General Location Map showing the county maps prepared by the Texas Department of Transportation (TxDOT) is provided as **Figure I-1**. The map is at a scale of one-half inch equals one mile. TxDOT also provides downloadable information for Brazos County in its Urban File 2018 dataset, which is shown on **Figure I-2**, Site Location Map, at a scale of one-half inch equals one-quarter mile.

An Aerial Photograph is included as **Figure I-3**. A Drainage, Pipeline, Access, and Utility Easement Location Map is included as **Figure I-5**.

4.2 Land Ownership Map

A Land Ownership Map is provided as **Figure IA-1, Attachment IA-2**. The Brazos County Appraisal District Tax Rolls and Tax Maps were reviewed by Roux Associates, Inc. ("Roux") to determine land and mineral interest ownership of properties within a one-quarter mile radius of the registration boundary. The Brazos County Appraisal District records do not list mineral rights ownership records. Property ownership derived from real property appraisal records as listed on the date that the RA was filed.

The list of adjacent and potentially affected landowners, which corresponds to the Land Ownership Map, along with pre-printed mailing labels as required by §330.59(c)(3)(B), is included as **Attachments IA-1 and IA-3**.

4.3 Other Maps

Maps required per 30 TAC §305.45(6) will be provided as figures in **Part II** of this application.

5. Property Owner and Operator Information 30 TAC §330.59(d)

BVR Waste and Recycling Transfer Station is located on property that is owned and operated by BIG. The Facility is currently operating under the NOI MSW-100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities. The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers.

5.1 Legal Description 30 TAC §330.59(d)(1)

The legal description and the Brazos County Clerk's file numbers for the property are provided in **Attachment IB**. A signed and sealed drawing of the registration boundary metes and bounds, provided by Kerr Surveying is included in **Attachment IB**. The registration boundary metes and bounds description was also provided by Kerr Surveying, from a ground survey dated September 27, 2023.

5.1.1 Easements

No solid waste unloading, storage, disposal, or processing operations will occur within any easement that crosses the registration boundary, unless authorized by the TCEQ.

Any drainage, pipeline, and utility easements within the facility are shown on **Figure I-5**, Drainage, Pipeline, Access, and Utility Easement Location Map.

5.2 Property Owner Affidavit 30 TAC §330.59(d)(2)

A signed property owner affidavit from BIG is included in Part I Form.

The property owner, BIG, acknowledges that the State of Texas may hold the property owner responsible for the operation, maintenance, and closure and post-closure care of the facility. The affidavit also acknowledges that the State of Texas shall have access to the property during the active life and post-closure care period, if required, after closure for the maintenance and inspection of the Facility.

5.3 Legal Authority 30 TAC §330.59(e)

The verification of the legal status of the owner and applicant is provided in **Attachment IC**.

5.4 Ownership Status 30 TAC §330.45(a)(2)

The property is 100% owned by BIG.

6. Evidence of Competency 30 TAC §330.59(f)

The following evidence of BIG competency to operate the Facility is provided.

6.1 Solid Waste Facility Operation 30 TAC §330.59(f)(1-2)

BIG has been operating the Brazos Valley Recycling facility in Brazos County under the NOI MSW-100200 since July 2017. Additionally, BIG holds ownership of the Brazos Valley Disposal Facility, MSW-2376 for a type IV landfill; however, this facility has not been constructed or operated. Furthermore, BIG owns and operates Premier Metal Buyers, a metal recycling facility, as well as the BVR Waste and Recycling facility located in Brenham, Texas.

6.2 Management and Personnel 30 TAC §330.59(f)(3-4)

The names of the owner and operator principals and supervisors are provided below, along with previous affiliations with other organizations engaged in solid waste activities.

Mr. Blake Brannon, President

Mr. Jeremiah Byerly, Chief Operating Officer

Mr. Chad Lechler, General Manager

Mr. Robert Buchman, Director of Environmental, Health and Safety

Mr. Cody Sheffield, Operations Manager

Per 30 TAC §330.59(f)(3), a licensed solid waste facility supervisor will be employed before commencing Facility operations.

6.3 Equipment 30 TAC §330.59(f)(5-6)

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

7. Application

7.1 Text Appointments 30 TAC §330.59(g)

Signatory authority and appointment documentation is provided in **Attachment ID**.

7.2 Existing Permits & Authorizations 30 TAC §330.45(a)(7)

Table I-2. Existing Permits & Authorizations

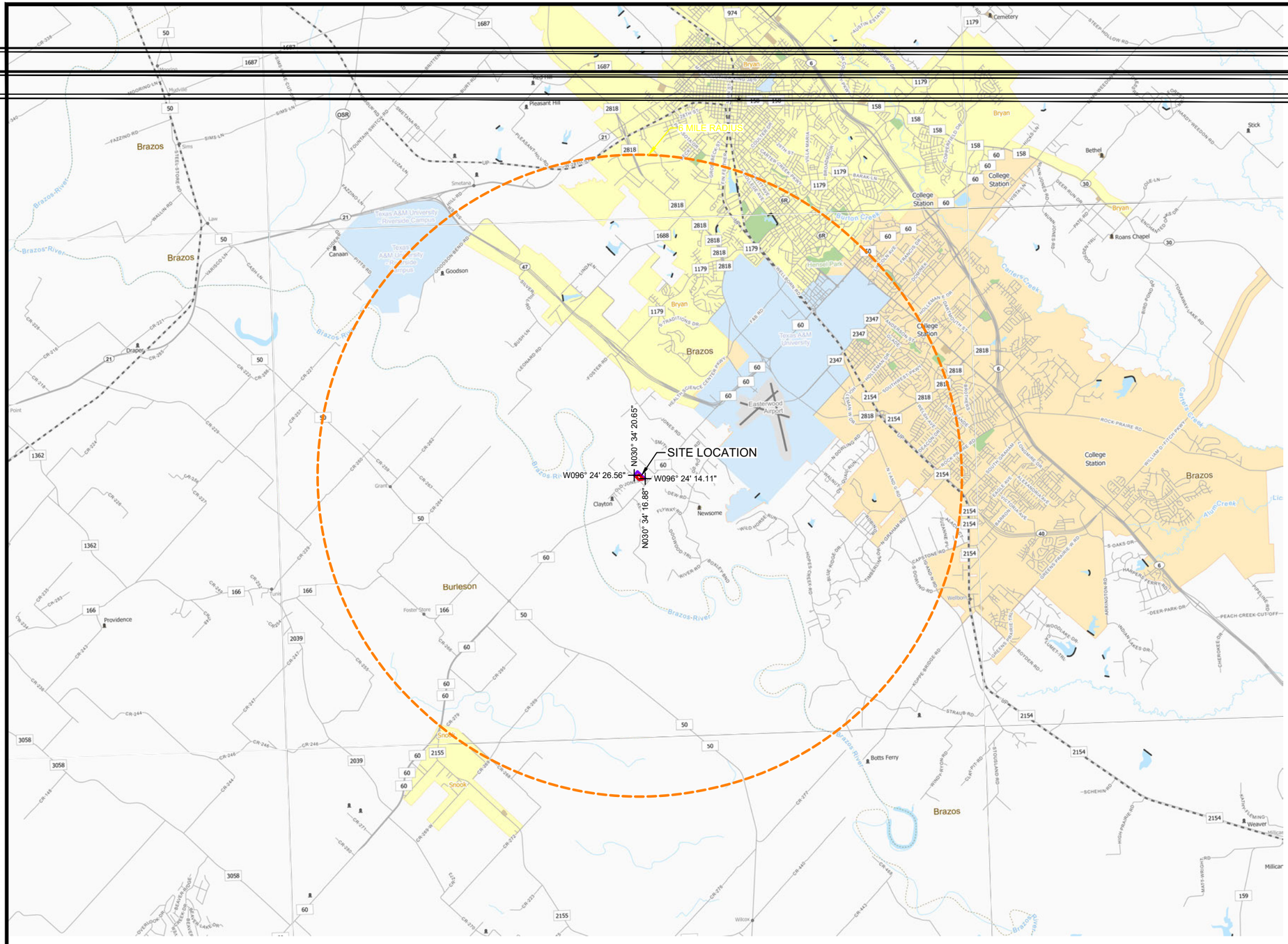
Status	Program
N/A	Hazardous Waste Management program under the Texas Solid Waste Disposal Act
N/A	Underground Injection Control (UIC) program under the Texas Injection Well Act
N/A	National Pollutant Discharge Elimination System (NPDES) program under the Federal Clean Water Act (CWA) and Waste Discharge program under the Texas Water Code, Chapter 26
N/A	Prevention of Significant Deterioration (PSD) Program under the Federal Clean Air Act
N/A	Nonattainment Program under the Federal Clean Air Act
N/A	National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act
N/A	Ocean dumping permits under the Marine Protection Research and Sanctuaries Act
N/A	Dredge or fill permits under of the Federal Clean Water Act
N/A	Licenses under the Texas Radiation Control Act
N/A[1]	NPDES Stormwater Pollution Control §402 Permit
N/A	U. S. Army Corps of Engineers Dredge and Fill Permit §404
N/A	TCEQ Air Quality Permit or Registration
N/A	Other environmental permits (provide list)
REC	Municipal Solid Waste Processing Permit
REC	Texas Pollutant Discharge Elimination System (TPDES) General Stormwater Permit

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

7.3 Application Fees 30 TAC §330.59(h)

The application fee for a permit, registration, amendment, modification, or temporary authorization is $150. This fee was paid online using TCEQ e-Pay at https://www3.tceq.texas.gov/epay/. A copy of the e-Pay receipt is provided in **Attachment IE**.

PART I - FIGURES



LEGEND

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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
48458
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

N

2 MILES 0 2 MILES

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

Title:

GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

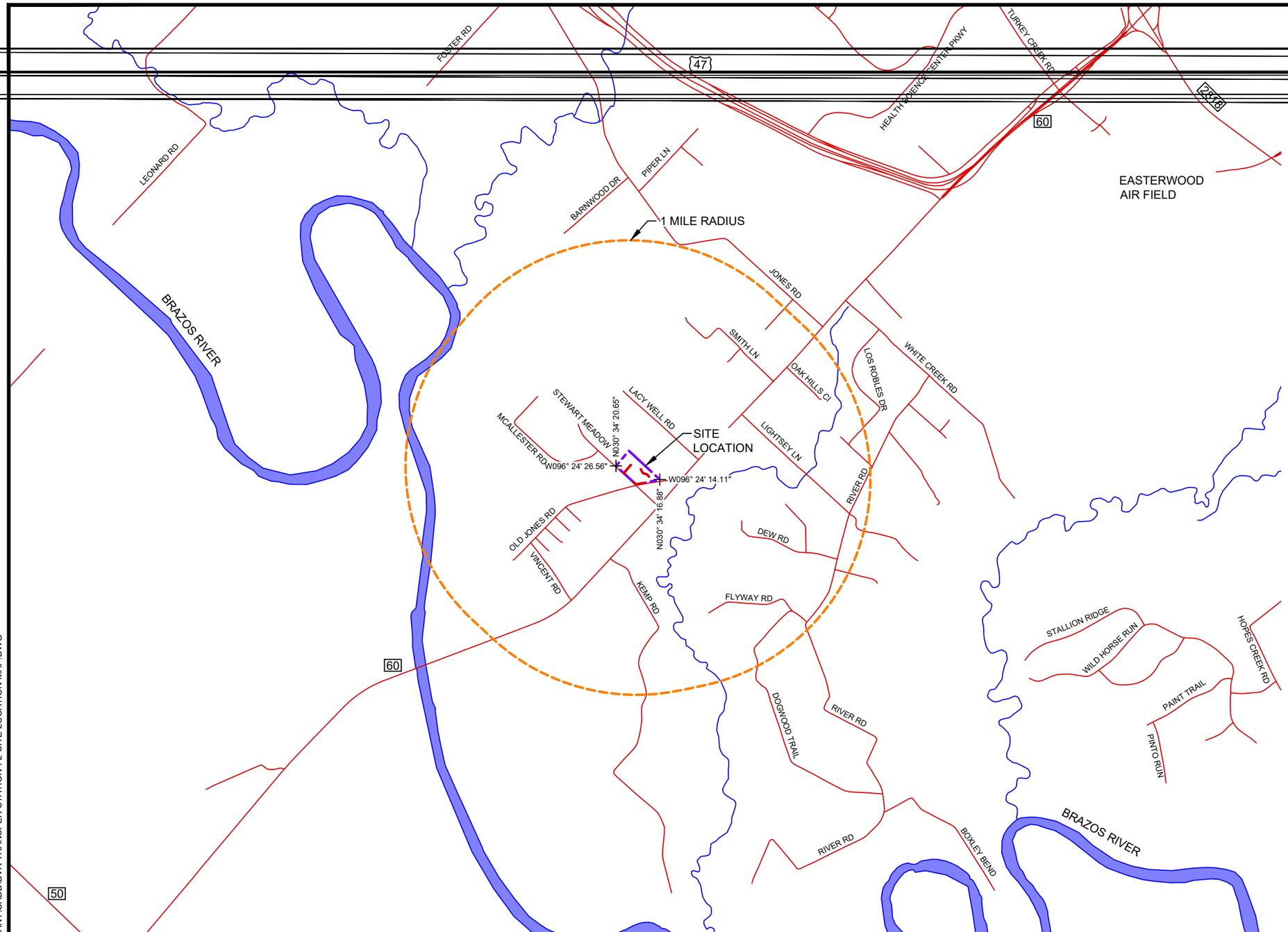
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

STATE OF TEXAS
GARY RUSSELL HORWITCH
48458
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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LEGEND

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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84357
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

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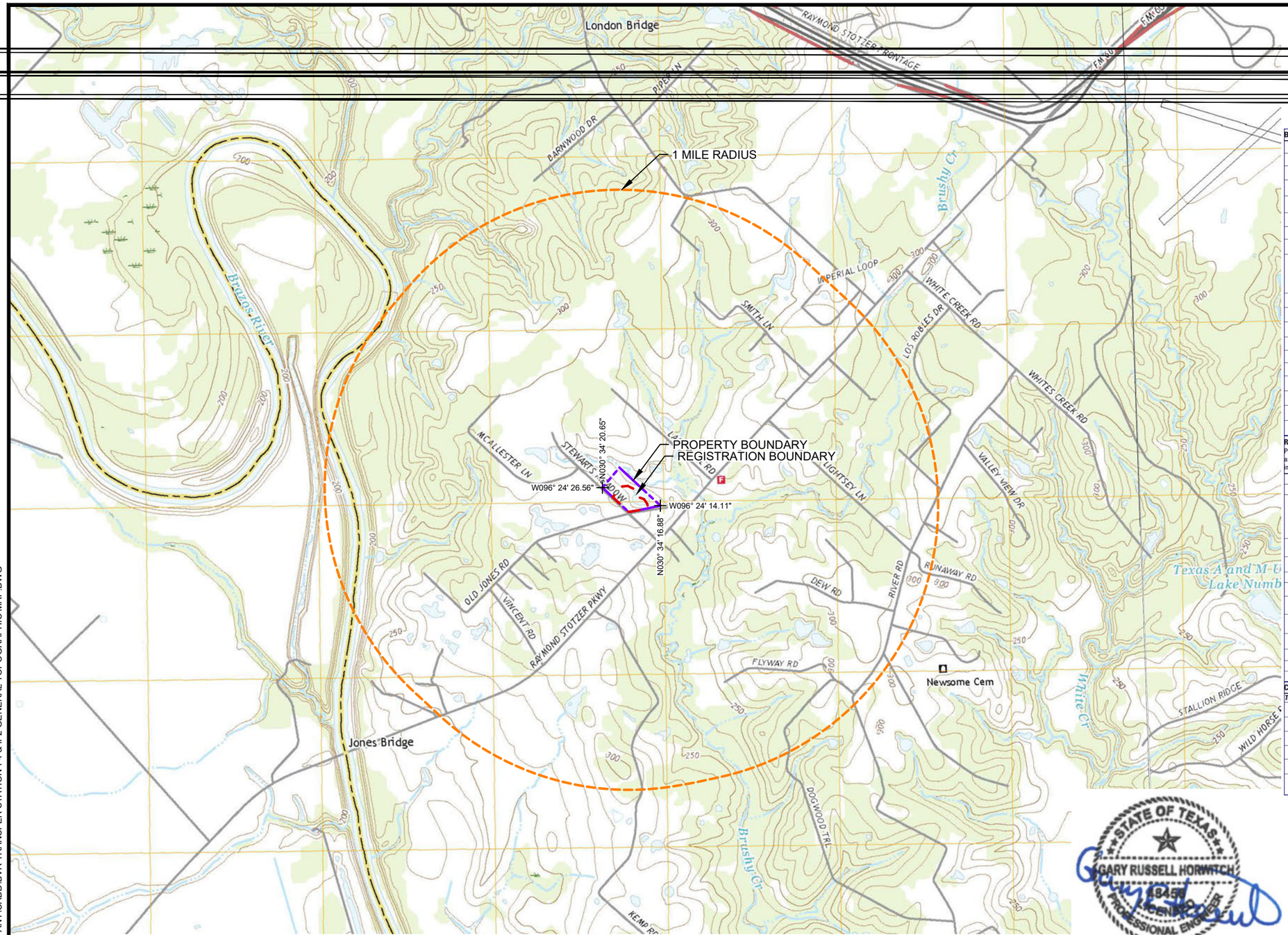

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ▭ 9134 BM △ 277)
- Third-order or better elevation, recoverable mark, no tablet (▭ 5628)
- With number and elevation (67 ▭ 4567)

Horizontal control

- Third-order or better, permanent mark (△ Neace Neace)
- With third-order or better elevation (BM △ 62 Pike BM393)
- With checked spot elevation (△ 1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84594
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

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GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

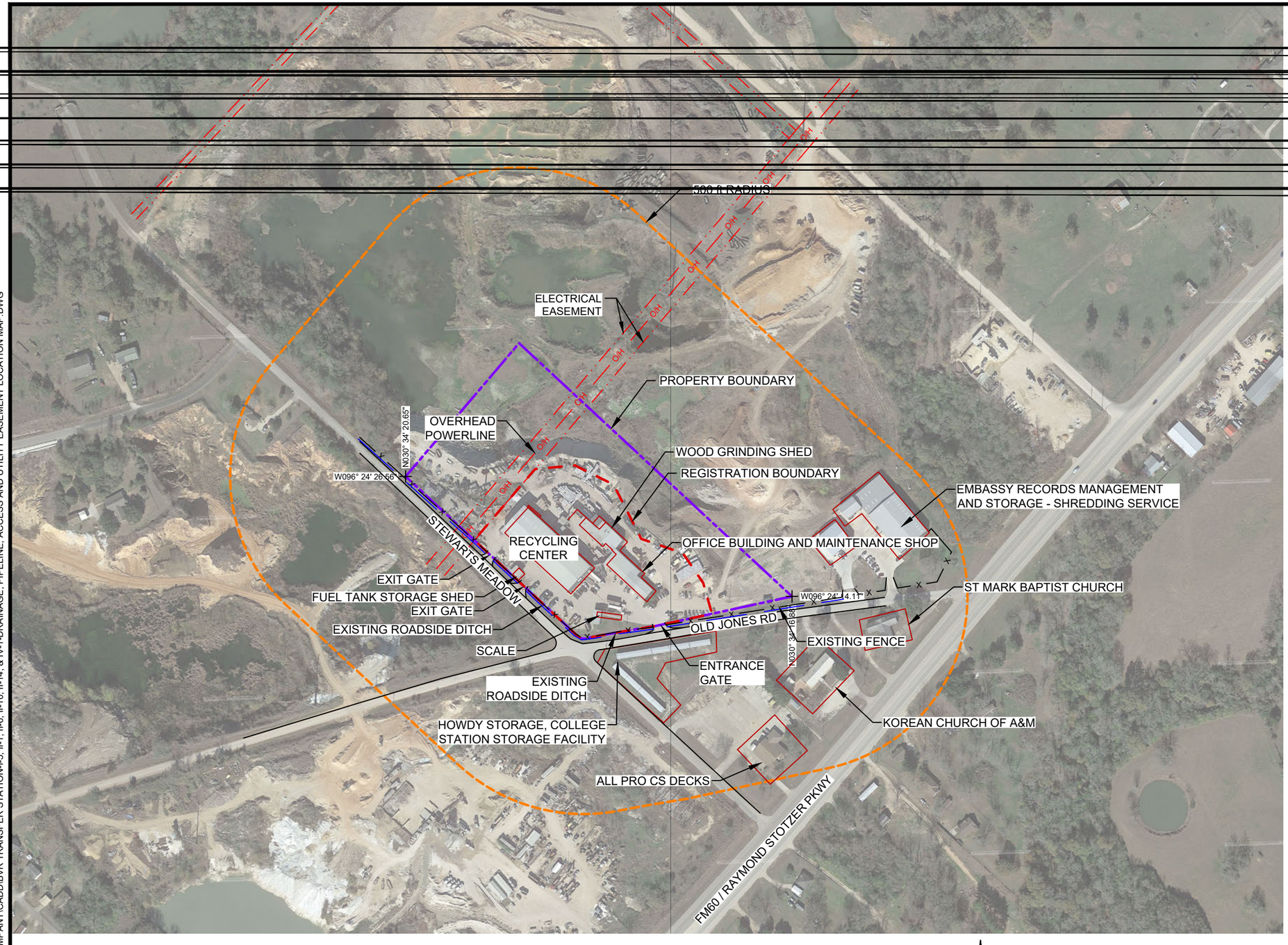
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	I-4
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG



LEGEND

- FT FF ET \A IU
- \E I T\ATI N UN A\Y
- \ E\TY UN A\Y
- EXI TIN FEN E
- VE\HEA WE\LINE
- EXI TIN T\U TU\E
- EXI TIN \ A I E IT H

REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

N

300' 0 300'

STATE OF TEXAS
GARY RUSSELL HORWITCH
48456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:
DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-5
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG

PART I - ATTACHMENTS

IA	Land Ownership List
IB	Legal Description
IC	Legal Authority
ID	Appointments
IE	Application Fee Payment

Attachment IA
Land Ownership

ATTACHMENT IA-1

Attachment IA-1
Land Ownership List

LAND OWNERSHIP LIST
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

Map ID	Parcel ID	Owner Name / Mailing Addresses
1	88500	BRANNON INDUSTRIAL GROUP 1555 HIGHWAY 36 N BRENHAM, TX 77833-1887
2	402116	BRANNON INDUSTRIAL GROUP 1555 HIGHWAY 36 N BRENHAM, TX 77833-1887
3	402117	BRANNON INDUSTRIAL GROUP 1555 HIGHWAY 36 N BRENHAM, TX 77833-1887
4	347813	BUCKET HOLDINGS LLC 5363 OLD RELIANCE RD BRYAN, TX 77808-8459
5	12034	SMITH GLADYS 4220 S VICTORIA AVE VIEW PARK, CA 90008-4414
6	12038	GROFF WALLACE W & PATRICIA A 8202 MCALLESTER LN COLLEGE STATION, TX 77845-7570
7	44493	SALKIN DAVID MARK & YADIRA E 8585 MCALLESTER LN COLLEGE STATION, TX 77845-8527
8	44494	SALKIN DAVID MARK & YADIRA E 8585 MCALLESTER LN COLLEGE STATION, TX 77845-8527
9	44483	SALKIN DAVID MARK & YADIRA E 8585 MCALLESTER LN COLLEGE STATION, TX 77845-8527
10	44484	CLEMONS CASSANDRA DARCEL 17824 KENAI FJORDS DR PFLUGERVILLE, TX 78660-5394
11	44472	PALASOTA RICKY JOE SR PO BOX 985 BRYAN, TX 77806-0985
12	44470	PALASOTA RICKY J & ELAINE & RICKY J JR PO BOX 985 BRYAN, TX 77806-0985
13	44469	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
14	44468	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
15	20242	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
16	78235	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
17	20241	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
18	20240	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
19	20239	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
20	20238	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
21	20237	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
22	20236	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
23	20249	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
24	20250	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
25	20251	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
26	20252	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985

LAND OWNERSHIP LIST
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

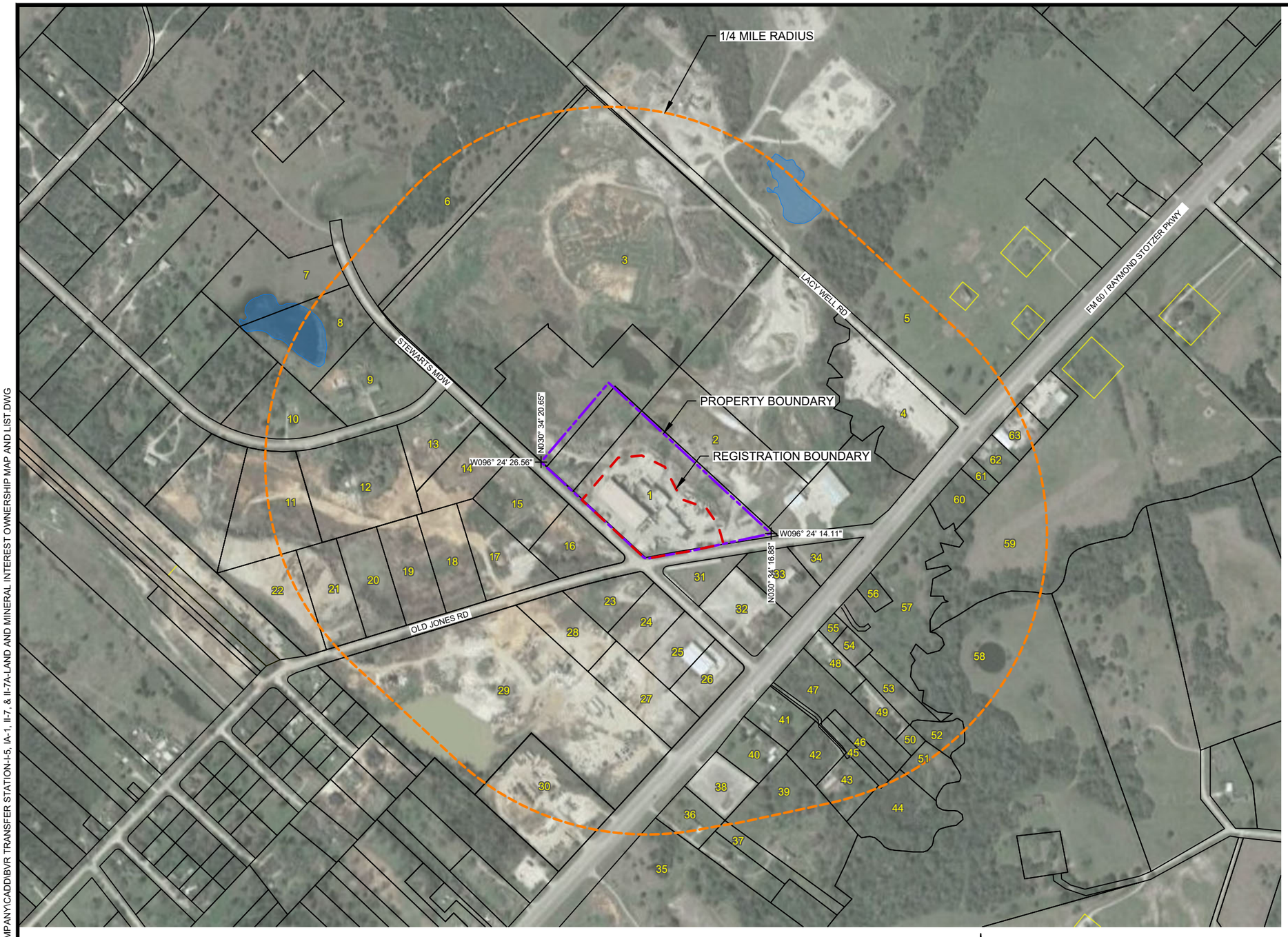
Map ID	Parcel ID	Owner Name / Mailing Addresses
27	20253	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
28	20248	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
29	20243	PALASOTA RICKY J PO BOX 985 BRYAN, TX 77806-0985
30	20256	WATER ENERGY SERVICES LLC PO BOX 621 CHARLOTTE, TX 78011-0621
31	20257	TAYLOR PROPERTY INVESTMENTS LLC PO BOX 651 CALDWELL, TX 77836-0651
32	20258	PALASOTA RICKY J & ELAINE & RICKY J JR PO BOX 985 BRYAN, TX 77806-0985
33	20260	KOREAN CHURCH OF A&M INC 6928 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9071
34	81129	ST MARKS MISSIONARY BAPTIST CHURCH OF ROSPRIM 6906 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9071
35	12076	PLEASANT VALLEY RESERVE LP 3096 ARAPAHO RIDGE DR COLLEGE STATION, TX 77845-4533
36	12080	DAY ERIC STEPHEN & DEBRA 808 E COUNTY ROAD 146 MIDLAND, TX 79706-7653
37	401985	BENFORD GLADYS MARIE RAND ETAL 7161 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9066
38	12137	7111 RAYMOND STOTZER PKWY A SERIES OF TEXAS 6K PROPERTIES LLC 5024 BLUE RIDGE DR COLLEGE STATION, TX 77845-8520
39	12097	PENA RICHARD 2902 W 28TH ST BRYAN, TX 77803-6200
40	12084	SPRIGGS JAMES & MARILYN (LIFE ESTATE) 7097 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9064
41	12085	WILEY OZELL 7047 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9064
42	12098	SHERMAN R T ATTN: TERRIE FRANKLIN 7204 CREEKSIDE DR APT D AUSTIN, TX 78752-2165
43	12083	EASLEY LARRY D & HARRIETT Y 9148 STOCKTON DR COLLEGE STATION, TX 77845-7595
44	407672	MARTIN LILLIE UNKNOWN 2017
45	12088	KEMP CAROLYN J 9056 STOCKTON DR COLLEGE STATION, TX 77845-9091
46	12087	STOCKTON WILLIE FAYE ULANDA AND JOSEPH CRAWFORD 2113 KENDRICK LN WACO, TX 76711-1935
47	12086	THOMAS MAMIE WEST MACK 7676 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9055
48	12091	MARTINEZ MARIA DE LA LUZ ROSAS & ANDRES SALAZAR FLORES 2414 YELLOWSTONE DR BRYAN, TX 77803-0772
49	12089	MARTINEZ MARIA DE LA LUZ ROSAS & ANDRES SALAZAR FLORES 2414 YELLOWSTONE DR BRYAN, TX 77803-0772

LAND OWNERSHIP LIST
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

Map ID	Parcel ID	Owner Name / Mailing Addresses
50	12092	AUSTON JANICE S ROSS-STOCKTON DESHANTIS E 1213 DETROIT ST COLLEGE STATION, TX 77840-4209
51	73218	CROUCH ZACHARY 1410 BERMUDA CT COLLEGE STATION, TX 77845-5904
52	407671	FLAKES OLLIE UNKNOWN 2017
53	354421	HARDY TONI DONYLE PETERSON 6939 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-9072
54	84498	PETERSON CHARLES MARIE PETERSON DEBORAH PO BOX CN COLLEGE STATION, TX 77841-5053
55	12093	PETERSON DEBORAH JOAN PO BOX CN COLLEGE STATION, TX 77841-5053
56	12096	SWANSON FREDERICK C JOHNSON ROSHONDA 2405 BANDERA DR APT A COLLEGE STATION, TX 77845-5298
57	12095	CAO THANH LAN 2918 TWIN FOUNTAINS DR HOUSTON, TX 77068-3749
58	27750	DUNCAN KATHERINE 14 LINDA LN COLLEGE STATION, TX 77845-9480
59	12103	ARMSTRONG LARRY WAYNE & REBEKAH ANN ARMSTRONG O'BRIEN PO BOX 175 WHEELOCK, TX 77882-0175
60	12099	BARON CARL W & SUZANNE C PO BOX 506 SNOOK, TX 77878-0506
61	92532	RWB INVESTMENTS GROUP LLC- SERIES 1 17350 STATE HIGHWAY 249 STE 220 HOUSTON, TX 77064-1132
62	12100	GARCIA J GUADALUPE & J JESUS 1101 BECK ST BRYAN, TX 77803-3806
63	12101	RAKK INVESTMENTS LLC 6631 RAYMOND STOTZER PKWY COLLEGE STATION, TX 77845-7565

ATTACHMENT IA-2

Attachment IA-2
Figure IA-1 Land Ownership Map



LEGEND

- 1 MILE OFFSET RADIUS
- REGISTRATION BOUNDARY
- PROPERTY BOUNDARY
- 5 LANDOWNER LIST REFERENCE LIST

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

500' 0 500'

STATE OF TEXAS
GARY RUSSELL HORWITCH
104560
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

LAND OWNERSHIP MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IA-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, IA-1, II-7, & II-7A-LAND AND MINERAL INTEREST OWNERSHIP MAP AND LIST.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, IA-1, II-7, & II-7A-LAND AND MINERAL INTEREST OWNERSHIP MAP AND LIST.DWG

ATTACHMENT IA-3

Attachment IA-3
Mailing Labels – Pre-Printed

BRANNON INDUSTRIAL GROUP
1555 HIGHWAY 36 N
BRENHAM, TX 77833-1887

BUCKET HOLDINGS LLC
5363 OLD RELIANCE RD
BRYAN, TX 77808-8459

SMITH GLADYS
4220 S VICTORIA AVE
VIEW PARK, CA 90008-4414

GROFF WALLACE W & PATRICIA A
8202 MCALLESTER LN
COLLEGE STATION, TX 77845-7570

SALKIN DAVID MARK & YADIRA E
8585 MCALLESTER LN
COLLEGE STATION, TX 77845-8527

SALKIN DAVID MARK & YADIRA E
8585 MCALLESTER LN
COLLEGE STATION, TX 77845-8527

SALKIN DAVID MARK & YADIRA E
8585 MCALLESTER LN
COLLEGE STATION, TX 77845-8527

CLEMONS CASSANDRA DARCEL
17824 KENAI FJORDS DR
PFLUGERVILLE, TX 78660-5394

PALASOTA RICKY JOE SR
PO BOX 985
BRYAN, TX 77806-0985

PALASOTA RICKY J & ELAINE & RICKY J JR
PO BOX 985
BRYAN, TX 77806-0985

PALASOTA RICKY J
PO BOX 985
BRYAN, TX 77806-0985

WATER ENERGY SERVICES LLC
PO BOX 621
CHARLOTTE, TX 78011-0621

TAYLOR PROPERTY INVESTMENTS LLC
PO BOX 651
CALDWELL, TX 77836-0651

KOREAN CHURCH OF A&M INC
6928 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-9071

ST MARKS MISSIONARY BAPTIST CHURCH OF ROSPRIM
6906 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-9071

PLEASANT VALLEY RESERVE LP
3096 ARAPAHO RIDGE DR
COLLEGE STATION, TX 77845-4533

DAY ERIC STEPHEN & DEBRA
808 E COUNTY ROAD 146
MIDLAND, TX 79706-7653

BENFORD GLADYS MARIE RAND ETAL
7161 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-9066

7111 RAYMOND STOTZER PKWY A SERIES OF
TEXAS 6K PROPERTIES LLC
5024 BLUE RIDGE DR
COLLEGE STATION, TX 77845-8520

PENA RICHARD
2902 W 28TH ST
BRYAN, TX 77803-6200

SPRIGGS JAMES & MARILYN (LIFE ESTATE)
7097 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-9064

WILEY OZELL
7047 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-9064

SHERMAN R T
ATTN: TERRIE FRANKLIN
7204 CREEKSIDE DR
APT D
AUSTIN, TX 78752-2165

EASLEY LARRY D & HARRIETT Y
9148 STOCKTON DR
COLLEGE STATION, TX 77845-7595

MARTIN LILLIE
UNKNOWN 2017

KEMP CAROLYN J
9056 STOCKTON DR
COLLEGE STATION, TX 77845-9091

STOCKTON WILLIE FAYE
ULANDA AND JOSEPH CRAWFORD
2113 KENDRICK LN
WACO, TX 76711-1935

THOMAS MAMIE
WEST MACK
7676 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-9055

MARTINEZ MARIA DE LA LUZ ROSAS
ANDRES SALAZAR FLORES
2414 YELLOWSTONE DR
BRYAN, TX 77803-0772

AUSTON JANICE S
ROSS-STOCKTON DESHANTIS E
1213 DETROIT ST
COLLEGE STATION, TX 77840-4209

CROUCH ZACHARY
1410 BERMUDA CT
COLLEGE STATION, TX 77845-5904

CROUCH ZACHARY
1410 BERMUDA CT
COLLEGE STATION, TX 77845-5904

CROUCH ZACHARY
1410 BERMUDA CT
COLLEGE STATION, TX 77845-5904

PETERSON CHARLES MARIE
PETERSON DEBORAH
PO BOX CN
COLLEGE STATION, TX 77841-5053

PETERSON DEBORAH JOAN
PO BOX CN
COLLEGE STATION, TX 77841-5053

SWANSON FREDERICK C
JOHNSON ROSHONDA
2405 BANDERA DR
APT A
COLLEGE STATION, TX 77845-5298

CAO THANH LAN
2918 TWIN FOUNTAINS DR
HOUSTON, TX 77068-3749

DUNCAN KATHERINE
14 LINDA LN
COLLEGE STATION, TX 77845-9480

ARMSTRONG LARRY WAYNE &
REBEKAH ANN ARMSTRONG
O'BRIEN
PO BOX 175
WHEELOCK, TX 77882-0175

BARON CARL W & SUZANNE C
PO BOX 506
SNOOK, TX 77878-0506

RWB INVESTMENTS GROUP LLC-
SERIES 1
17350 STATE HIGHWAY 249 STE 220
HOUSTON, TX 77064-1132

GARCIA J GUADALUPE & J JESUS
1101 BECK ST
BRYAN, TX 77803-3806

RAKK INVESTMENTS LLC
6631 RAYMOND STOTZER PKWY
COLLEGE STATION, TX 77845-7565

Attachment IB
Legal Description

FIELD NOTES DESCRIPTION

OF A

4.419 ACRE EVIRONMENTAL QUALITY REGISTRATION BOUNDARY

JOHN H. JONES LEAGUE SURVEY, ABSTRACT 26

BRAZOS COUNTY, TEXAS

A FIELD NOTES DESCRIPTION OF 4.419 ACRES IN THE JOHN H. JONES LEAGUE SURVEY, ABSTRACT 26, IN BRAZOS COUNTY, TEXAS, BEING ACROSS A CALLED 10.00 ACRE TRACT OF LAND, DESCRIBED IN A DEED TO 16 REAL ESTATE HOLDINGS, LLC RECORDED IN VOLUME 17399, PAGE 15 OF THE OFFICIAL PUBLIC RECORDS OF BRAZOS COUNTY, TEXAS (OPRBCT); SAID 4.419 ACRES BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

COMMENCING at a 1/2 inch iron rod with a yellow plastic cap stamped "KERR 4502" found on the north line of Old Jones Road (60' wide right-of-way, 517/703 of the Deed Records of Brazos County, Texas; DRBCT), for the east corner of said 10.00 acres and being the south corner of the remainder of a called 59.613 acre tract of land described in a deed to 16 Real Estate Holdings, LLC recorded in Volume 17399, Page 15 (OPRBCT);

THENCE, with the common line of said 10.00 acres and Old Jones Road for the following three (3) courses and distances:

1) **S 77° 45' 52" W**, for a distance of **233.34 feet** to the **POINT OF BEGINNING** hereof;
2) **S 77° 45' 52" W**, for a distance of **169.36 feet**;
3) With a curve to the right, having a radius of **5,013.98 feet**, an arclength of **198.18 feet**, a delta angle of **02° 15' 53"**, and a chord which bears **S 80° 03' 15" W**, a distance of **198.17 feet** to a 1/2 inch iron rod with a yellow plastic cap stamped "KERR 4502" found on the northeast line of Stewart's Meadow (60' wide right-of-way, 501/569 DRBCT) for the south corner of said 10.00 acres and the south corner hereof;

THENCE, with the common line of said 10.00 acres and Stewart's Meadow for the following two (2) courses and distances:

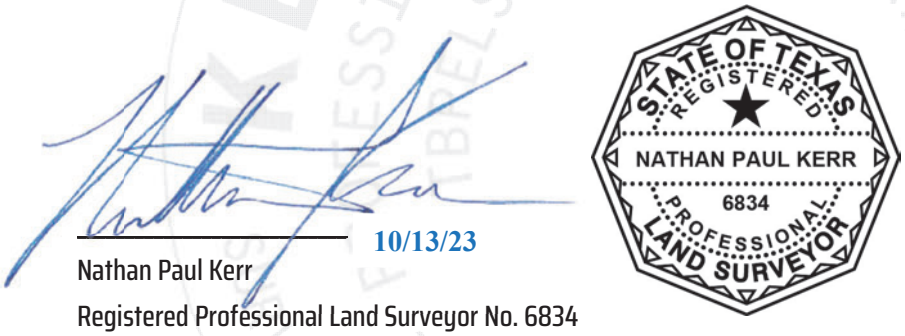
1) With a curve to the left, having a radius of **25.00 feet**, an arc length of **23.53 feet**, a delta angle of **53° 56' 19"**, and a chord which bears **N 74° 06' 32" W**, a distance of **22.67 feet**;
2) **N 47° 09' 37" W**, for a distance of **402.47 feet** to a point for corner, from which a 1/2 inch iron rod with a yellow plastic cap stamped "KERR 4502" found for the west corner of said 10.00 acres and a southerly corner of said remainder of 59.613 acres bears N 47° 09' 37" W, a distance of 266.80 feet;

THENCE, across said 10.00 acres for the following seven (7) courses and distances:

1) **N 40° 33' 30" E**, for a distance of **266.50 feet**;

2) **N 84° 43" 33" E**, for a distance of **113.85 feet**;
3) **S 63° 39' 31" E**, for a distance of **123.21 feet**;
4) **S 27° 01' 38" E**, for a distance of **173.54 feet**;
5) **S 70° 58' 31" E**, for a distance of **125.61 feet**;
6) **S 34° 18' 26" E**, for a distance of **102.22 feet**;
7) **S 16° 03' 15" E**, for a distance of **91.62 feet** to the **POINT OF BEGINNING** hereof and containing **4.419 acres**, more or less.

Surveyed on the ground September 2023 under my supervision. See plat prepared October 2023 for other information. The bearing basis for this survey is based on the Texas State Plane Coordinate System of 1983 (NAD83), Central Zone, Grid North as established from GPS observation using the Leica Smartnet NAD83 (NA2011) Epoch 2010 Multi-year CORS Solution 2 (MYCS2). Distances described herein are surface distances. To obtain grid distances (not grid areas) divide by a combined scale factor of 1.00009913224291 (calculated using GEOID12B). Reference drawing: 23-896-BOUNDARY.



10/13/23

Nathan Paul Kerr
Registered Professional Land Surveyor No. 6834

KERR SURVEYING

Kerr Surveying, LLC | 409 N. Texas Ave. Bryan, TX 77803

Office: (979) 268-3195 | Web: www.kerrlandsurveying.com

[redacted] | TBPELS Firm No. 10018500

EXHIBIT PLAT
OF A
4.419 ACRE ENVIRONMENTAL QUALITY REGISTRATION BOUNDARY
OVER A TRACT CALLED TO BE 10.00 ACRES IN
VOLUME 17399, PAGE 15 OPRBCT
JOHN H. JONES LEAGUE SURVEY, ABSTRACT 26
BRAZOS COUNTY, TEXAS

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	5,013.98'	198.18'	2°15'53"	S 80°03'15" W	198.17'
C2	25.00'	23.53'	53°56'19"	N 74°06'32" W	22.67'
C1 (D)	5,018.20'	198.16'	02°15'45"	S 80°03'15" W	198.15'
C2 (D)	25.00'	23.53'	53°54'56"	N 74°06'32" W	22.67'

GENERAL NOTES

BEARING SYSTEM SHOWN HEREON IS BASED ON THE TEXAS COORDINATE SYSTEM OF 1983, CENTRAL ZONE (4203), GRID NORTH AS ESTABLISHED FROM GPS OBSERVATION USING THE LEICA SMARTNET NAD83 (NA2011) EPOCH 2010 MULTI-YEAR CORS SOLUTION 2 (MYCS2).

DISTANCES SHOWN HEREON ARE SURFACE DISTANCES UNLESS OTHERWISE NOTED. TO OBTAIN GRID DISTANCES (NOT AREAS) DIVIDE BY A COMBINED SCALE FACTOR OF 1.00009913224291 (CALCULATED USING GEOID12B).

(CM) INDICATES CONTROLLING MONUMENT FOUND AND USED TO ESTABLISH PROPERTY BOUNDARIES.

THIS SURVEY REFLECTS THE BOUNDARY OF THE PROPERTY ONLY. ADDITIONAL IMPROVEMENTS MAY EXIST AND WERE NOT LOCATED AT THE TIME OF THIS SURVEY.

THIS PLAT WAS PREPARED IN CONJUNCTION WITH A FIELD NOTES DESCRIPTION (METES AND BOUNDS). THE PLAT AND FIELD NOTES ARE INTENDED TO BE ONE INSTRUMENT TOGETHER.

KERR SURVEYING

"When one person stands to gain over another, the facts must be uncovered"

SCALE: 1 INCH = 100 FEET
SURVEY DATE: 09-27-2023 | PLAT DATE: 10-13-2023
JOB NUMBER: 23-896 | CAD NAME: 23-896-BOUNDARY
POINT FILE: 23-893 (cont); 23-896 (job)
DRAWN BY: MS CHECKED BY: NPK

PREPARED BY: KERR SURVEYING, LLC
TBPELS FIRM#10018500
409 N. TEXAS AVENUE, BRYAN, TEXAS 77803
PHONE: (979) 268-3195
[redacted]

LEGEND:

DRBCT = DEED RECORDS OF BRAZOS COUNTY, TEXAS

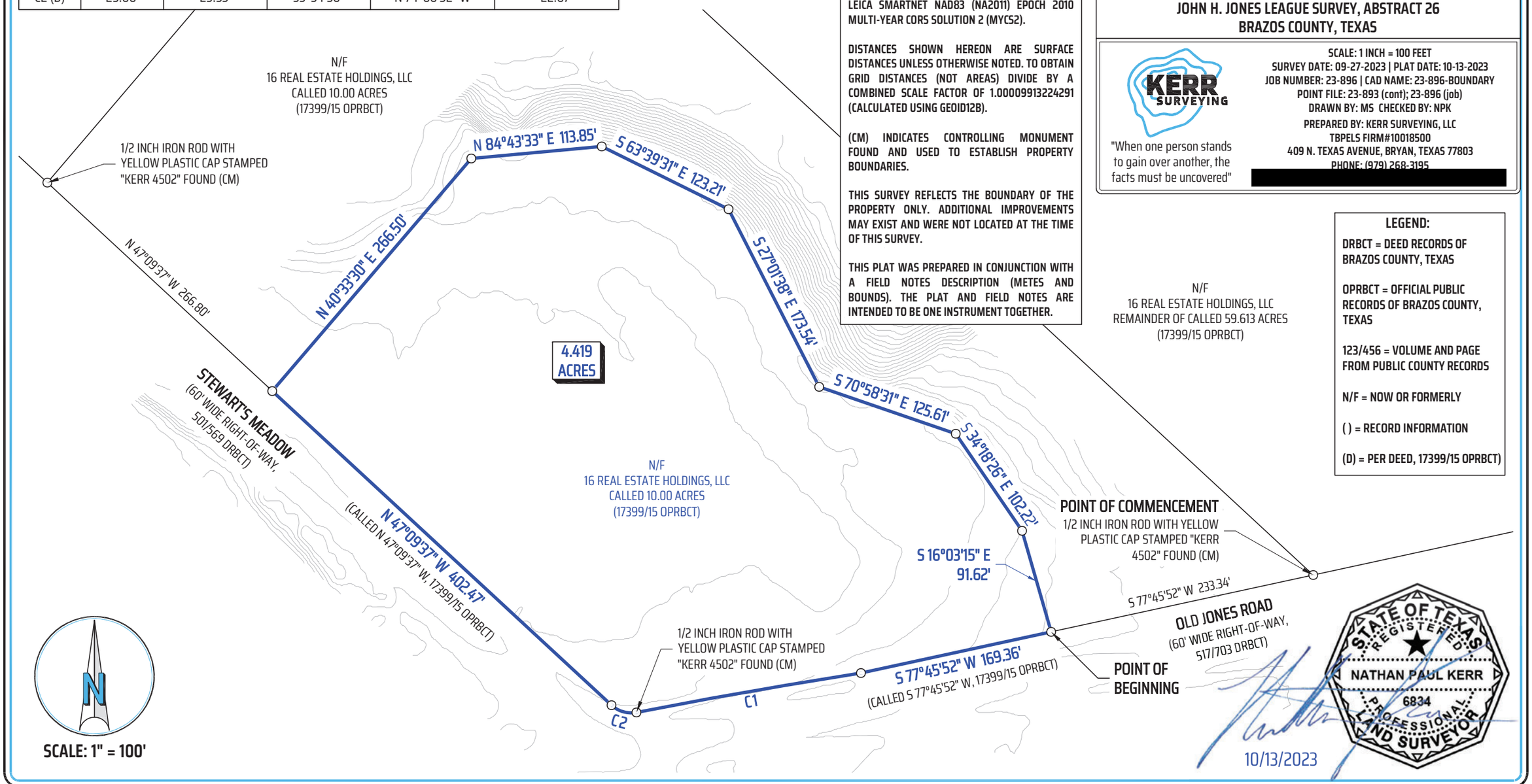
OPRBCT = OFFICIAL PUBLIC RECORDS OF BRAZOS COUNTY, TEXAS

123/456 = VOLUME AND PAGE FROM PUBLIC COUNTY RECORDS

N/F = NOW OR FORMERLY

( ) = RECORD INFORMATION

(D) = PER DEED, 17399/15 OPRBCT)



STATE OF TEXAS
REGISTERED
NATHAN PAUL KERR
6834
PROFESSIONAL
LAND SURVEYOR

10/13/2023

Attachment IC
Legal Authority

Corporations Section
P.O.Box 13697
Austin, Texas 78711-3697

Hope Andrade
Secretary of State

Office of the Secretary of State

CERTIFICATE OF FILING
OF

Brannon Industrial Group, LLC
File Number: 801423172

The undersigned, as Secretary of State of Texas, hereby certifies that a Certificate of Formation for the above named Domestic Limited Liability Company (LLC) has been received in this office and has been found to conform to the applicable provisions of law.

ACCORDINGLY, the undersigned, as Secretary of State, and by virtue of the authority vested in the secretary by law, hereby issues this certificate evidencing filing effective on the date shown below.

The issuance of this certificate does not authorize the use of a name in this state in violation of the rights of another under the federal Trademark Act of 1946, the Texas trademark law, the Assumed Business or Professional Name Act, or the common law.

Dated: 05/10/2011

Effective: 05/10/2011

Hope Andrade
Secretary of State

Attachment ID
Appointments

Brannon Industrial Group, LLC

1555 Highway 36 North
Brenham, Texas 77833

[Date]

Ms. Megan Henson, Section Manager
Texas Commission on Environmental Quality (TCEQ)
Municipal Solid Waste Permits Section, Waste Permits Division, MC-124
12100 Park 35 Circle, Bldg. F
Austin, Texas 78753

Subject: Notice of Appointment of Engineer
BVR Waste and Recycling Transfer Station
Type V Transfer Station
Registration Application
8825 Stewarts Meadow
College Station, TX 77845

Dear Ms. Henson,

This is to advise you that Brannon Industrial Group, LLC has duly appointed Mr. Gary Horwitch, P.E. of Roux Associates, Inc. ("Roux") as the consulting and design engineer for the purpose of submitting documentation for a Registration Application (RA) for the BVR Waste and Recycling Transfer Station, including but not limited to drawings, calculations, reports, planning materials, plans and specifications, and other documents as may be required for the RA.

We hereby authorize him to act on our behalf during your review of the RA and the supporting documentation for the BVR Waste and Recycling Transfer Station. If you have any questions, please let us know.

Sincerely,

Brannon Industrial Group, LLC

Blake Brannon

President

Attachment IE
Application Fee Payment

Your transaction is complete. Thank you for using TCEQ ePay.

Note: It may take up to 3 working days for this electronic payment to be processed and be reflected in the TCEQ ePay system. Print this receipt and the vouchers for your records. An email receipt has also been sent.

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Actor Email: rbuchman@bigcompany.com
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Payment Contact Information

Name: BRANDON ROZNOVSKY
Company: BRANNON INDUSTRIAL GROUP
Address: 1555 HWY 36 N, BRENHAM, TX 77833
Phone: 979-830-9060

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Voucher	Fee Description	AR Number	Amount
721619	MSW PERMIT/REGISTRATION/AMEND/MOD/TEMP AUTHORIZATIONS APPLICATION FEE		$100.00
721620	30 TAC 305.53B MWP NOTIFICATION FEE		$50.00
		TCEQ Amount:	$150.00

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Type V Transfer Station Registration Application, Part II Report

BVR Waste and
Recycling Transfer Station
College Station
Brazos County, Texas

Prepared for:

Brannon Industrial Group, LLC
1555 TX-36
Brenham, TX 77833

Prepared by:

Roux Associates, Inc.
19450 State Highway 249, Suite 260
Houston, Texas 77070

INTENDED FOR PERMITTING PURPOSES ONLY

SEPTEMBER 2024

STATE OF TEXAS
GARY RUSSELL HORWITCH
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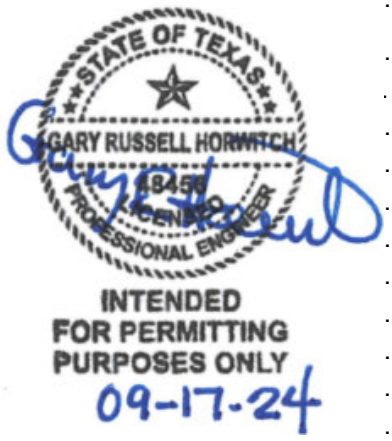

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Attachments

1. Waste Acceptance Plan 30 TAC §330.61(b)

The BVR Waste and Recycling Transfer Station ("Facility" or "Site") occupies 4.419 acres of the 10-acre tract owned by 16 Real Estate Holdings. The Facility is located at the intersection of Stewarts Meadow and Old Jones Road, north of FM 60 (also known as Raymond Stotzer Parkway). The Facility includes existing buildings, portable buildings, a scale house, fuel area, and gated entrances. The Site Layout Plan is provided as **Figure II-1**.

The facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Waste-carrying vehicles will approach from FM 60 / Raymond Stotzer Parkway, exit onto Old Jones Road, and proceed to the main entrance on Old Jones Road to enter the facility.

Entering the Facility, the vehicles will stop at the scale, then will use one of the five doors to enter the Waste Storage Processing Structure (WSPS) to unload the vehicle. The unloaded vehicles will leave the Facility using Stewarts Meadow Road.

1.1 Sources and Characteristics of Wastes 30 TAC §330.61(b)(1)

The acceptable waste characteristics, waste restrictions, general sources and service areas, waste rates, and storage and disposal requirements for the proposed Facility are summarized in the following sections. There are no known waste constituents or characteristics in the acceptable waste stream that could be a limiting parameter that may impact or influence the design and operation of the Facility.

1.1.1 Waste Types and Generation Areas

This Facility will be authorized to receive permitted wastes as defined below. Recycling will be performed at the Facility for this registration. The Facility will be open for waste acceptance 24 hours per day, 7 days per week. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

Waste acceptance and subsequent processing for re-use is based upon the types of wastes that make up the incoming waste stream. General operations will be conducted in a manner that allows the prompt and efficient unloading of waste. The waste will be discharged from the collection vehicles onto the Facility processing floor (tipping floor) within the WSPS. It is expected that a maximum of 6,300 Cubic Yard (CY) of solid waste and recyclable materials will be stored at the Facility at any time; this will consist of the materials in the tipping floor and materials in the various stages of processing and recycling within the WSPS.

Based on this historical estimate of the solid waste data for the Facility, it is expected that a typical unit of non-recyclable solid waste arriving at Facility would, at a maximum, remain on Facility for approximately two days. The average length of time solid waste will remain on Facility is one day. This includes the time for waste processing and the time to fill a container for transportation to an off-site TCEQ permitted disposal facility or to a third-party recycler.

The composition of permitted waste the Facility has received for material recovery consists of the following types of materials:

- Untreated Lumber – Untreated lumber includes boards, strip lumber, plywood, particleboard, and paneling;

- Untreated Sheetrock – Untreated sheetrock will be recycled, any painted or chemically treated sheetrock will not be recycled;
- Cardboard;
- Clean Wood and Clean Brush Debris – Clean wood and clean brush debris includes trees, branches, limbs, leaves, grass cuttings, brush, and other organic vegetation;
- Inert Fill Materials – Inert fill materials include bricks, stones, concrete, soil, gravel, sand, and dirt;
- Treated Lumber – Treated lumber includes boards and strip lumber that has been treated with chemical agents. Also included in this category is lumber, plywood, or other process wood materials with painted surfaces;
- Durable Plastics and Metals – Durable plastics and metals include polyvinyl chloride (PVC), high density polyethylene (HDPE), and linear low density polyethylene (LLDPE) pipe, metal pipe and frames, sheet metal, and other similar materials. This material usually comes in the form of pipes, fittings, buckets, and sheet metal;
- Source-Separated Recyclable Materials: Source-separated materials consisting of bottles, cans, containers from specific strategic located locations that are solely designated for recycle; and
- Other – Miscellaneous debris includes paper, glass, plastic sheeting, felt, shingles, paint cans, tubes, e-waste, ballast, fluorescent light fixtures, or other spent construction related products or containers.

These wastes are referred to as permitted wastes in the remainder of this RA.

The Facility will not accept the following wastes:

- Household garbage;
- Putrescible wastes;
- Liquid wastes;
- Special wastes;
- Special waste from health-care-related facilities;
- Municipal waste water treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
- Septic tank pumping;
- Grease and grit trap wastes;
- Wastes from commercial or industrial wastewater treatment plants; air pollution control facilities; and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 Code of Federal Regulations (40 CFR), Part 261, Appendix VIII but has not been listed as a commercial chemical product in 40 CFR, §261.33(e) or (f);
- Slaughterhouse wastes;
- Dead animals;
- Pesticide (insecticide, herbicide, fungicide, or rodenticide) containers in accordance with 30 TAC §330.136(b)(5);
- Discarded materials containing asbestos;
- Incinerator ash;

- Soil contaminated by petroleum products, crude oils, or chemicals;
- Hazardous waste;
- PCB waste;
- Radioactive waste;
- Unknown chemical or containerized waste;
- White goods containing chlorinated fluorocarbons (CFCs);
- Used oil filters;
- Used oil;
- Class 1 non-hazardous industrial waste;
- Class 2 non-hazardous industrial waste; and
- Regulated Asbestos Containing Materials (RACM).

1.2 Projected Waste Acceptance Rate 30 TAC §330.61(b)(1)(A) – (B)

The transfer station is planned to primarily serve Brazos County, and the counties included in the Brazos Valley Council of Governments (BVCOG). The projected maximum amount of waste to be received daily and annually for the next five years of the Facility operation is presented in **Table II-1**.

Table II-1. Waste Acceptance Rate Projection

Year of Operation	Projected Maximum Daily Waste Acceptance Rate (CY)	Projected Maximum Annual Waste Acceptance Rate (CY)*
1st year	3,150	1,149,750
2nd year	3,150	1,149,750
3rd year	3,150	1,149,750
4th year	3,150	1,149,750
5th year	3,150	1,149,750

Note: * Assume 365 days of operation per year.

Based upon the generation rates discussed above, considering the average gate weight of the incoming waste stream (residential and commercial construction and demolition sites) of approximately 500 pounds per cubic yard and the average of 5 pounds of waste generated daily per person, the population equivalent served by the Facility is calculated as follows:

Population Equivalent = 3,150 CY × 500 lb/CY ÷ 5 lb/person/ day = 315,000 persons per day

The Facility will recover a minimum of 10% or more by weight of the incoming waste stream. The recovered waste streams will be sold to recyclers for re-usage.

1.3 Registration Application Qualification 30 TAC §330.61(b)(2)

The BVR Waste and Recycling Transfer Station qualifies for a registration in accordance with §330.9(e) as it meets all of the following requirements:

Materials recovery at the facility will be 10% or more by weight or weight equivalent of the total incoming waste stream for reuse or recycling.

Transfer remaining nonrecyclable waste to a landfill not more than 50 miles from the Facility. At the present time, the Facility proposed to utilize the following permitted landfills for disposing of their non-recycled materials:

Table II-2. TCEQ Permitted Landfill for Waste Disposal

Landfill Name	Type	Permit Number	Distance to Landfill
Twin Oaks Landfill	IV	2292	20.0

Source: TCEQ, Feb 2022, Active Municipal Solid Waste Landfills in Texas

2. Existing Conditions Summary 30 TAC §330.61(a)

The BVR Waste and Recycling Transfer Station occupies 4.419 acres of the 10.00-acre tract owned by 16 Real Estate Holdings. The Facility is operated by Brannon Industrial Group, LLC ("BIG") which is located at 8825 Stewarts Meadow, approximately 850 feet west of the intersection of Old Jones Rd and FM 60 / Raymond Stotzer Parkway in College Station, Brazos County, Texas.

The Facility is currently operating under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The following sections summarize existing site conditions of both the proposed facility and the surrounding area that may require special design considerations and possible mitigation of conditions identified in accordance with §330.61(h)-(o).

The main topics include land use and zoning, population growth trends, locations of water and oil/gas wells, prevailing wind direction, transportation analysis, general geology, soils, groundwater and surface water information, and floodplain, wetlands, and endangered species data.

2.1 Maps and Figures 30 TAC §330.61

The following maps and figures are provided in this application. These maps and figures are provided in addition to those maps provided in **Part I**. Collectively, these maps accurately show the proximity of the Facility to surrounding features. **Table II-3** below lists the general location maps and other specific maps required by §330.59, pertaining to contents of **Part I** of the application, and §330.61, pertaining to **Part II** of the application.

Table II-3. List of Maps and Figures

Figure	Title	Citation
Part II Maps and Figures		
Facility Layout Maps *30 TAC §330.61(d)*		
II-1	Site Layout Plan	30 TAC §330.61(d)(1-8)
General Topographic Maps *30 TAC §330.61(e)*		
II-2	General Topographic Map	30 TAC §330.61(e)
Aerial Photograph *30 TAC §330.61(f)*		
II-3	Aerial Photograph	30 TAC §330.61(f)
General Location Maps *30 TAC §330.61(c)*		
II-4	Wind Rose	30 TAC §330.61(c)(1)
II-5	Water Well and Oil and Gas Well Location Map	30 TAC §330.61(c)(2)
II-6	Structures Location Map	30 TAC §330.61(c)(3)
II-7	Land Use Map	30 TAC §330.61(c)(4),(12),§330.61(g)
II-8	Traffic Volumes Map	30 TAC §330.61(c)(5),(11)
II-9	FAA Map	30 TAC §330.61(c)(8)
II-10	Drainage, Pipeline, and Utility Easements Map	30 TAC §330.61(c)(10)

Figure	Title	Citation
Land Use Map *30 TAC §330.61(g)*		
II-7	Land Use Map	30 TAC §330.61(c)(4),(12),§330.61(g)
II-11	Zoning Map	30 TAC §330.61(h)(1)
Other Maps and Figures *30 TAC §330.61*		
II-12	Soils Map	30 TAC §330.61(j)
II-13	Floodplain Map	30 TAC §330.61(m)
II-14	Site Development Plan-Existing Site Layout	30 TAC §330.61 (c)(11), §330.61 (d)
II-14A	Site Development Plan-Proposed Site Layout	30 TAC §330.61 (c)(11), §330.61 (d)
Part I Maps and Figures		
I-1	General Location Map	30 TAC §330.59(c)(2)
I-2	Site Location Map	30 TAC §330.59(c)(2)
I-3	Land and Mineral Interest Ownership Map	30 TAC §330.59(c)(3)
Attachment B	Exhibit Plat of Registration Boundary Survey	30 TAC §330.59(d)(1)

2.1.1 General Location Maps 30 TAC §330.61(c)

- **Figure II-4** wind rose figure shows the prevailing wind direction – §330.61(c)(1)
- **Figure II-5** shows all known water wells within 500 feet of the registration boundary, as well as oil and gas wells – §330.61(c)(2)
- **Figure II-6** shows all structures and inhabitable buildings within 500 feet of the registration boundary – §330.61(c)(3)
- **Figures II-7 and II-7A**, in addition to showing general land use, identifies locations of schools, licensed day-care facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas within one mile of the Facility – §330.61(c)(4)
- **Figure II-8**, in addition to showing traffic volumes, identifies the location and surface type of all roads within one mile of the facility that will be used to access the Facility – §330.61(c)(5)
- **Figure II-2** is the general topographic map that shows area streams – §330.61(c)(7)
- **Figure II-9** is the Federal Aviation Administration (FAA) map that shows airports within six miles of the Facility – §330.61(c)(8)
- **Figure II-10** drainage, pipeline, and utility easements within or adjacent to the Facility; §330.61(c)(10)

Multiple maps and figures provide:

- The latitudes and longitudes – §330.61(c)(6)
- The property boundary of the Facility – §330.61(c)(9)
- Facility access control features – §330.61(c)(11)
- There are no archeological sites, historical sites, or sites with exceptional aesthetic qualities adjacent to the Facility that have been identified. – §330.61(c)(12)

2.1.2 Facility Layout Maps 30 TAC §330.61(d)

Figures II-14 and II-14A present the Facility layout plans that show

- The outline of solid waste management units – §330.61(d)(1),
- The location of interior roads – §330.61(d)(2),
- There are no monitor wells within the layout area – §330.61(d)(3),
- The location of all Facility buildings – §330.61(d)(4),
- The sequence of development – §330.61(d)(5),
- The location of all Facility fencing – §330.61(d)(6),
- Screening the Facility from public view – §330.61(d)(7), and
- The location of Site entrance roads – §330.61(d)(8).

2.1.3 General Topographic Map 30 TAC §330.61(e)

Provide a general topographic map: USGS 7.5 minute or equivalent one map at scale 1 in. = 2,000 ft.

Figure II-2, General Topographic Map depicts the registration boundary with a base map taken the United States Geological Survey (USGS) 7-1/2-minute quadrangle sheets and enhanced by Texas Natural Resource Information System (TNRIS) using content last updated by USDS in 2019 for Chance Store, TX, and Wellborn, TX delivered in a digital raster graphic (DRG) a scale of 1-inch equals 2,000 feet.

2.1.4 Aerial Photograph 30 TAC §330.61(f)

Provide Aerial Photograph(s) that are at least 9 in. by 9 in. at scale range of one inch = 1,667-3,334 ft. that covers an area at least one mile in radius of the site. Facility boundary and fill areas (as applicable) must be shown.

Figure II-3, Aerial Photograph, with a scale of 1-inch equals 2,000 feet, shows the registration boundary and an area of at least a 1-mile-radius of the site boundaries, with a base map taken from google earth dated March 2022. The registration boundary, waste operation areas, and offset boundary are marked on the aerial photograph.

2.1.5 Land Use Map 30 TAC §330.61(g)

Figures II-7 and II-7A, Land Use Map, depicts the registration and property boundary, as well as the land use of surrounding areas up to 1 mile from the registration boundary.

A land use compatibility analysis was performed by Roux Associates, Inc. (“Roux”) for the proposed BVR Waste and Recycling Transfer Station and surrounding area. The results of the analysis are summarized in **Section 2.2**.

Any drainage, pipeline, and utility easements within the Facility are shown on **Figure II-10**, Drainage, Pipeline, and Utility Easement Location Map. Access roads serving the Facility are shown on the Land Use Map and **Figure II-8**, Traffic Volumes Map.

2.2 Impact on Surrounding Area 30 TAC §330.61(h)

Information is provided in this section show the likely impacts of the Facility on cities, communities, groups of property owners, or individuals by analyzing the compatibility of land use, zoning in the vicinity, community growth patterns, and other factors associated with public interests.

As documented, there are no existing site-specific conditions that may impact surrounding cities, communities, group of property owners, or individuals; nor concern that the use of land for the Facility will adversely impact human health or the environment.

2.2.1 Zoning 30 TAC §330.61(h)(1)

The Facility is located within the extraterritorial jurisdiction (ETJ) of the City of College Station in an unincorporated area of Brazos County, Texas. Since the property is located in an unincorporated area of Brazos County, there are no zoning restrictions. The Facility has no restrictive convents or land use restrictions are in effect for the Facility location.

A Zoning Map for the Facility and a 2-mile radius is provided as **Figure II-11**. The base zoning map is provided by the City of College Station, dated June 2022.

2.2.2 Land Use Characterization 30 TAC §330.61(h)(2),(4)

This section discusses site-specific land use characterization including surrounding land use, zoning in the vicinity, community growth patterns, and proximity to residents and other uses. As documented, the Facility is compatible with the surrounding area.

Figure II-7, Land Use Map is a constructed map showing the Facility boundary and land uses within one-mile such as commercial, industrial, residential, recreational, institutional, and open areas used for agricultural, pastureland, wildlife management, or roadways. The map shows the location of approximately 230 residences, 32 commercial and industrial businesses, an educational facility, four religious institutions, and one cemetery. There are no lakes, hospitals, day-care facilities, or archeological/historic structures and sites within a one-mile radius of the Facility boundary.

The majority of the surrounding area within a one-mile radius of the Facility registration boundary is “open”. The next largest component of land use is residential. A breakdown of the land use within the one-mile radius is shown on **Table II-4**.

Table II-4. Land Use Within a One-Mile Radius

Land Use	Area (in acres)	Land Classification	Area (in acres)	Percentage of Total Land Use
Industrial	226.6	Industrial	226.6	9.6%
Commercial	111.9	Commercial	111.9	4.7%
Educational	161.9	Institutional	161.9	6.9%
Residential	521.2	Residential	521.2	22.0%
Recreational	13.32	Open	1344.0	56.8%
Improved Pasture	173.8			
Other	1156.9			
Total	2,365.6	Total	2365.6	100%

2.2.3 Growth Trends within Five Miles 30 TAC §330.61(h)(3)

The Facility and the entire of the five-mile radius of the registration boundary are in Brazos County, Texas. While the Facility is in the ETJ of the City of College Station and unincorporated, the city limits of College Station is approximately 1.5 miles north of the registration boundary.

The flagship Texas A&M University is located in College Station. Texas A&M University will influence the area within a 5-mile radius of the Facility. A multitude of educational and auxiliary complexes such as the Health Science Center, the O.D. Butler, Jr. Anima Science Complex, the College of Veterinary Medicine and Biomedical Sciences, and Kyle Stadium are all within a five-mile radius of the Facility. Multi-family residential developments such as apartment complexes, and dormitory halls, exist and are also being developed in the area.

There are also existing and developing single-family subdivisions and enclaves within a five-mile radius. North of FM 60 / Raymond Stotzer Parkway and east of the Brazos River are the Traditions, Canyon Creek, and Canyon Creek West subdivisions. South of FM 60 / Raymond Stotzer Parkway and east of Brazos River are the Paloma Creek Estates, White Canyon Estates, Oak Lake Estates, Quail Run Estates, Estates at River Run, Franklin Estates, and more. West of the Brazos River remains generally open and undeveloped.

The community trends are dominated by the growth of the City of College Station. The metropolitan area of College Station is expanding to the south and east, beyond a five-mile radius of the Facility.

Figures II-9A, 9B, 9C, 9D, and 9E display historical aerial photographs for the Site vicinity from 2020, 2015, 2010, 2005, and 2000 respectively.

The City of College Station has a Population Estimates program, and information is available for the yearly populations from 1990 to present. **Table II-5** summarizes the population estimates for College Station within the last decade, last updated June 2023 and accessed September 2023.

Table II-5. College Station Population Estimates

Year	College Station	Annual Percentage Increase	Year	College Station	Annual Percentage Increase
2012	98,085	1.36%	2018	118,967	7.09%
2013	100,096	2.05%	2019	121,489	2.12%
2014	102,332	2.23%	2020	122,085	0.49%
2015	106,581	4.15%	2021	124,506	1.98%
2016	109,927	3.14%	2022	125,983	1.19%
2017	116,893	1.77%	2023	126,819	0.66%

Source: Demographics – City of College Station (cstx.gov)

The population of College Station has been growing at an average of 2.35% annually since 2012. Using an estimated annual percentage growth of 2.35%, the projected population of College Station would be:

2024 estimated population = 126,819 × 1.0235 = 129,799

2025 estimated population = 129,799 × 1.0235 = 134,849

2026 estimated population = 134,849 × 1.0235 = 135,971

2027 estimated population = 135,971 × 1.0235 = 139,166

2028 estimated population = 139,166 × 1.0235 = 142,437

Population projections for Brazos County have also been considered. Under the Texas Population Projections Program, the Texas Demographic Center (TDC), Office of the State Demographer has produced yearly population projections by county for the entire State of Texas. **Table II-6** summarizes the population projections for Brazos County, taken from this program dated September 2023.

Table II-6. TDC Brazos County Population Projections

Year	Brazos County	Annual Percentage Increase	Year	Brazos County	Annual Percentage Increase
2021	233,503	1.78%	2034	291,857	1.66%
2022	237,611	1.76%	2035	296,594	1.62%
2023	241,769	1.75%	2036	301,338	1.60%
2024	245,955	1.73%	2037	306,099	1.58%
2025	250,227	1.74%	2038	310,805	1.54%
2026	254,514	1.71%	2039	315,509	1.51%
2027	258,848	1.70%	2040	320,200	1.49%
2028	263,200	1.68%	2041	324,844	1.45%
2029	267,729	1.72%	2042	329,401	1.40%
2030	272,470	1.77%	2043	333,960	1.38%
2031	277,351	1.79%	2044	338,464	1.35%
2032	282,248	1.77%	2045	342,969	1.33%
2033	287,089	1.72%	2046	347,475	1.31%

2.2.4 Proximity to Residences and Other Uses 30 TAC §330.61(h)(4)

In accordance with 30 TAC §330.61(h)(4), the following paragraphs describe certain specific uses of the properties within a one-mile radius of the facility. The locations of ponds, residences, churches, cemeteries, other institutional areas, commercial, and industrial areas within a one-mile radius of the facility are shown on a Land Use Map (**Figure II-7A**) and are discussed in further detail in the following paragraphs.

No known parks or recreational areas, hospitals, historic sites, archeologically significant sites, or sites with exceptional aesthetic qualities were identified within one mile of the site.

2.2.4.1 Ponds and Lakes

There are numerous ponds or bodies of water located within the one-mile radius around the site. They are residential stock tanks, associated with small drainage gullies, or are associated with water ponding in the sand mining operations.

A portion of the Brazos River is located within one mile from the registration boundary. The Brazos River runs north south and is located west of the Facility. **Figure II-2** displays a General Topographic Map showing the ponds and rivers.

2.2.4.2 Residential

As of March 2021, there are approximately 230 residences within a one-mile radius of the Facility. The nearest existing residence is approximately 450 feet southeast of the permit boundary on FM 60 / Raymond Stotzer Parkway. The residential area can be determined using 2022 Aerial Image presented on **Figure II-3 and Figure II-7A**.

The majority of the residences within one mile of the Facility are single-family. There is also an RV Park (12th Park RV Resort), located approximately 3,150 feet northeast of the Facility, which has capacity for seventy-four (74) vehicles.

2.2.4.3 Schools

Texas A&M University O.D. Butler Animal Science Complex is located approximately 3,825 feet from the registration boundary.

2.2.4.4 Churches

There are three churches within a one-mile radius of the facility. Two churches – St. Mark Baptist Church, and New Life Apostolic Church – are located across Old Jones Rd and are approximately 240 feet southeast, and 320 feet southeast, respectively. Clayton Baptist Church is approximately 3400 feet southwest of the registration boundary.

2.2.4.5 Licensed Day Care Facilities

There are no known licensed day care facilities located within a one-mile radius of the Facility.

2.2.4.6 Parks and Recreational Areas

There are no known parks or recreational areas located within a one-mile radius of the Facility.

2.2.4.7 Cemeteries

There is one cemetery located within 1 mile of the registration boundary. Clayton Baptist Church Cemetery is approximately 3400 feet southwest of the registration boundary.

2.2.4.8 Commercial and Industrial

As of September 2023, there are approximately 32 businesses within one mile of the site. The nearest existing business is the Brazos Valley Disposal Facility (permitted but not constructed or operational), which is northerly adjacent to the Facility's registration boundary.

2.2.4.9 Historic Site and Cultural Resources

A cultural resources background study was performed by Cox | McLain Environmental Consulting, Inc. dated February 3, 2021, for the site. According to the study's findings, there are six (6) historical resources identified from 0.5 miles to 1.0 miles from the site and two (2) historic-age cemeteries. However, due to commercial development and disturbances in the area, "the potential for prehistoric or historic-age cultural resources is considered negligible. Further, no known sites or historic properties will be impacted by the project. Consequently, no further archeological study is recommended prior to construction activities." A full cultural resources background study is provided in **Attachment IIA-2**.

2.2.4.10 Former Waste Disposal Units on the Facility

There are no former waste disposal units on the Facility. However, the Brazos Valley Disposal Facility is a permitted but not constructed or operational disposal unit and is adjacent to the BVR Waste and Recycling Transfer Station.

2.2.5 Wells Within 500 Feet 30 TAC §330.61(h)(5)

Wells located near the Facility are discussed in this section, as well density may be considered for assessment of compatibility. Consistent with 30 TAC §330.61(h)(5), the locations of wells within, at minimum, 500 feet of the registration boundary were determined based on a well database search.

The Water Well and Oil and Gas Well Location Map, **Figure II-5**, depicts the location of wells within 500 feet of the Facility, and all wells within a one-mile radius of the proposed facility boundary. A list of the wells is also included on the figure.

2.2.5.1 Water Wells

The water well locations were identified through a water well search which was performed for the area around the Facility utilizing the Texas Water Development Board (TWDB) searchable website located at the following web address:

http://www2.twdb.texas.gov/apps/waterdatainteractive/groundwaterdataviewer.

The water well search is included as **Attachment IIB**. According to the TWDB well search, there are no water wells within 500 feet of the registration boundary. If additional existing or abandoned water wells are located during the Facility development, they will be addressed as described in **Section 2.7**.

2.2.5.2 Oil & Gas Wells

An oil and gas well search of state records was conducted to identify locations of any existing or abandoned on-site crude oil or natural gas wells, or other wells associated with mineral recovery, that are under the jurisdiction of the Railroad Commission of Texas, that are within 500 feet of the registration boundary.

According to the well search, there is one plugged and abandoned gas well approximately 650 ft southeast of the Facility boundaries and injection/disposal well located 1,200 feet southwest of the registration boundary, as shown on **Figure II-15**. If additional existing or abandoned crude oil or natural gas wells, or other wells associated with mineral recovery, are located during the Facility development, they will be addressed as described in **Section 2.7**.

2.2.6 Any Other Information Requested by Executive Director (ED) 30 TAC §330.61(h)(6)

No additional information has been requested by the ED.

2.3 Transportation Analysis 30 TAC §330.61(i)(1)-(4)

Consistent with 30 TAC §330.61(i)(1)-(4), a transportation analysis was performed for the proposed BVR Waste and Recycling Transfer Station. The surface types and traffic volumes on the access roads in the vicinity of the site have been analyzed for their availability and adequacy.

2.3.1 Access Road Adequacy

The Facility sits north of the intersection of Stewarts Meadow and Old Jones Road. There is existing direct access to the Facility. The Facility can be reached by taking FM 60 / Raymond Stotzer Parkway to Old Jones Road. The facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. The Facility entrance and exits are paved.

Table II-7. Access Roadway Characteristics

Roadway	Maximum Weight (pounds)	Number of Lanes[1]	Curb/Shoulders	Surface Type	Entity Responsible for Maintenance
FM 60 / Raymond Stotzer Parkway	80,000	4	Shoulders and Center divider (also acting as a turn lane)	Asphaltic concrete	TxDOT
Old Jones Road	80,000	2	N/A	Paved	Brazos County
Stewarts Meadow	80,000	2	N/A	Paved	Brazos County

[1] The number of lanes is total in both direction

According to TxDOT Statewide Planning Map, accessed November 2021, there are no projects with construction to begin within 4 years or to begin in 5 to 10 years within one mile of the proposed Facility.

2.3.2 Access Road Traffic Volumes

Table II-8 presents the latest traffic volumes on the access roads in the vicinity of the site provided by TxDOT through their Statewide Planning Map. The annual average daily traffic (AADT) for FM 60 / Raymond Stotzer Parkway is provided for 2021 and a projected AADT is provided for 2041. The 2021 AADT and projected 2041 AADT for Old Jones Rd are also available. These traffic counts represent vehicles and represent traffic in both directions of travel. On the local roadways, TxDOT does not adjust the average daily traffic for trucks or seasonal variations. All traffic counts are for a 24-hour period and for both directions of travel. No AADT data is available for Stewarts Meadow, which is a less frequently used local public road. Current and future traffic volumes for roadways within one mile of the site are shown on **Figure II-8**.

Table II-8 also shows the signalized highway generalized service volume for the local roadways.

Table II-8. Traffic Volumes

Roadway	2021 AADT	2041 AADT	Level of Service B Service Volume[2]
FM 60 / Raymond Stotzer Parkway	9,536	18,895	34,600[3]
Old Jones Road	982[1]	2,243	16,500[4]
Stewarts Meadow	N/A	N/A	16,500[4]
FM 60, south of Kemp Rd	9,536	18,975	N/A
FM 60, north of Lightsey Ln	12,332	24,539	NA

1 The AADT data for Old Jones Road is from TxDOT dated 2017, not 2021. The projected AADT data is for 2041.

2 **Table 15. Signalized highway generalized service volume table**, "*Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System*," U.S. Department of Transportation, Federal Highway Administration, October 2017 (see **Attachment IIC-2)**

3 4 lanes, 50% Green Time, Speed Limit 60 mph

4 2 lanes, 50% Green Time, Speed Limit 35 mph

2.3.3 Facility Generated Traffic

The Facility is currently operating under the NOI MSW-100200, receives waste loads daily. It is estimated that 135 waste transfer vehicles visit the facility each day, with the number potentially increasing to 270 vehicles during the operational period. Despite the potential increase in vehicles generated by the Facility, the Level of Service for nearby roadways is anticipated to remain unchanged by the year 2041. Consequently, any traffic increase is expected to align with the general traffic growth on Old Jones Road and FM 60 / Raymond Stotzer Parkway.

TxDOT was contacted to determine if the additional traffic volume generated from the proposed BVR Waste and Recycling Transfer Station would impact traffic flow movements in the vicinity of the site. A copy of this correspondence is included in **Attachment IIC-1**. A response from TxDOT has not yet been received and will be provided when available.

Based on the findings of the transportation analysis, there are no existing or future restrictions on the main access roadway in the vicinity of the Facility that would prevent safe and efficient operations for both the generated traffic as well as the other vehicles in the area.

2.4 Notice to the Airport and FAA 30 TAC §330.545(b)

The FAA Southwest Regional Administrator has been notified regarding the proximity of Easterwood Airport (see **Attachment IIH-1**). Easterwood Airport is located within a six-mile radius of the facility and a notification letter has been sent to Easterwood Airport (see **Attachment IIH-2**).

2.5 Geology and Soils 30 TAC §330.61(j)

In accordance with 30 TAC §330.61(j)(1), a general discussion of the geology and soils at the BVR Waste and Recycling Transfer Station is included in the following sections. Regulation citations §330.61(j)(2)-(4), pertaining to fault areas, seismic impact zones, and unstable areas, are applicable for landfills, not transfer stations.

2.5.1 Geology

The registration boundary is located within the Fluviatile Terrace Deposits and Yegua Formation. The drillers report for the area report the depth to static water level to be greater than 150 feet below ground surface.

Information about the units from the Texas Water Development Board (TWDB) are also shown in **Table II-9** below. The sections following the table discussed a generalized stratigraphic column of the area beneath the facility to a depth of approximately 2,000 feet below ground surface (BGS).

Table II-9. Geologic Units

Period	Age	Geologic Formation	Maximum Thickness (feet)	Lithology	Water-Bearing Properties
Quaternary	Holocene	Flood-plain alluvium	82	Fine to coarse sand, gravel, silt, and clay	Yield small to large quantities of fresh to slightly saline water, mostly to irrigation wells along the Brazos River
	Pleistocene	Terrace deposits	70	Fine to coarse sand gravel, silt, and clay	Yields small to large quantities of fresh to slightly saline water to wells for rural domestic and livestock use and to a few irrigation.
Unconformity					
Tertiary	Eocene	Yegua Formation	1,150	Fine to medium sand, silt, clay, gypsum, fossilized wood, and lignite	Yields small to moderate amounts of fresh to moderately saline water to many wells for public-supply, rural-domestic, livestock, and irrigation
		Cook Mountain Formation	550	Carbonaceous clay and a small amount of sand, sandstone, limestone, glauconite, and gypsum. The Spiller Sand Member is near the middle of this formation.	Yields small quantities of fresh to slightly saline water to wells that tap the Spiller Sand Member
		Sparta Sand	290	Fine to medium sand with some clay, and sandy clay	Yields small quantities of fresh to slightly saline water to wells in and downdip from the outcrop
		Weches Formation	130	Iron-bearing glauconite clay and sand	Yields small to large quantities of fresh to slightly saline water to a few wells in or near the outcrop
		Queen City Sand	540	Massive to thin-bedded, fine to medium sand, clay, and some lenses of conglomerate containing iron	Yields small to large quantities of fresh to slightly saline water to wells in and several miles downdip from the outcrop

Period	Age	Geologic Formation	Maximum Thickness (feet)	Lithology	Water-Bearing Properties
		Reklaw Formation	430	Glauconite sand and silt in the lower part of the formation; clay and thin beds of sandstone in the upper part	Capable of yielding small quantities of fresh to slightly saline water to wells in some places. Not known to yield water to wells in the registration area.
		Carrizo Sand	250	Fine to coarse, crossbedded sand and some thin beds of sandstone and clay	Yields small to large quantities of fresh to slightly saline water, mostly to public-supply wells
		Wilcox Group	3,900	Fine to coarse sand and sandstone, sandy clay, clay, and shale, with some lenses of limestone and lignite. Simsboro Sand Member is in the middle part of this group.	Yields small to large quantities of fresh to moderately saline water to public-supply, irrigation, rural-domestic, and livestock wells. Most water produced from the Simsboro Sand Member.

2.5.1.1 Fluviatile Terrace Deposits

Quaternary age Fluviatile Terrace Deposits underlie the registration boundary. Deposits include gravel, sand, silt, and clay. An upper silty clay unit is good for crop production and a lower coarse unit yields some water. High gravel content deposits are commonly exposed to the surface.

2.5.1.2 Yegua Formation

Unconformably underlying the Fluviatile Terrace Deposits is the Tertiary age Yegua Formation. The unit is sandstone, clay, and lignite, and the sandstone is mostly quartz. The formation dips into the southeast into the East Texas Basin and has an approximate thickness of 850 feet at the site.

2.5.1.3 Cook Mountain Formation

Underlying the Yegua Formation is the Tertiary age Cook Mountain Formation. The Cook Mountain Formation consists of mostly clay but is sandy is some parts. This formation dips to the southeast and has an approximate thickness of 415 feet at the site.

2.5.1.4 Sparta Sand

Underlying the Cook Mountain Formation is the Tertiary age Sparta Sand. The Sparta Sand Formation contains quartz sand, which is very fine to fine grained, well sorted, and micaceous, with silty clay partings. This formation dips to the southeast and has an approximate thickness of 230 feet at the site.

2.5.1.5 Weches Formation

Underlying the Sparta Sand Formation is the Tertiary age Weches Formation. The Weches Formation contains greensand, sand, and clay. This formation has an approximate thickness of 80 feet at the site.

2.5.1.6 Queen City Sand

Underlying the Weches Formation is the Tertiary age Queen City Sand. The Queen City Sand contains fine-grained quartz, which is locally carbonaceous, with thin interbeds of clay, sands, and silts. This formation dips to the southeast and has an approximate thickness of 430 feet at the site.

2.5.1.7 Reklaw Formation

Underlying the Queen City Sand is the Tertiary age Reklaw Formation. The Reklaw Formation contains two parts. The upper part of the Reklaw Formation contains clay which is silty and carbonaceous. The lower part of the Reklaw Formation contains glauconitic, fine to medium grained quartz sand and clay. This formation dips to the southeast and has an approximate thickness of 330 feet at the site.

2.5.1.8 Carrizo Sand

Underlying the Reklaw Formation is the Tertiary age Carrizo Sand. The Carrizo Sand contains fine to coarse grained, poorly sorted, friable, non-calcareous, thickly bedded sandstone. This formation dips to the southeast and has an approximate thickness of 90 feet at the site.

2.5.1.9 Wilcox Group

Underlying the Carrizo Sand is the Tertiary age Wilcox Group. It has an approximate thickness of 1450 feet at the site.

2.5.2 Soils

The site is located in Brazos County, Texas. The topography of Brazos County is defined by parallel ridges (questas) and valleys with beds dipping tilted toward the Gulf of Mexico. The site is located in the Interior Coastal Plains portion of the Gulf Coastal Plains physiographic province. The Interior Coastal Plains region contains alternating belts of uncemented sands among weaker shales. When the weaker shales erode, the sands form long, sandy ridges. **Figure II-2** shows the general site topography based on United States Geological Survey (USGS) quadrangle sheets for Chance Store, TX and Wellborn, TX.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) operates an online has a Web Soil Survey (WSS) which provides soil data and information produced by the National Cooperative Soil Survey. The Soils Map is provided as **Figure II-12**. The soil information and mapping from the WSS shows that the registration boundary encompasses three (3) different soil types as shown in **Table II-10**.

Table II-10. Site Soils

Soil Symbol	Soil Name	Percentage of Site
SmC	Silawa fine sandy loam, 2 to 5 percent slopes	40.7%
SmD	Silawa fine sandy loam, 5 to 8 percent slopes	58.6%
RoB	Roco-Tanglewood Complex, 1 to 5 percent slopes	0.7%

The southern portion of site, including where the existing recycling facility buildings are located, consists of SmC soil. The northern portion of the site is mostly SmD soil.

The Silawa series consists of very deep, well drained, moderately permeable soils that formed in sandy and loamy sediments. The Roco series consists of very deep, moderately well drained, slowly permeable soils that formed in loamy sediments. The Tanglewood series consists of very deep, moderately well drained, slowly permeable soils formed in sandy, clayey, and loamy residuum derived from sandstone, claystone, and shale.

2.6 Groundwater and Surface Water 30 TAC §330.61(k)

2.6.1 Groundwater Conditions 30 TAC §330.61(k)(1)

The Yegua aquifer is the major hydrologic unit utilized for groundwater supplies in Brazos County. Minor hydrologic units utilized for groundwater supplies in Brazos County include the Fluviatile Terrace Deposits, Sparta, Queen City, and Carrizo-Wilcox aquifers. These aquifers are composed of sands, silt, and clays of Quaternary and Tertiary age. Groundwater is produced from coarser-grained members (sands) of the aquifers.

No data is available on site-specific groundwater conditions. The only data available concerning near Facility groundwater conditions are through the driller reports available through the Texas Water Development Board for water production well installations. These reports state static water levels were found to be at a depth greater than 50 feet below the ground surface (see **Appendix IIB-2**).

2.6.2 Surface Water Conditions 30 TAC §330.61(k)(2)

According to the Texas Water Development Board published maps entitled “Major River Basins of Texas over DEM” and “Texas Major River Basins and Sub-Basins over DEM”, the site is located in the Lower Brazos-Little Brazos sub-basin of the Brazos River basin. According to maps provided on the Brazos River Authority website, the site is located in the Central watershed.

In general, the ground surface elevation of Facility along western boundary at Stewarts Meadow is higher. The WSPA is raised to higher elevation such that runoff from the northern, southern, and western portion of the Facility is collected in existing ditches along Stewarts Meadow and Old Jones Road. Surface water on the eastern side will be collected by a construction of swale and discharge to existing roadside ditch on Old Jones Road.

Surface water features are displayed on **Figure II-2** which displays the Facility location plotted on the U.S.G.S. Chances Store Quadrangle. The closest surface water features to the Facility are an artificial pond, which is located approximately 200 feet west of the Facility boundary, and Brushy Creek which is located approximately 500 feet northeast of the Facility boundary.

2.6.3 Texas Pollutant Discharge Elimination System Compliance 30 TAC §330.61(k)(3)

Since the proposed Transfer Station will perform vehicle or equipment maintenance activities, vehicle or equipment rehabilitation, mechanical repairs, painting, fueling, lubrication, or cleaning within the registration boundary of the Facility, the site is subject to the requirements of the Texas Pollutant Discharge Elimination System (TPDES) Multi-Sector General Permit, as required by §402 of the federal Clean Water Act. The Facility has obtained the TPDES Stormwater General Permit No. TXR05GD63 on July 13, 2023, to discharge stormwater. A copy of the TPDES Stormwater General Permit No. TXR05GD63 is included in **Attachment IIG**.

2.6.4 Information on How Facility Will Comply With Texas Pollution Discharge Elimination System 30 TAC §330.61(k)(3)(A)

Facility has obtained the TPDES Stormwater General Permit No. TXR05GD63 on July 13, 2023, to discharge stormwater. A copy of the TPDES Stormwater General Permit No. TXR05GD63 is included in **Attachment IIG**.

2.6.5 Copy of Permit No. Under Individual Wastewater Permit 30 TAC §330.61(k)(3)(B)

No individual TPDES wastewater permit will be sought by the Facility. All materials processing will occur in the WSPS which will not accumulate stormwater. No waste will be stored outside of the covered structure except in roll-off boxes waiting to be unloaded. These roll-off boxes will be appropriately covered to prevent stormwater from contacting the waste. As such all stormwater run-off from the Facility is considered non-contact waters eligible to be discharged under the TPDES Stormwater General Permit No. TXR05GD63.

2.7 Abandoned Oil and Water Wells 30 TAC §330.61(l)

Consistent with 30 TAC §330.61(l), a summary of abandoned oil and water wells within the facility has been developed. As described in **Section 2.2.5** of this report, and as shown on **Figure II-15**, no water or oil & gas wells were identified within the site boundary, and one (1) plugged gas well was identified within 650 ft southeast of the registration boundary. No wells were identified within 500 feet of the registration boundary.

Should any additional existing or abandoned on-site water wells or oil & gas wells be discovered during Facility development, the BVR Waste and Recycling Transfer Station will provide written notification to TCEQ of their location.

Any wells discovered during Facility development will be capped, plugged, and closed in accordance with the applicable rules and regulations of TCEQ or other state agency, and a copy of the well plugging report for any found well will be submitted to TCEQ and the appropriate state agency within 30 days prior to construction.

2.8 Floodplains and Wetlands 30 TAC §330.61(m)

Consistent with 30 TAC §330.61(m), data has been provided on floodplains and wetlands.

Provide Statement to Whether Facility Is Within 100 Year Floodplain 30 TAC §330.61(m)(1)

The Facility is not located within the Federal Emergency Management Agency (FEMA) 100-year floodplain. **Figures II-13** displays the FEMA Flood Insurance Rate Map.

2.8.1 Facility Shall Not Restrict the Flow, Reduce Storage Capacity, or Result in Washout 30 TAC §330.547(b)

The disposal of solid wastes will not occur at the Facility. The processing of solid waste or storage will not occur in the 100-year floodplain. All transfer station waste processing and storage operations will be confined to the 75 feet by 220 feet WSPS which is inside the covered structures. The stormwater will be prevented from entering the WSPS entrance door of unloading area by constructing a minimum of one-foot-high entrance ramp.

The WSPS is not located in the flow pattern of the 100-year floodplain as such the construction of the Facility will not restrict the flow of floodwaters. As the property has already been developed and used for heavy equipment, trucks, and roll-off box storage, and existing WSPS will not result in any adverse effects to the local drainage.

2.8.2 Storage and Processing Facilities are Located Outside of 100 Year Floodplain
30 TAC §330.547(c)

The Facility is not located within the Special Flood Hazard Boundary according to FEMA (Federal Emergency Management Agency) flood map for Brazos County, Texas, Map Number 48041C0285E, effective date May 16, 2012. The 100-year floodplain (special flood hazard) boundary is shown on **Figure II-13** FEMA Flood Insurance Rate Map.

2.8.3 Wetlands 30 TAC §330.61(m)(2)

Per §330.553, municipal solid waste storage or processing facilities shall not be located in wetlands unless a demonstration can be made providing evidence that the facility has a Corps of Engineers (USACE) permit for use of any wetlands area.

Golder prepared a Wetland and Waterbody Delineation report, dated June 2021. The conclusion of the environmental resource analysis determined no wetlands or waterbodies within the Facility area. A copy of the report is provided in **Attachment IID-1**.

Coordination has occurred with the USACE Fort Worth District concerning the restrictions placed on wetlands development and a requested jurisdictional wetlands determination for the Facility (see **Attachment IID-2**).

2.9 Endangered or Threatened Species 30 TAC §330.61(n)

Construction and operation of the Facility shall not result in the destruction or adverse modification of the critical habitat or cause or contribute to the taking of endangered or threatened species.

2.9.1 Endangered or Threatened Species Assessment

Threatened and endangered species assessments were conducted by Golder at the facility. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973. Based on a field survey and available records, it was concluded that the Facility and the operation of the facility is not expected to result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. Copies of the assessment are included in **Attachments IIE-1 and IIE-2**.

Attachment IIE-3 includes a coordination with the Texas Department of Parks and Wildlife (TDPW) concerning endangered or threatened species or their habitats.

2.10 Texas Historical Commission 30 TAC §330.61(o)

In accordance with 30 TAC §330.61(o), a review for request letter was sent to the Texas Historical Commission (THC) for concurrence that there are no historical, archeological, or sites with exceptional aesthetic quality on the Facility property or in the surrounding area that would be affected by the proposed Transfer Station.

The submittal was through the electronic THC review and compliance system, or eTrac system. The related correspondence and proof of submittal is included in **Attachment IIA-1**.

2.11 Council of Governments 30 TAC §330.61(p)

A request for review letter and Parts I and II of this Registration Application has been submitted to the Brazos County Council of Governments (BVCOG) to operate a Type V Transfer Station in accordance with §330.61(p).

Documentation of correspondence with BVCOG is included in **Attachment IIF**.

2.12 Easement and Buffer Zones 30 TAC §330.543(a)

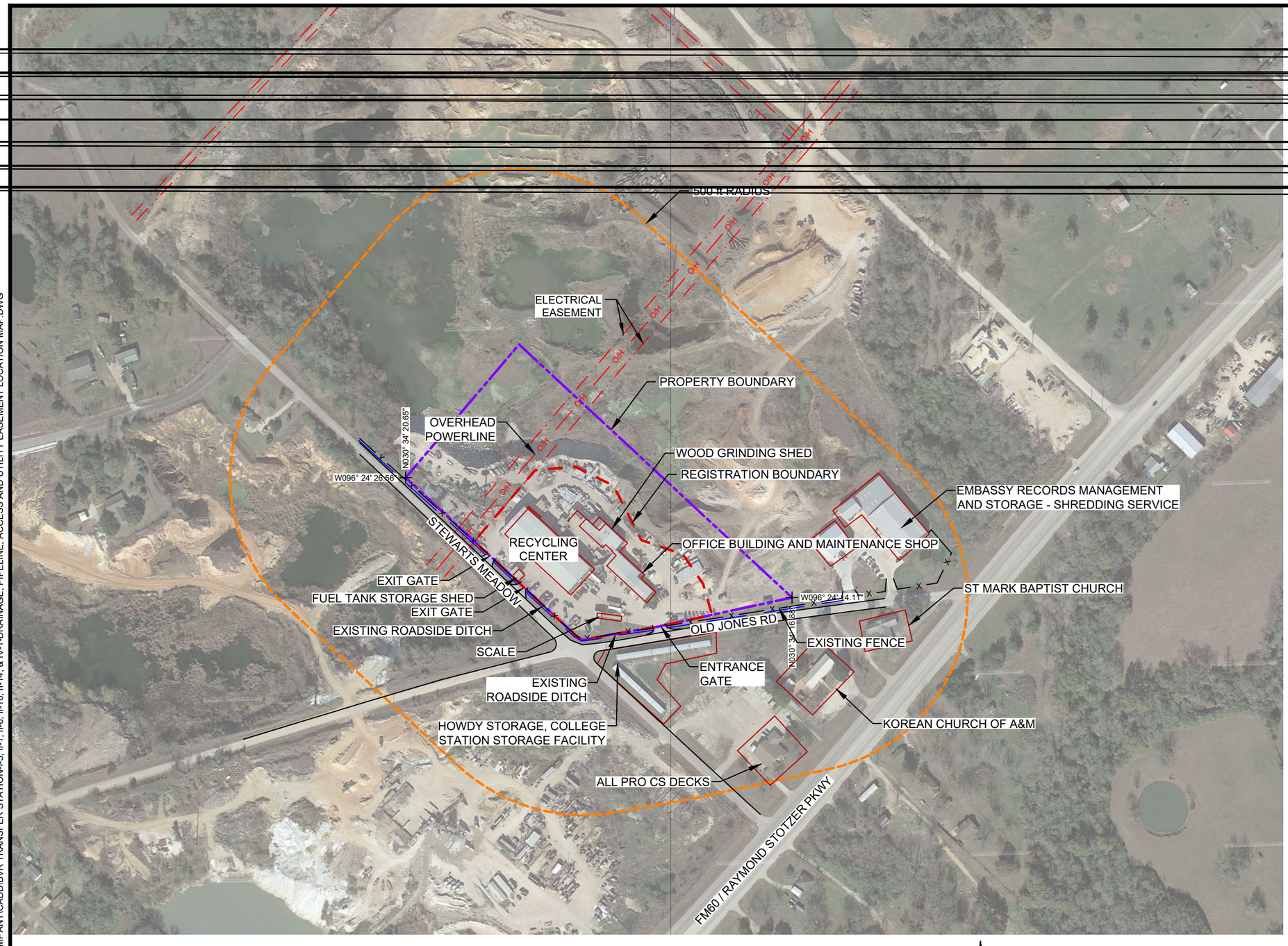
No solid waste unloading, storage or processing operations will occur within any easement, buffer zone, or right of way that crosses the Facility within 25 feet of the center line of any utility line, or pipeline easements. There are no pipelines for utility easements that cross the 4.419-acre registration boundary. If there were, all utility and pipeline easements would be marked with posts that extend at least six feet above the ground level, spaced at a distance of no greater than 300 feet.

The Facility has an electric transmission line running through the 10.00-acre tract. As per City of Bryan requirements, a 60-foot-wide easement is maintained for the Facility. The proposed registration boundary for RA will be outside the easement.

No solid waste storage or processing will occur within the 50 feet buffer zone that has been established for the Facility as per 330.543(b).

PART II - FIGURES

IIA	Historical and Cultural Resources
IIA-1	Texas Historical Commission (THC) Correspondence
IIA-2	Cultural Resources Background Study (Cox | McLain Environmental)
IIB	Water Well Database
IIC	Transportation
IIC-1	Texas Department of Transportation (TxDOT) Correspondence
IIC-2	Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System
IID	Wetlands
IID-1	Wetland and Waterbody Delineation Report
IID-2	United States Army Corps of Engineers Correspondence
IIE	Endangered or Threatened Species
IIE-1	Federally Protected Species Habitat Assessment
IIE-2	State Listed Species Habitat Assessment
IIE-3	Texas Department of Parks and Wildlife (TDPW) Correspondence
IIF	Brazos Valley Council of Government (BVCOG) Correspondence
IIG	TPDES Stormwater General Permit
IIH	Federal Aviation Administration
IIH-1	Federal Aviation Administration Correspondence
IIH-2	Easterwood Airport Correspondence



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REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

STATE OF TEXAS
GARY RUSSELL HORWITCH
68450
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

SITE LAYOUT PLAN
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG		

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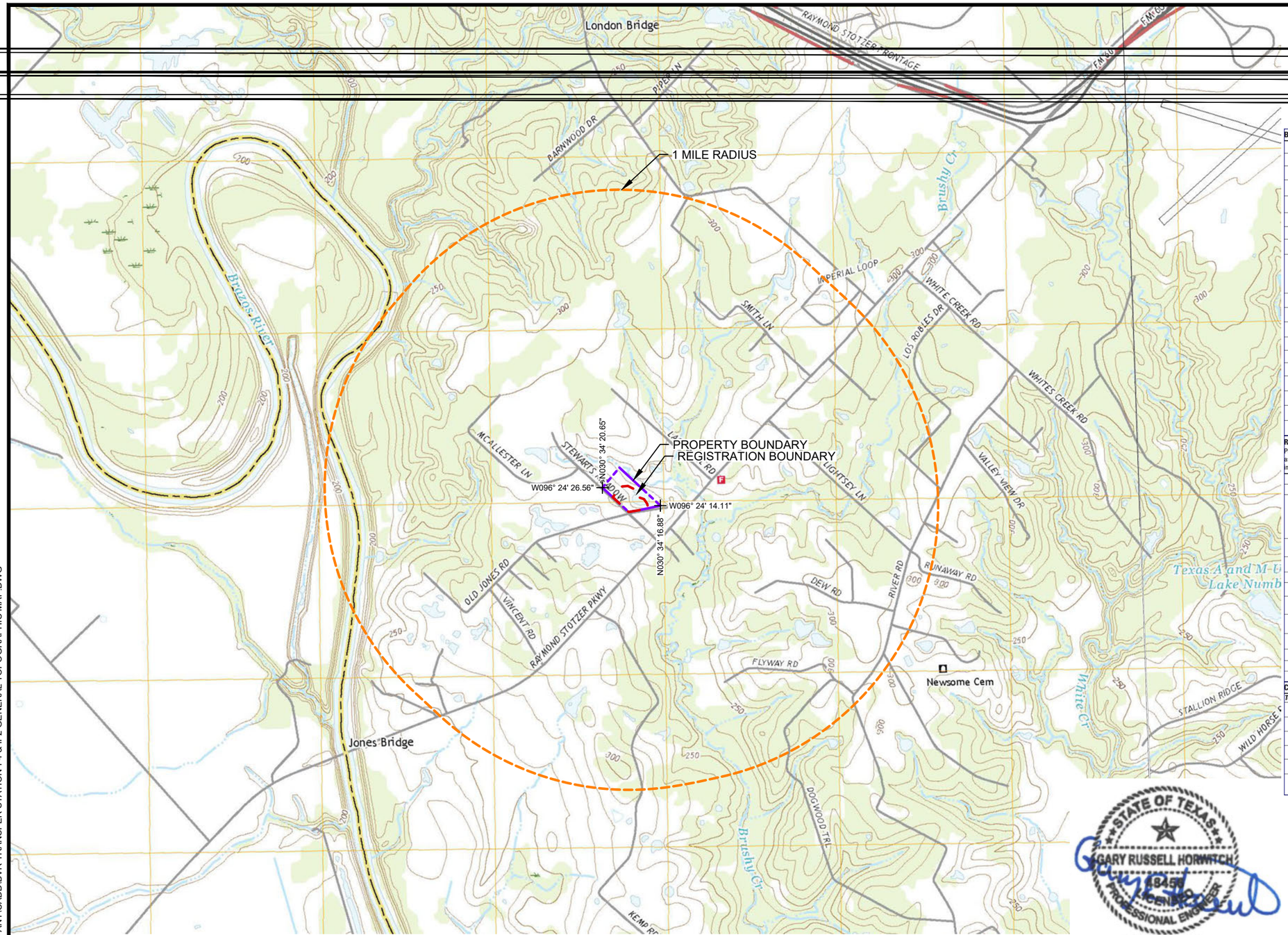

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ▭ 9134 BM 277)
- Third-order or better elevation, recoverable mark, no tablet (5628)
- With number and elevation (67 ▭ 4567)

Horizontal control

- Third-order or better, permanent mark (Neace Neace)
- With third-order or better elevation (BM 62 Pike BM393)
- With checked spot elevation (1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

STATE OF TEXAS
GARY RUSSELL HORWITCH
84558
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

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ISSUED FOR PERMITTING

Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	II-2
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG

LEGEND

- 1 MILE FF ET \A IU
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- \ E\TY UN A\Y

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

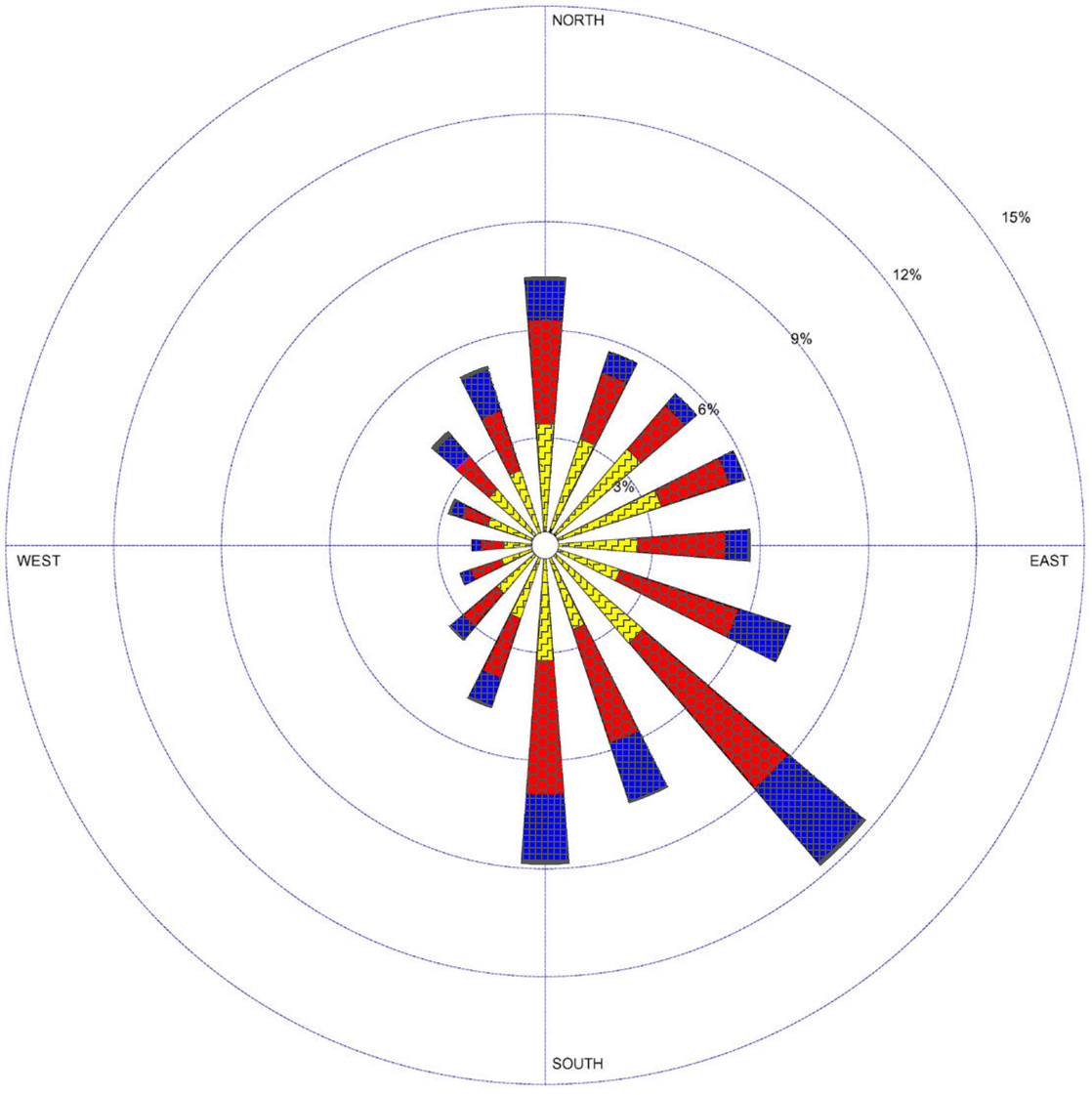
ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG

WIND ROSE PLOT

STATION #12960 - HOUSTON/INTERCONTINENTAL ARPT, TX



WRPLOT View 1.5 by Lakes Environmental Software - www.lakes-environmental.com

SRCC
254 Howe-Russell
Louisiana State Univ.
Baton Rouge, La 70802

PLOT YEAR-DATE-TIME
84 85 86 87 88 89 90 92
January 1 - December 31
Midnight - 11 PM

ORIENTATION
Direction (blowing from)

DISPLAY
Wind Speed

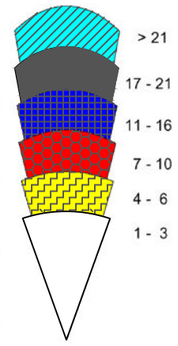
UNIT
Knots

CALM WINDS
8.77%

AVG. WIND SPEED
7.60 Knots

DATE
11/9/2000

Wind Speed (Knots)



MODELER
Southern Regional Climate Center

Anemometer Ht. - 10 meters

PROJECT
Houston/Bush (IAH) AP

STATE OF TEXAS
GARY RUSSELL HORWITCH
84581
LICENSED
PROFESSIONAL ENGINEER

INTENDED
FOR PERMITTING
PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

REFERENCE(S)

UNITED STATES DEPARTMENT OF AGRICULTURE NATIONAL RESOURCES CONSERVATION SERVICE WIND ROSE DATA.

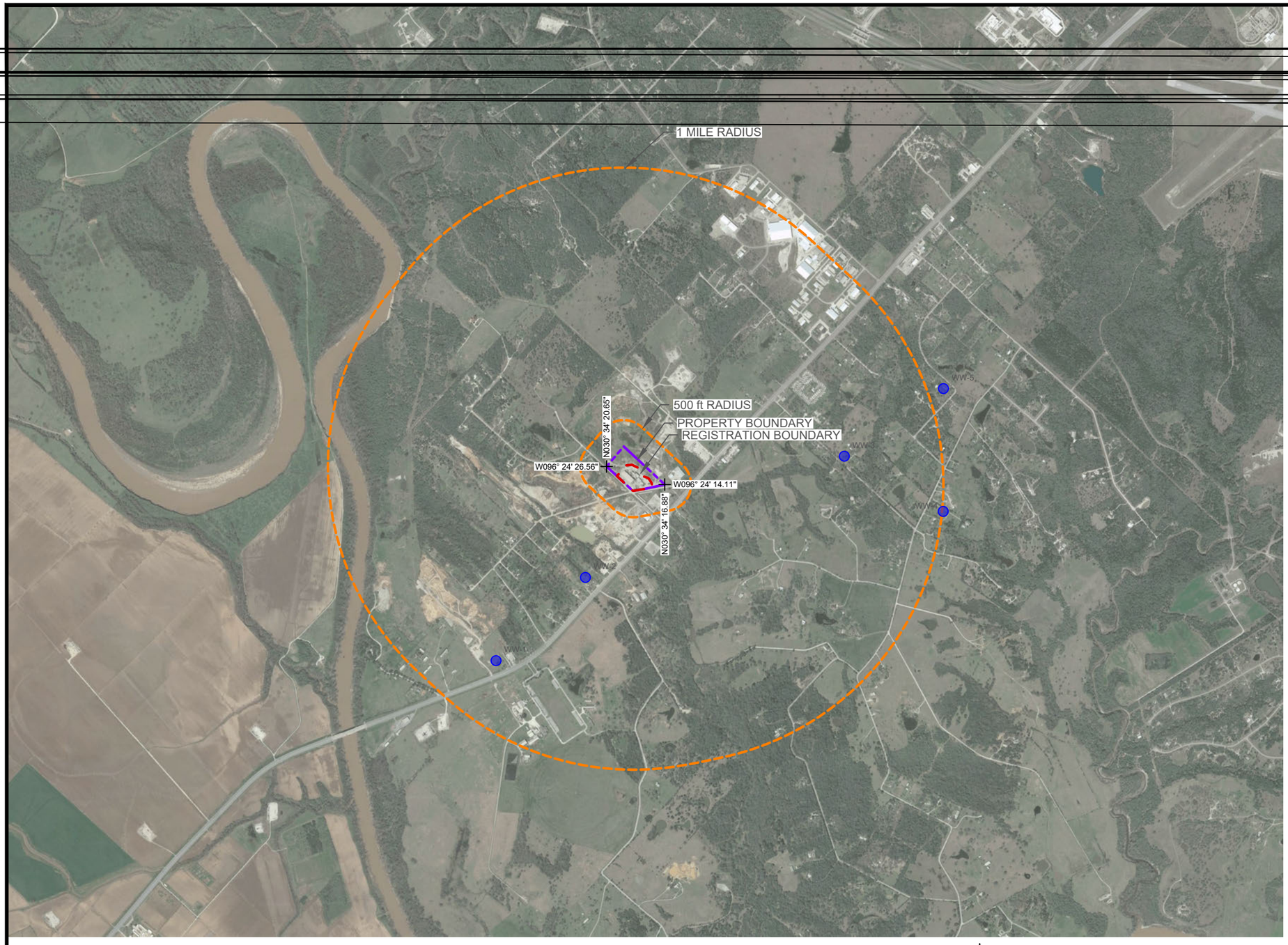
Title:
WIND ROSE
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	**II-4**
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-4-WIND ROSE.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-4-WIND ROSE.DWG



LEGEND

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- \ E\TY UN A\Y
- WATE\ WELL

WATER WELLS WITHIN 1 MILE

TEXAS WATER DEVELOPMENT BOARD 2021	
MAP ID	STATE WELL NUMBER
WW-1	5929602
WW-2	5929603
WW-3	5929605
WW-4	5929604
WW-5	5929606

THERE ARE NO LOCATED WATER WELLS WITHIN 500 ft OF PERMIT BOUNDARY

REFERENCE(S)

1. BASE MAP TAKEN FROM BING.COM REFERENCED IN FEBRUARY 2021.
2. WATER WELL LOCATION INFORMATION PROVIDED BY TEXAS GROUNDWATER DEVELOPMENT BOARD, WATER DATA INTERACTIVE VIEWER, DATED JANUARY 29, 2021, HTTP://WWW2.TWDB.TEXAS.GOV/APPS/WATERDATAINTERACTIVE/GROUNDWATERDATAVIEWER

N

2000' 0 2000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84551
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

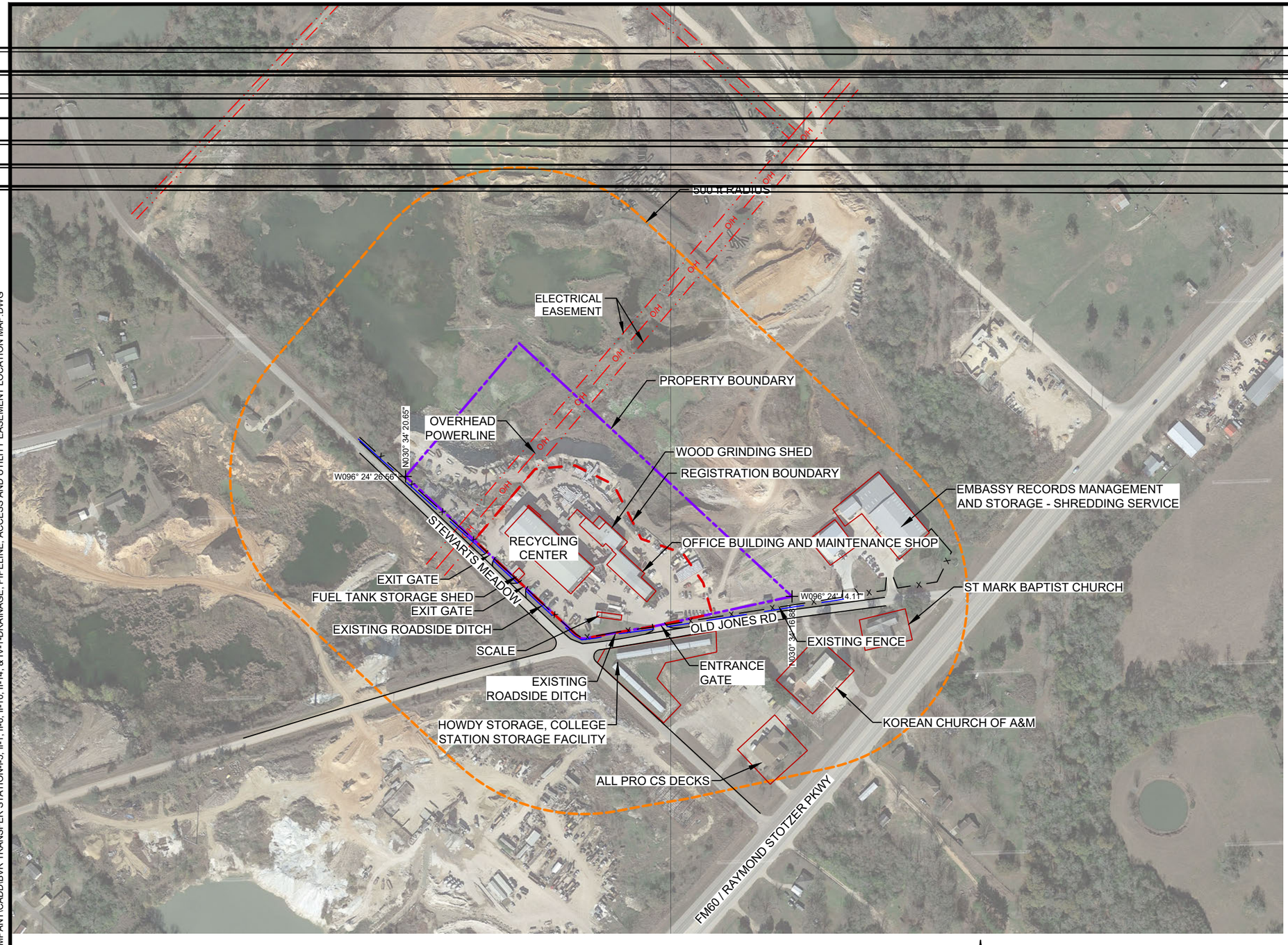
Title:
WATER WELL AND OIL AND GAS WELL LOCATION MAP BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-5
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-5 & II-15-WATER WELL AND OIL AND GAS WELL LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-5 & II-15-WATER WELL AND OIL AND GAS WELL LOCATION MAP.DWG



LEGEND

- FT FF ET \A IU
- \E I T \ATI N UN A \Y
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- EXI TIN FEN E
- VE \HEA WE \LINE
- EXI TIN T \U TU \E
- EXI TIN \ A I E IT H

N

300’ 0 300’

REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

STATE OF TEXAS
GARY RUSSELL HORWITCH
84456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

STRUCTURES LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

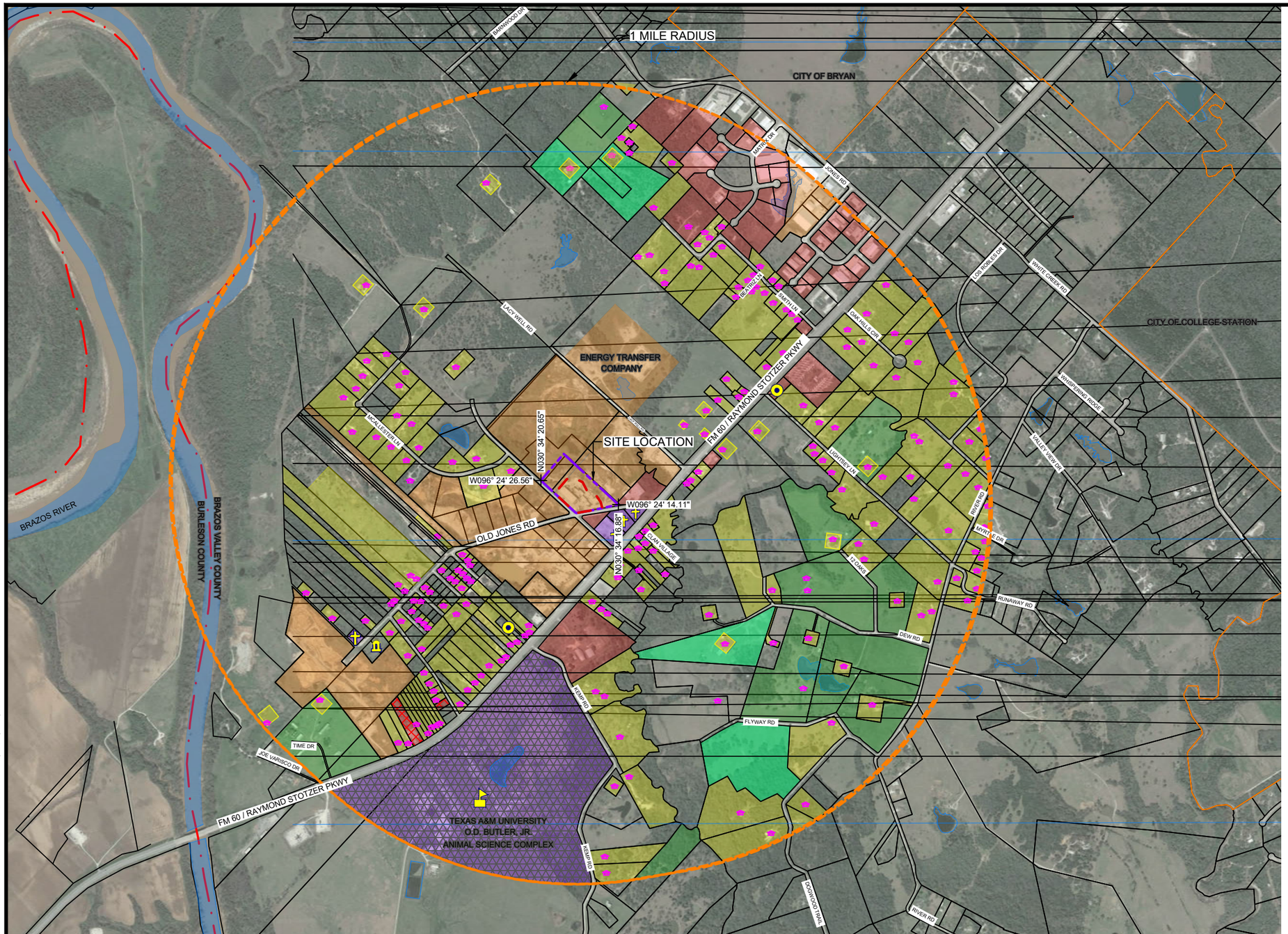
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-6
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG



LEGEND

- 1 MILE OFFSET RADIUS
- REGISTRATION BOUNDARY
- PROPERTY BOUNDARY
- COMMERCIAL
- INDUSTRIAL
- OPEN/AGRICULTURAL/NATIVE PASTURELAND
- RESIDENTIAL
- IMPROVED PASTURELAND
- INSTITUTIONAL
- RECREATIONAL
- SCHOOLS
- CHURCHES
- CEMETERIES
- PUBLIC LAND
- RESIDENTIAL

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

STATE OF TEXAS
GARY RUSSELL HORWITCH
68498
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

LAND USE MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

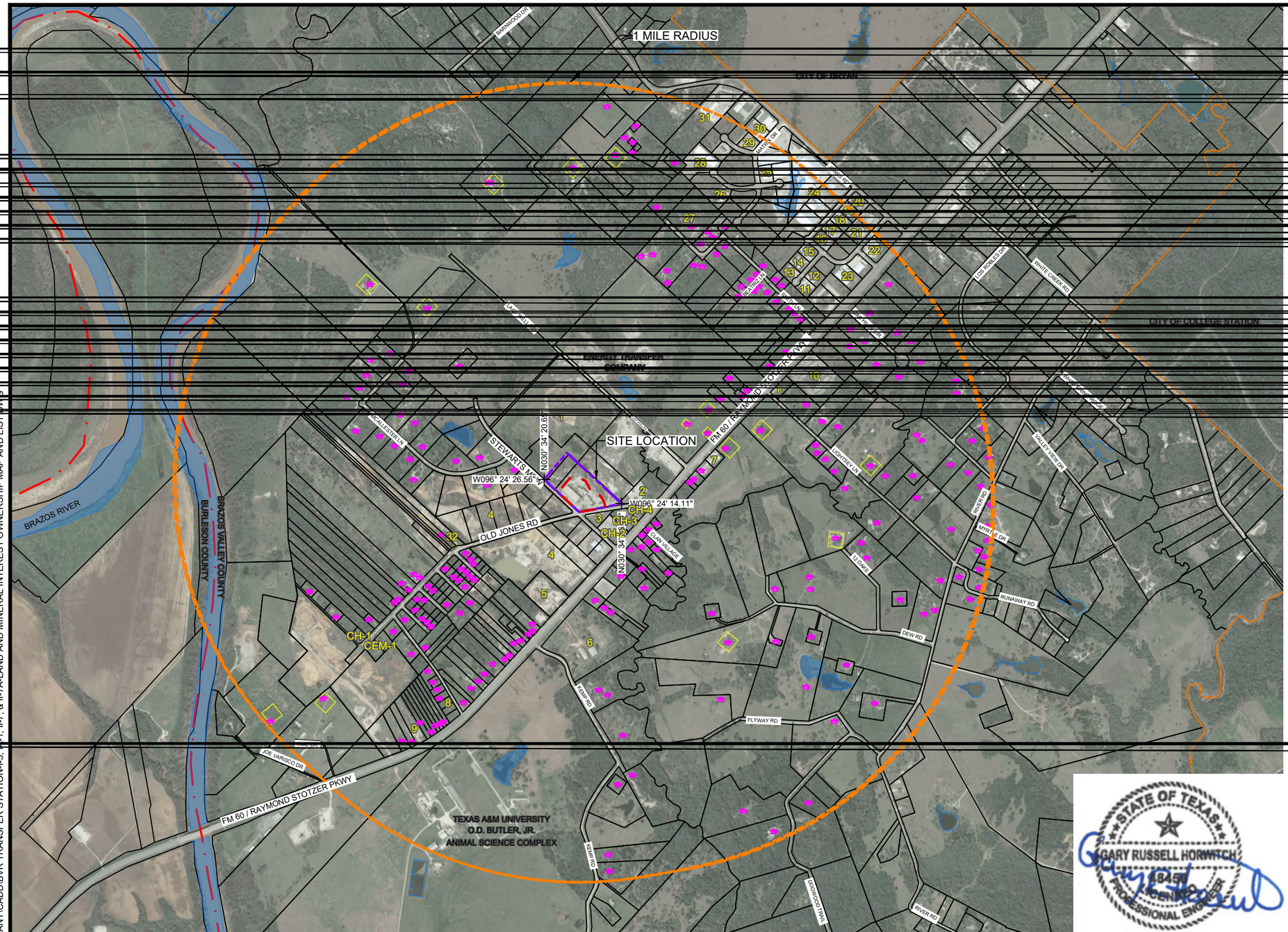
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-7
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, IA-1, II-7, & II-7A-LAND AND MINERAL INTEREST OWNERSHIP MAP AND LIST.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, IA-1, II-7, & II-7A-LAND AND MINERAL INTEREST OWNERSHIP MAP AND LIST.DWG



LEGEND

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\ E\TY UN A\Y

RESIDENTIAL

BASE N FIEL INVENT \IE E\F \ME N FEBRUARY 1 AN A \EVIEW F LE EA\TH IMAGERY, IT I E TIMATE THAT THE\E A\E APPROXIMATELY EXI TIN \E I EN E L ATE WITHIN ONE MILE F THE FA ILITY. THE NEA\E T EXISTING \E I EN E I L ATE A \ XIMATELY 4 FT SOUTHEA T F THE E\MIT UN A\Y N FM .

COMMERCIAL AND INDUSTRIAL

BASED ON FIEL INVENT \IE E\F \ME N FEBRUARY 1, \EVIEW F LE EA\TH IMA E\Y, AND REVIEW F \AZ UNTY A \AI AL I T\I T PROPERTY MA EA\ H, A \ XIMATELY BUSINESSE A\E L ATE WITHIN NE MILE F THE FACILITY RE \E ENTIN A MIX F TH MME\ IAL AND INDU T\IAL A TIVITY. THE NEA\E T U INE , BRAZOS VALLEY I AL FA ILITY, WHI H I NORTHERLY A JA ENT T THE E\MIT UN A\Y F THE FACILITY.

1	BRAZOS VALLEY DISPOSAL FACILITY	22	WYZ MEDICAL SUPPLIES
2	EMBASSY RECORDS MANAGEMENT AND STORAGE - SHREDDING SERVICE	23	NATIONAL EQUIPMENT CORPORATION
3	HOWDY STORAGE	24	G-CON MANUFACTURING, INC.
4	BCS READY MIX & MATERIALS LLC	25	SOLCATALYST
5	WATER ENERGY SERVICES, LLC	26	CARDIOQUIP
6	HORSE HAVEN EQUESTRIAN CENTER	27	BRAD'S RV PARK AND BOAT STORRAGE
7	IMAGE SOLUTIONS SIGN COMPANY	28	STRATUS AUTO EQUIPMENT
8	KRAZY KONES ICE CREAM	29	AIRGAS STORE.
9	GLOBAL GENETICS AND BIOLOGICALS	30	COCKTAILS 4U
10	12TH PARK RV RESORT	31	DAILEY COMPANY, INC.
11	AGGIE WRANGLERS BOOTSTACK	32	TDT TRUCKING
12	CONCENTRIC SAW & TOOL	CEM-1	CLAYTON BAPTIST CHURCH CEMETERY
13	DUNHAM ENGINEERING	CH-1	CLAYTON BAPTIST CHURCH
14	CARPOOL	CH-2	NEW LIFE APOSTOLIC CHURCH
15	M7TECGROUP	CH-3	KOREAN CHURCH OF A & M
16	RASA FLOORS	CH-4	ST MARK BAPTIST CHURCH
17	DUDLEY		BRAZOS COUNTY PRECINCT 4
18	RENNER ACADEMY INC	F	VOLUNTEER FIRE DEPARTMENT STATION 3
19	OVERHEAD DOOR COMPANY OF SOUTH CENTRAL TEXAS		
20	TERRACON CONSULTANTS		
21	DYNAMIC SYSTEMS, INC.		

NOTE(S)

1. NO HI TORI AL , \ HI T \I ITE A\E L ATE WITHIN 1 MILE.

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

STATE OF TEXAS
GARY RUSSELL HORWITCH
84558
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

N

1500' 0 1500'

ISSUED FOR PERMITTING

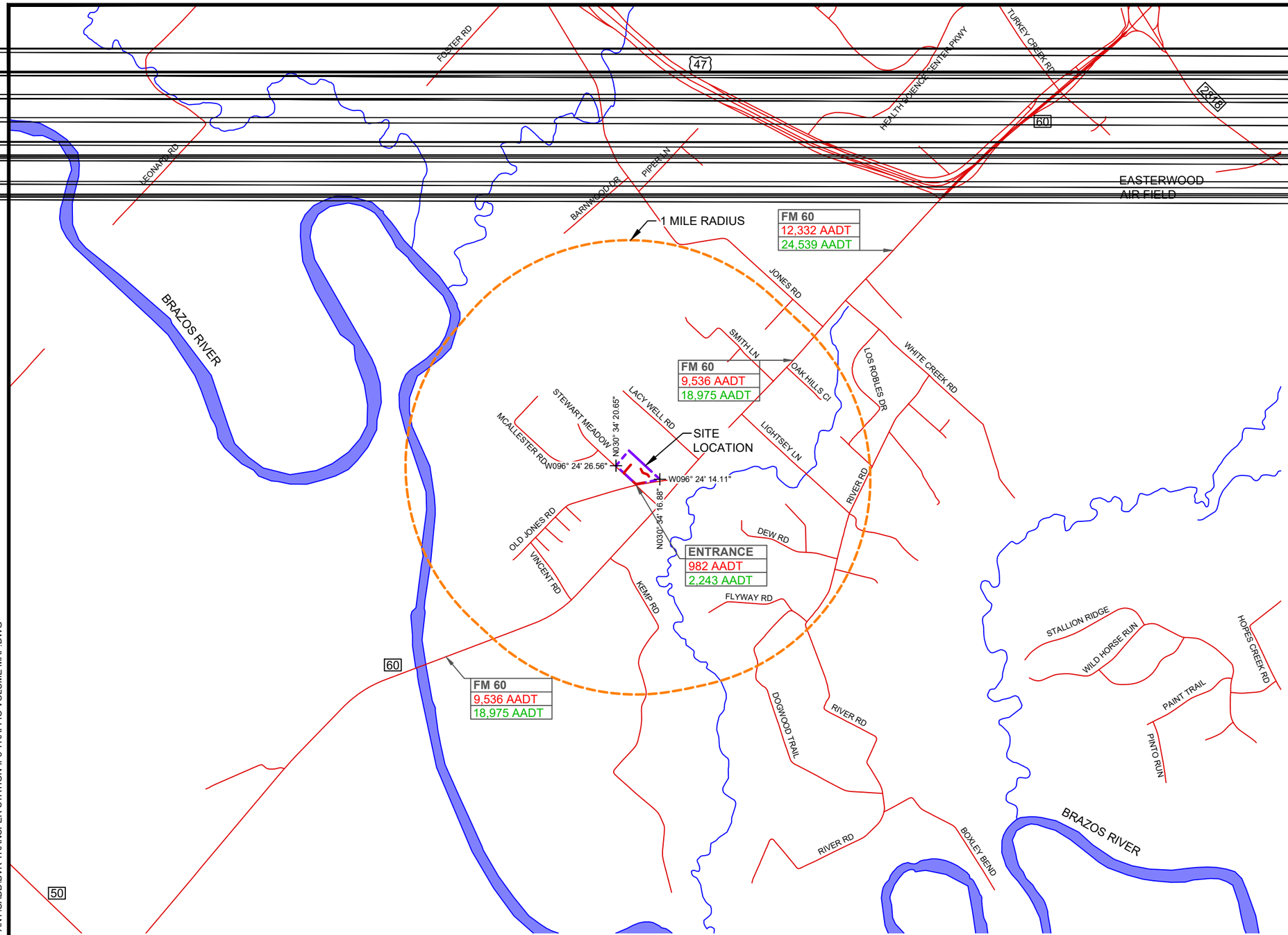
Title:
ITEMS LISTED IN §330.61(C)(4) AND (12) ON 2022 AERIAL PHOTOGRAPH BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE	
Prepared by: AEP	Scale: AS SHOWN		
Project Mgr: ATN	Project: 4759.0001H000		II-7A
File: BVR TRANSFER STATION-I-5, IA-1, II-7, & II-7A-LAND AND MINERAL INTEREST OWNERSHIP MAP AND LIST.DWG			

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, IA-1, II-7, & II-7A-LAND AND MINERAL INTEREST OWNERSHIP MAP AND LIST.DWG



LEGEND

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- \ E \TY UN A \Y
- FM 60 \ A WAY
- 12,332 AADT — EXI TIN ANNUAL AVE \A E AILY T \AFFI 1
- 24,539 AADT — FUTU \E ANNUAL AVE \A E AILY T \AFFI 41

SURFACE TYPES

FM 60	ASPHALTIC CONCRETE PAVEMENT

NOTE(S)

1. 2023 ANNUAL AVERAGE DAILY TRAFFIC COUNTS PROVIDED BY TXDOT.

REFERENCE(S)

1. BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG.
2. ANNUAL AVERAGE DAILY TRAFFIC AND FUTURE AADT COUNTS WERE PROVIDED BY TXDOT THROUGH HTTP://WWW.DOT.STATE.TX.US/APPS/STATEWIDE_MAPPING/STATEWIDEPLANNINGMAP.HTML VISITED IN MARCH 2023.

STATE OF TEXAS
GARY RUSSELL HORWITCH
84550
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

TRAFFIC VOLUME MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

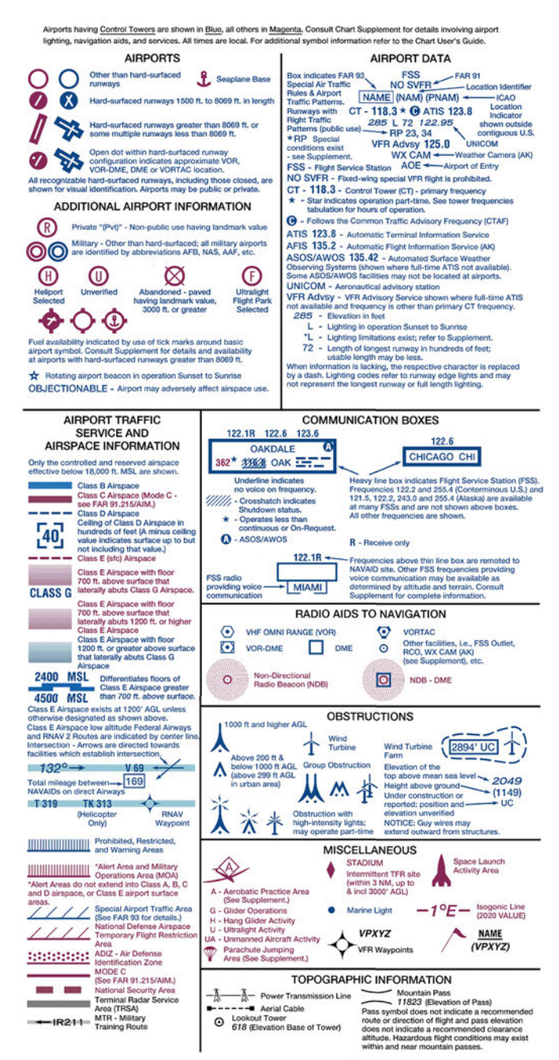
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-8
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-8-TRAFFIC VOLUME MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-8-TRAFFIC VOLUME MAP.DWG



ISSUED FOR PERMITTING

REFERENCE(S)

1. HOUSTON SECTION AERONAUTICAL CHART TAKEN FROM FEDERAL AVIATION ADMINISTRATION (FAA), DATED 02-23-2023 DELIVERED IN FORMAT HTTP://WWW.FAA.GOV/AIR_TRAFFIC/FLIGHT_INFO/AERONAV/DIGITAL_PRODUCTS/VFR/

N

8000' 0 8000'

Title:

FAA MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

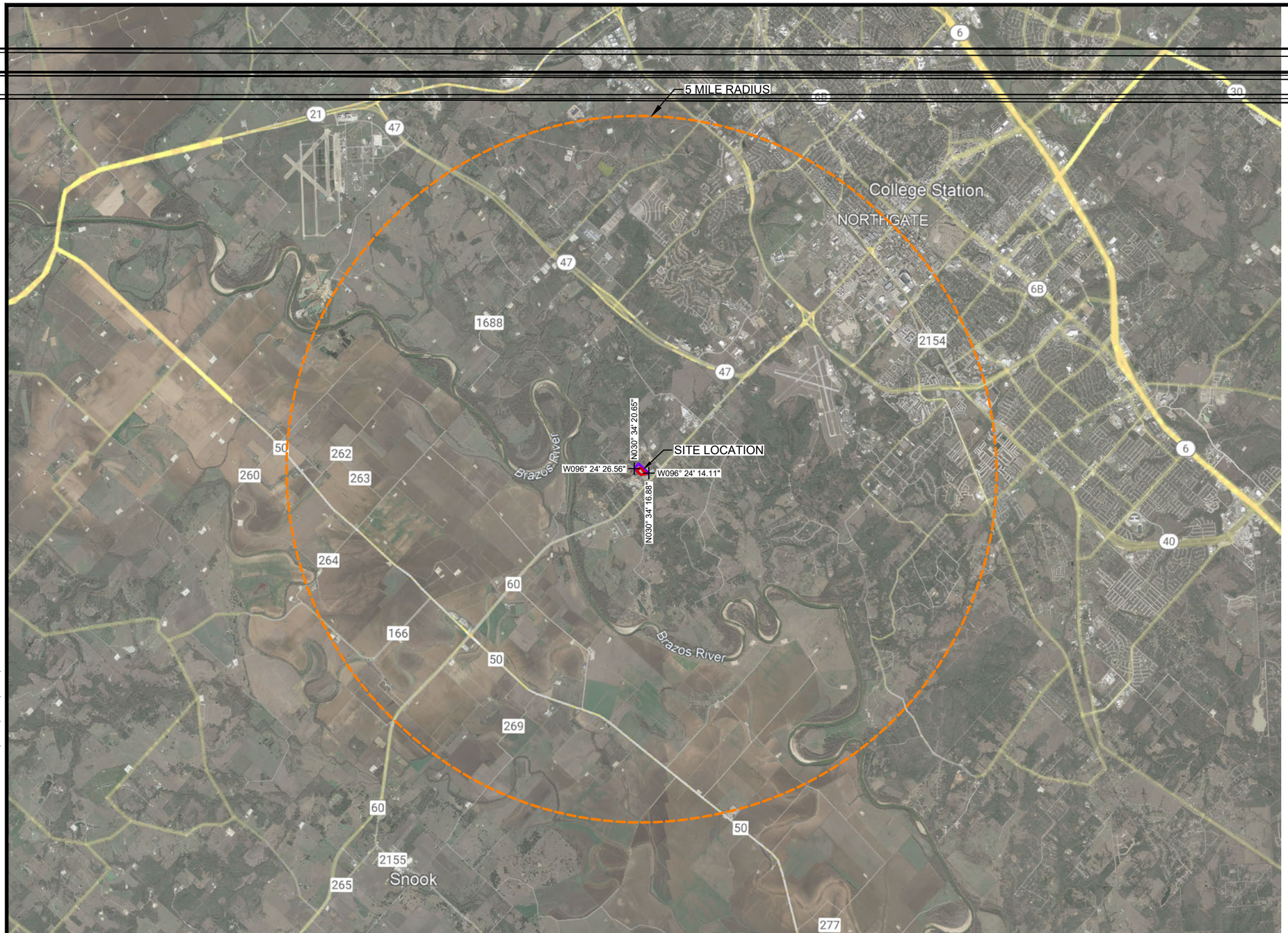
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-9
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-9-FAA MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9-FAA MAP.DWG



LEGEND

MILE FF ET \A IU

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\ E\TY UN A\Y

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED DECEMBER 2020.

N

8000' 0 8000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
104560
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

FACILITY LOCATION ON 2020 AERIAL PHOTOGRAPH BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

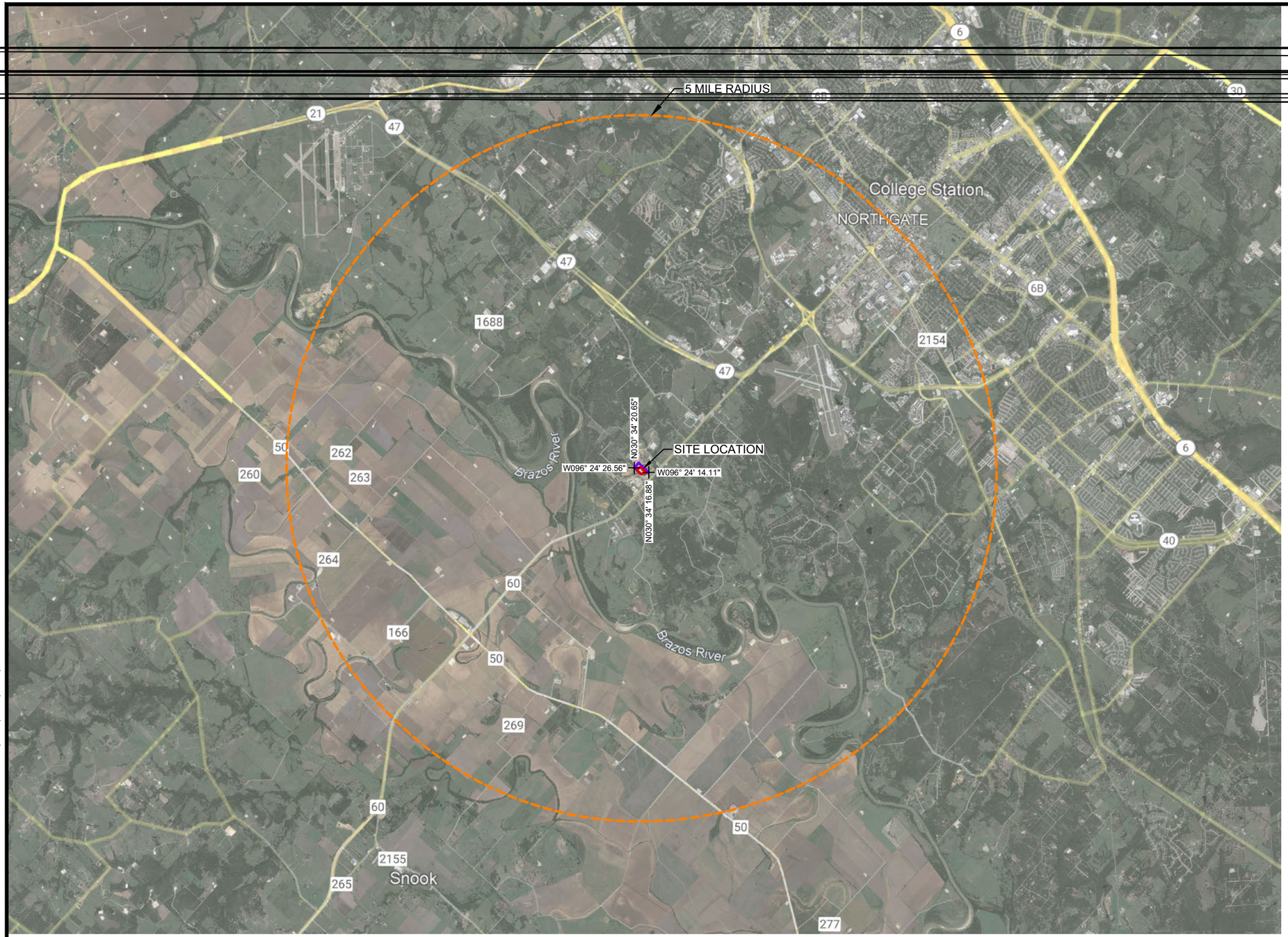
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	II-9A
File: BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG		

S:\CLIENT\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG



LEGEND

MILE FF ET \A IU

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\ E\TY UN A\Y

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED DECEMBER 2015.

N

8000' 0 8000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

FACILITY LOCATION ON 2015 AERIAL PHOTOGRAPH BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

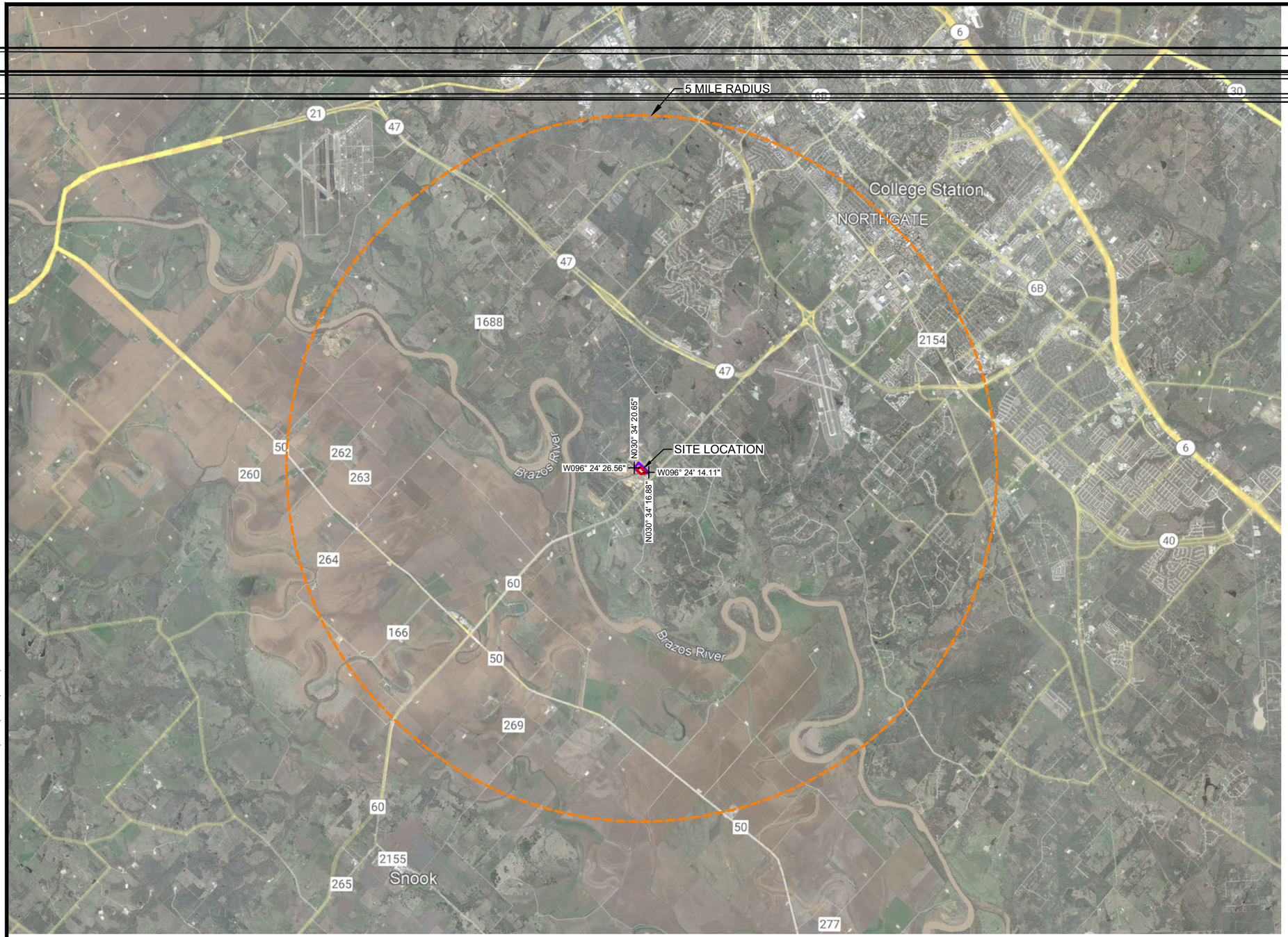
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	II-9B
File: BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG



LEGEND

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S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED DECEMBER 2010.

N

8000' 0 8000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

FACILITY LOCATION ON 2010 AERIAL PHOTOGRAPH BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

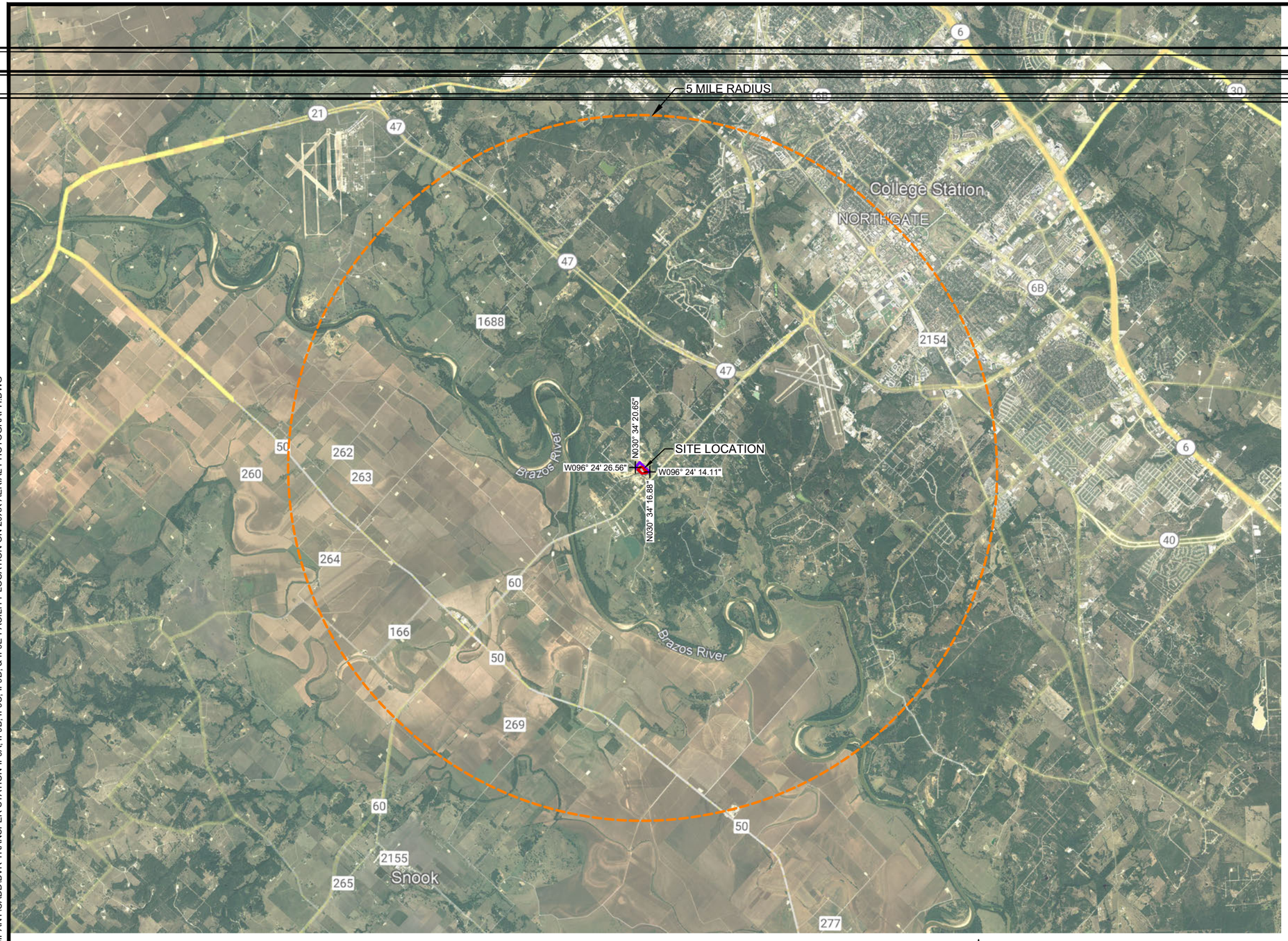
COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE	
Prepared by: AEP	Scale: AS SHOWN		
Project Mgr: ATN	Project: 4759.0001H000		II-9C
File: BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG			



LEGEND

MILE FF ET \A IU

\E I T\ATI N UN A\Y

\ E\TY UN A\Y

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED DECEMBER 2005.

N

8000' 0 8000'

GARY RUSSELL HORWITCH
84551
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

FACILITY LOCATION ON 2005 AERIAL PHOTOGRAPH BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

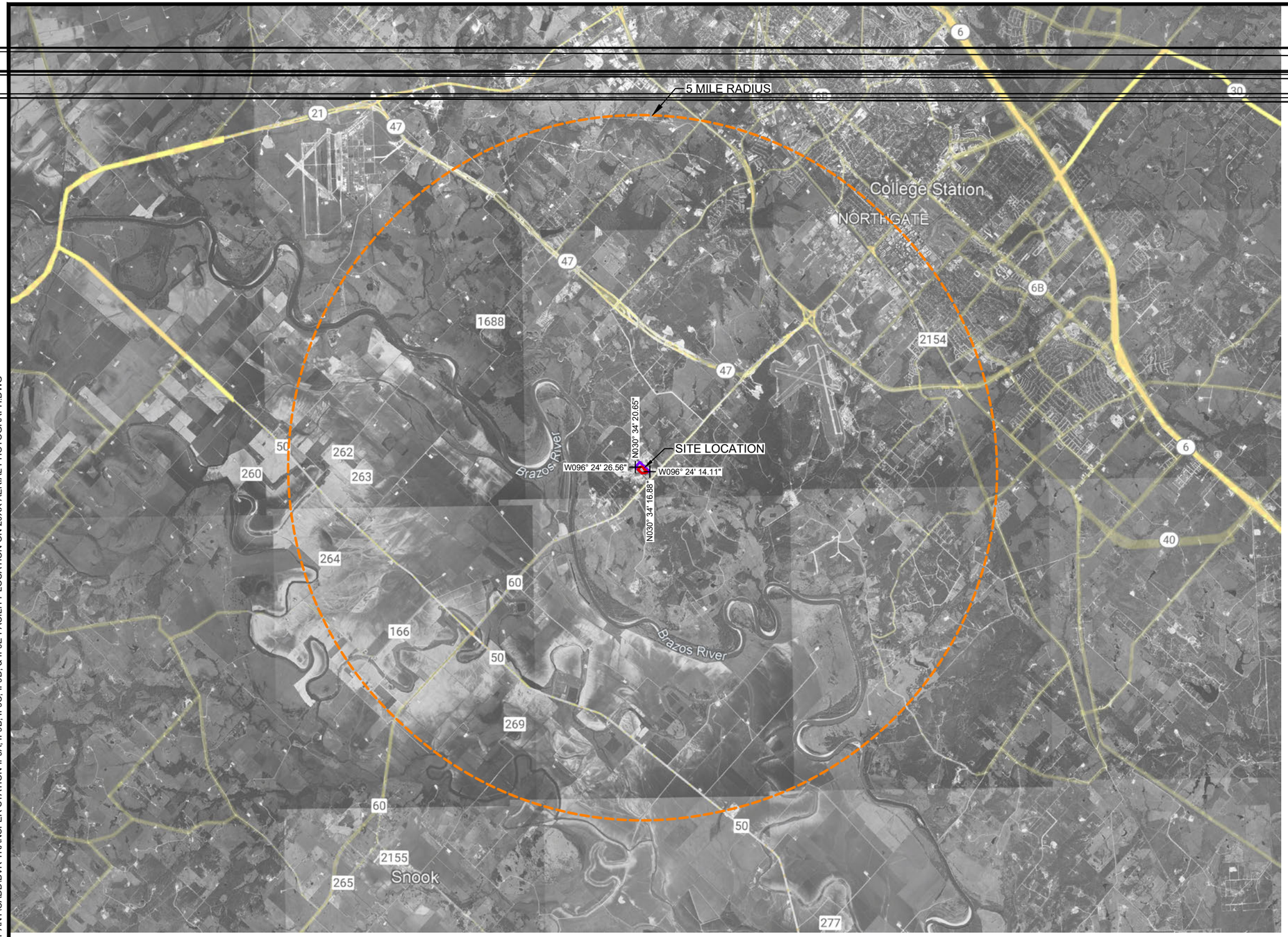
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-9D
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG



LEGEND

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\ E\TY UN A\Y

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED DECEMBER 2000.

N

8000' 0 8000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

FACILITY LOCATION ON 2000 AERIAL PHOTOGRAPH BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

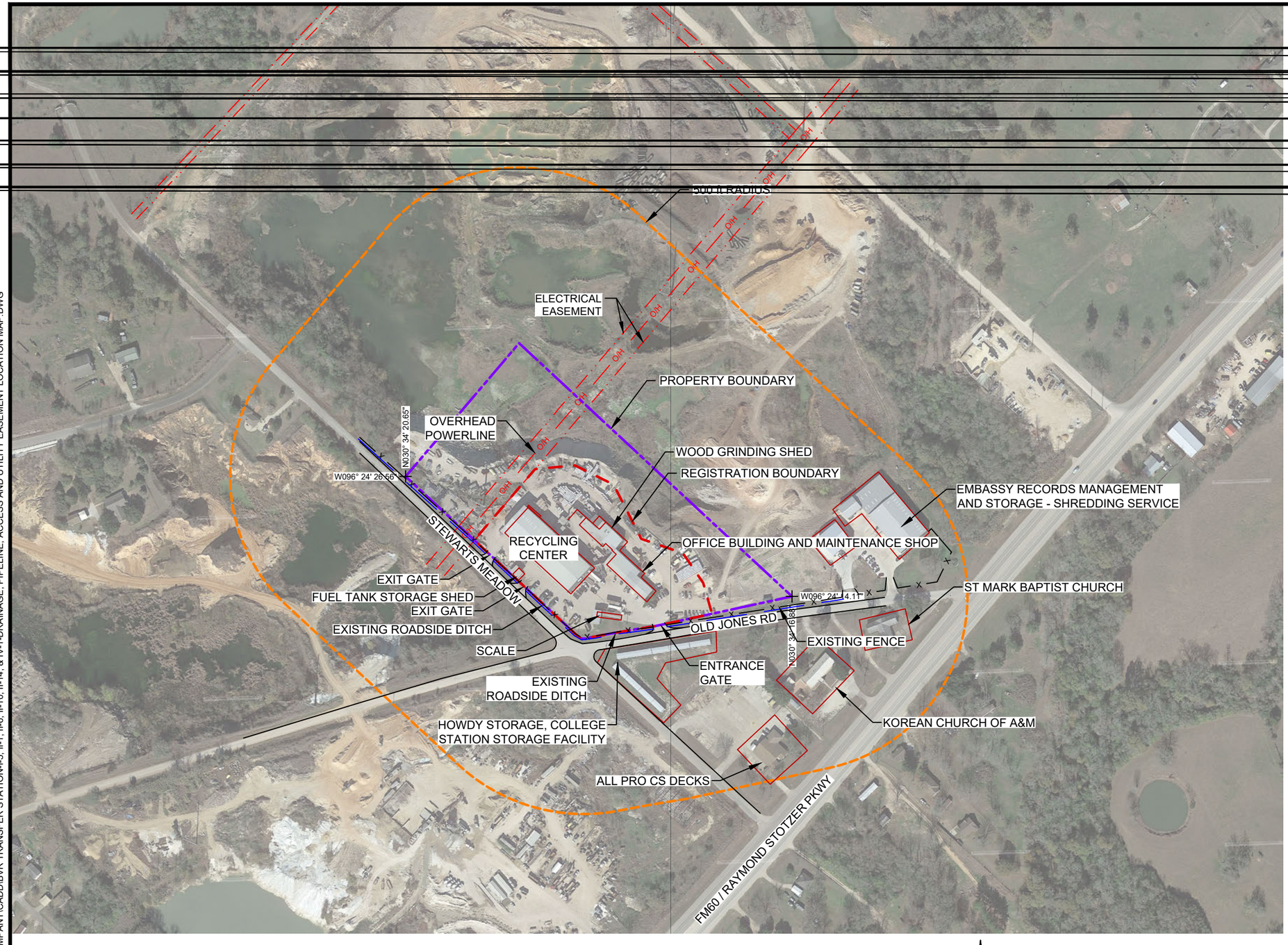
COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-9E
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-9A, II-9B, II-9C, II-9D, & II-9E-FACILITY LOCATION ON 20XX AERIAL PHOTOGRAPH.DWG		



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REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

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STATE OF TEXAS
GARY RUSSELL HORWITCH
84456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

DRAINAGE, PIPELINE, AND UTILITY EASEMENT MAP BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

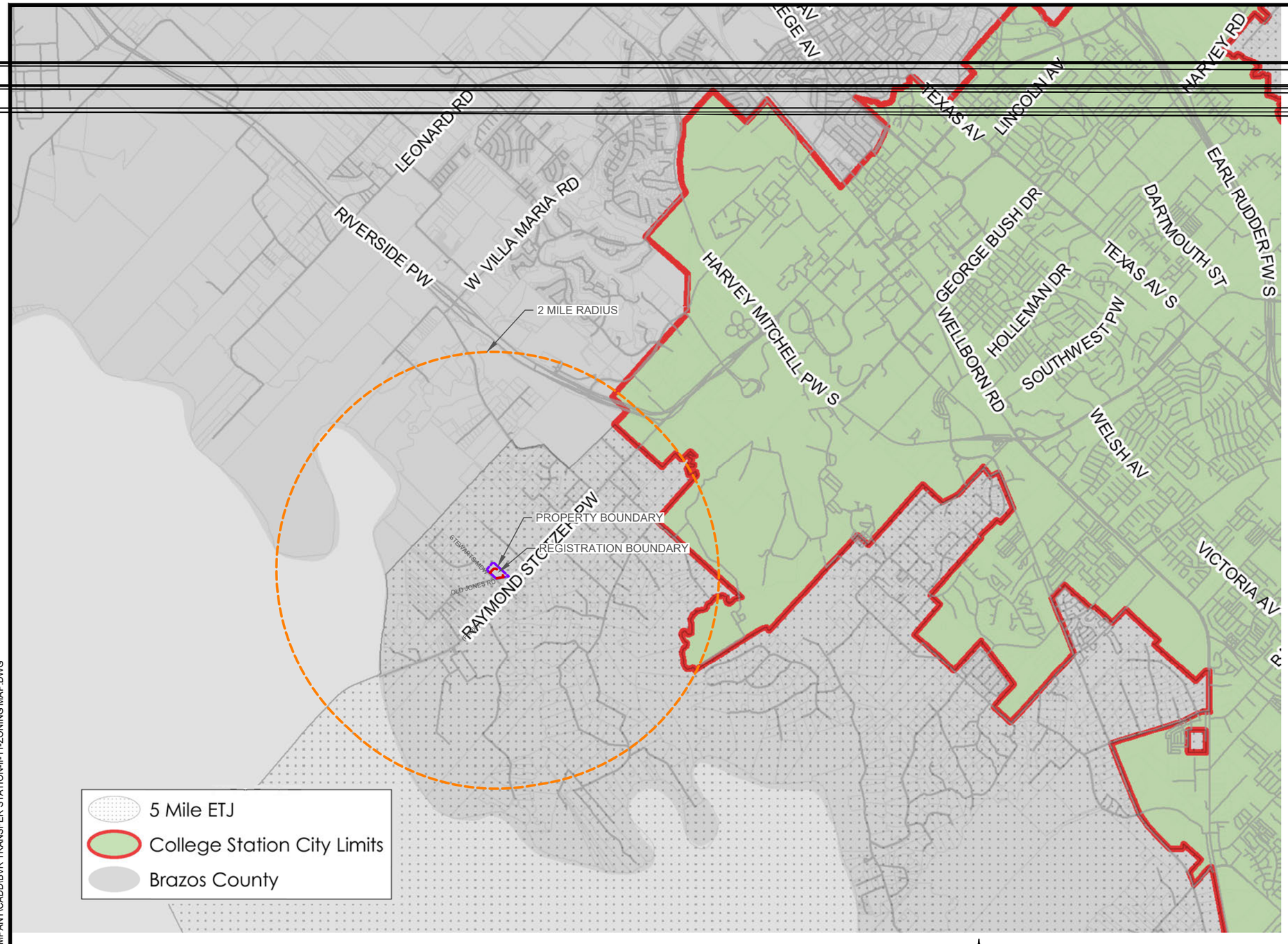
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-10
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG



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STATE OF TEXAS
GARY RUSSELL HORWITCH
84594
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PROFESSIONAL ENGINEER
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09-17-24

NOTE

1. THE ACCURACY OF THIS DATA IS LIMITED TO THE VALIDITY AND ACCURACY OF AVAILABLE DATA, AND THEREFOR THE CITY MAKES NO REPRESENTATION OR WARRANTIES AS TO THE ACCURACY OF THE DATA. ANY PARTY USING THE DATA DOES SO AT THEIR OWN RISK. THIS DATA IS PRODUCED PURSUANT TO THE TEXAS PUBLIC INFORMATION ACT. FOR SPECIFIC QUESTIONS REGARDING THIS PLAN CONTACT PLANNING AND DEVELOPMENT SERVICES.

ISSUED FOR PERMITTING

REFERENCE(S)

1. BASE MAP TAKEN FROM THE CITY OF COLLEGE STATION (JUNE 2020), ACCESSED NOVEMBER 2021. HTTPS://P1CDN4STATIC.CIVICLIVE.COM/USERFILES/SERVERS/SERVER_12410832/FILE/DEPARTMENTS/PDS/MAPS/ZONING062020.PDF

N

1 MILE 0 1 MILE

Title:

ZONING MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-11
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-11-ZONING MAP.DWG		

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SOIL TYPES

SYMBOL	MAP UNIT NAME
BoA	BOONVILLE FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES
BoB	BOOBVILLE FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
ChC	CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
ChD	CHAZOS LOAMY FINE SAND, 5 TO 8 PERCENT SLOPES
DuC	DUTEK LOAMY FIND SAND, 3 TO 8 PERCENT SLOPES
EuB	EUFAULA LOAMY FINE SAND, 1 TO 3 PERCENT SLOPES
GrC	GREDGE FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
GrD	GREDGE FINE SANDLY LOAM, 5 TO 8 PERCENT SLOPES
HbA	HIGHBANK SILT LOAM, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
PaC	PADINA LOAMY FIND SAND, 1 TO 5 PERCENT SLOPES
Pt	PITS
RaB	RADER FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
RoB	ROCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
Rr	ROETEX CLAY, FREQUENTLY FLOODED, FREQUENTLY PONDED
ShA	SHIPS CLAY, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
ShC	SHIPS CLAY, 1 TO 5 PERCENT SLOPES, RARELY FLOODED
SmC	SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
SmD	SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
TaA	TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
Uh	UHLAND LOAM, FREQUENTLY FLOODED
W	WATER
WeA	WESWOOD SILT LOAM, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
WeC	WESWOOD SILT LOAM, 1 TO 5 PERCENT SLOPES, RARELY FLOODED
WwA	WESWOOD SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
Wy	WESWOOD-YAHOLA COMPLEX, FREQUENTLY FLOODED
YaB	YAHOLA FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED
ZaB	ZACK FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
ZaD	ZACK FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
ZaE3	ZACK FINE SANDY LOAM, 8 TO 25 PERCENT SLOPES SEVERLY ERODED
ZuB	ZULCH FIND SANDY LOAM, 1 TO 3 PERCENT SLOPES

REFERENCE

BASE MAP TAKEN FROM GOOGLE EARTH PRO, DATED DECEMBER 29, 2019.

SOIL DATA TAKEN FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICES. NATIONAL SOIL SURVEY HANDBOOK. (HTTPS://WEBSOILSURVEY.SC.EGOV.USDA.GOV/) BRAZOS COUNTY AND BURLESON COUNTY, TEXAS SURVEY AREA: VERSION 19, DATED JUNE 11, 2020.

N

500' 0 500'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84594
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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Title:

SOIL MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

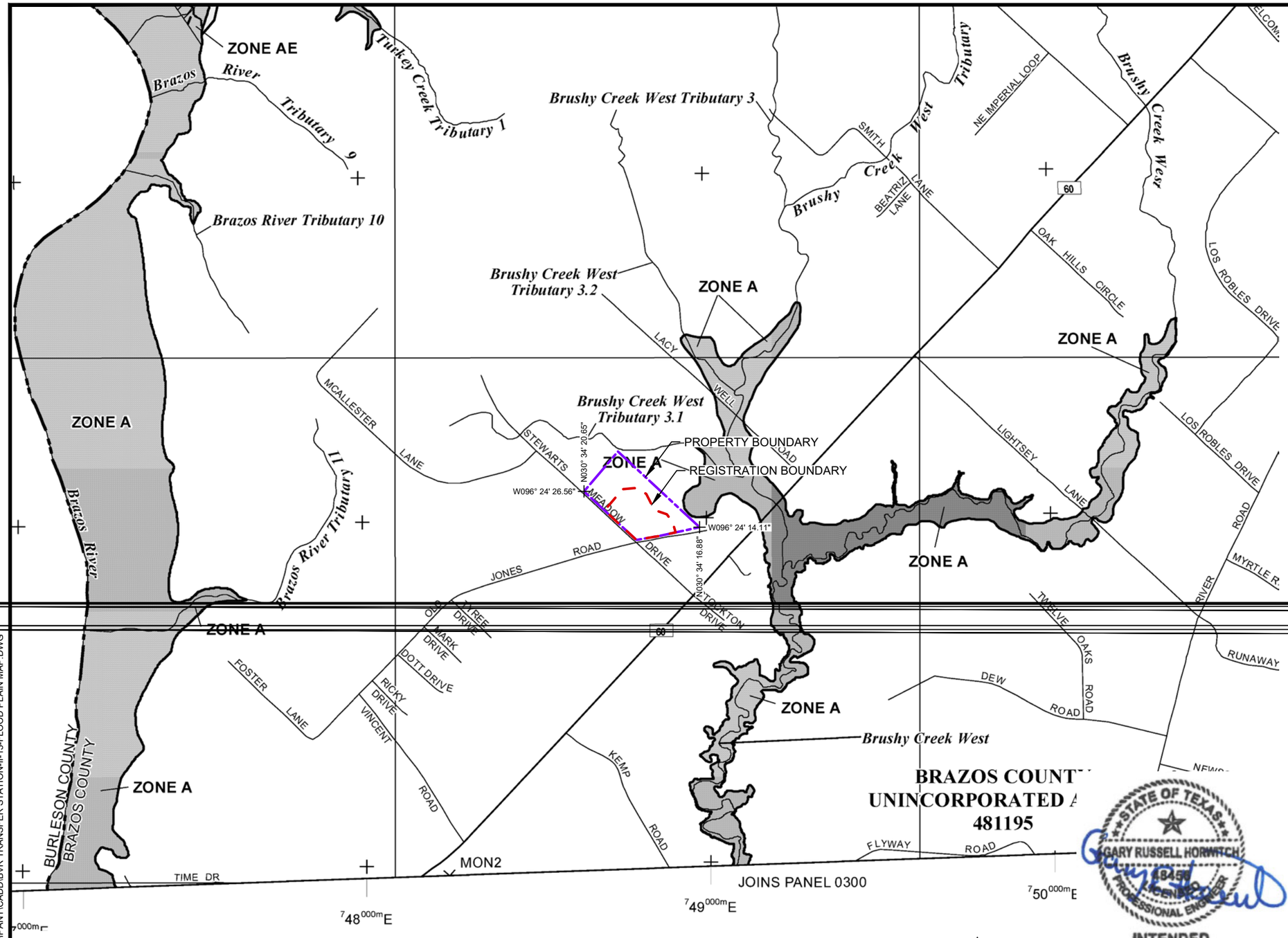
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-12
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-12-SOIL MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-12-SOIL MAP.DWG



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0285E

FIRM
FLOOD INSURANCE RATE MAP
BRAZOS COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 285 OF 475
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINING:

COMMUNITY	NUMBER	PANEL	SUFFIX
BRAZOS COUNTY	481195	0285	E
BRYAN, CITY OF	480082	0285	E
COLLEGE STATION, CITY OF	480083	0285	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 48041C0285E
MAP REVISED MAY 16, 2012

Federal Emergency Management Agency

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE
The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS
- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS
- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS
OTHERWISE PROTECTED AREAS (OPAs)
CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- Culvert
- Bridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT — 5000-foot ticks: Texas State Plane Central Zone (FIPS Zone 4203), Lambert Conformal Conic projection
- 1000-meter Universal Transverse Mercator grid values, zone 14
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
July 2, 1992

LEGEND

- ZONE A — FLOOD HAZARD AREA
- ZONE AE — FLOOD HAZARD AREA

REFERENCE(S)

1. FLOOD INSURANCE RATE MAP TAKEN FROM FEMA FLOOD MAP SERVICE CENTER, DELIVERED IN PDF, <HTTP://MSC.FEMA.GOV/PORTAL> (ACCESSED APRIL 2023).

STATE OF TEXAS
GARY RUSSELL HORWITCH
84591
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PROFESSIONAL ENGINEER

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09-17-24

N

1000' 0 1000'

ISSUED FOR PERMITTING

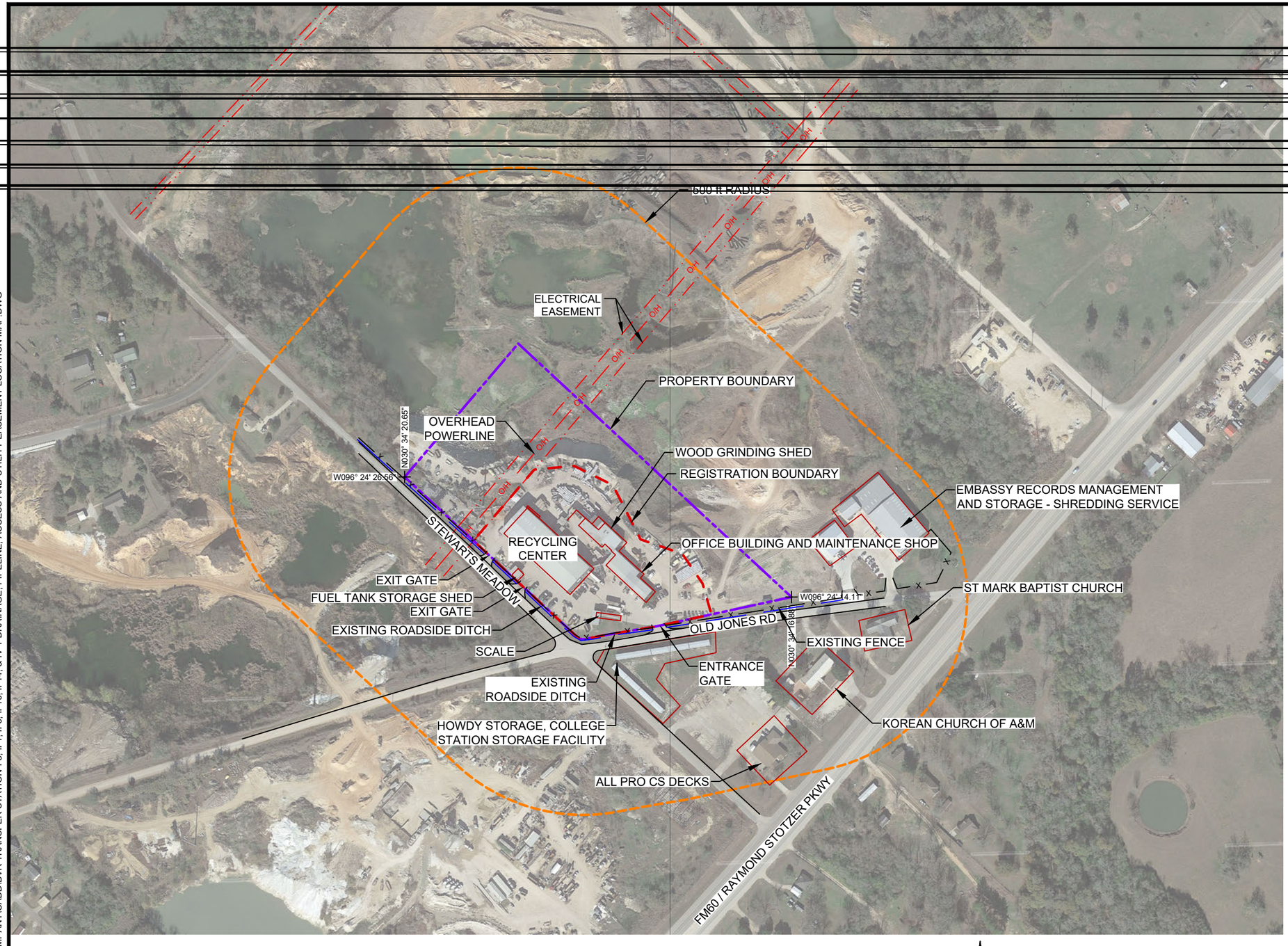
Title:
FLOOD PLAIN MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-13
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-13-FLOOD PLAIN MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-13-FLOOD PLAIN MAP.DWG



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REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

N

300' 0 300'

STATE OF TEXAS
GARY RUSSELL HORWITCH
104580
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

ISSUED FOR PERMITTING

Title:

SITE DEVELOPMENT PLAN - EXISTING SITE LAYOUT BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

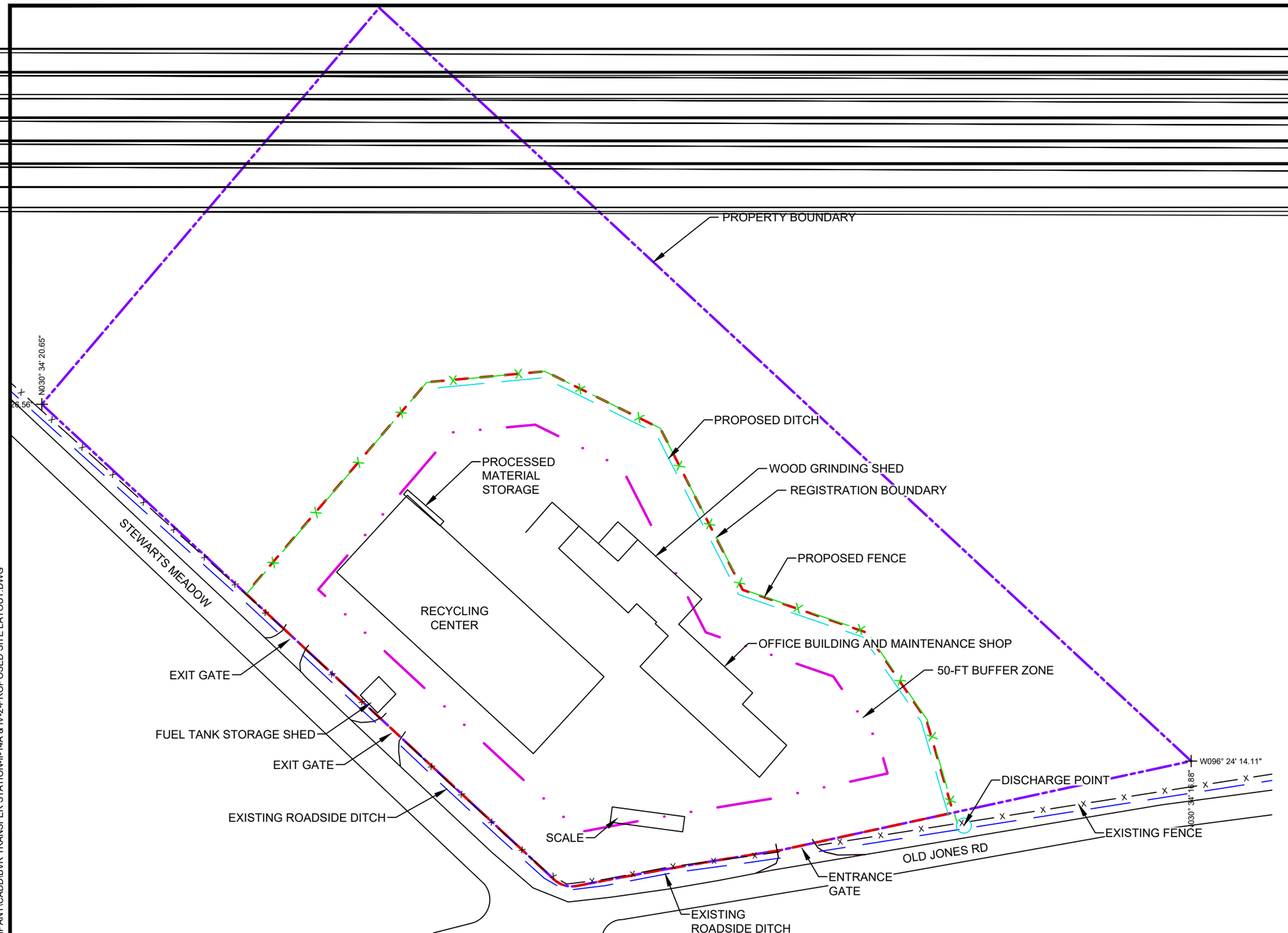
COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-14
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG		



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REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

GARY RUSSELL HORWITCH 84456 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

INTENDED FOR PERMITTING PURPOSES ONLY 09-17-24

ISSUED FOR PERMITTING

Title:

SITE DEVELOPMENT PLAN - PROPOSED SITE LAYOUT BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/26/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	II-14A
File: BVR TRANSFER STATION-II-14A & IV-2-PROPOSED SITE LAYOUT.DWG		

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OIL AND GAS WELLS WITHIN 1 MILE

TEXAS RAILROAD COMMISSION 2016

MAP ID	API NUMBER	MAP ID	API NUMBER	MAP ID	API NUMBER
OG-4	4131442	OG-12	4131925	HZ-1	4132198
OG-5	4131457	OG-13	4131925	HZ-2	4132236
OG-6	4131519	OG-14	4131986	HZ-3	4131574
OG-7	4131519	OG-15	4131992	HZ-4	4131519
OG-8	4131534	OG-16	4132359	HZ-5	4131534

THERE IS ONE PLUGGED GAS WELL WITHIN 500 FT OF THE PERMIT BOUNDARY WHICH WILL NOT AFFECT LANDFILL OPERATIONS.

REFERENCE(S)

1. BASE MAP TAKEN FROM BING.COM REFERENCED IN FEBRUARY 2021.
2. OIL AND GAS WELL INFORMATION PROVIDED BY TEXAS RAILROAD COMMISSION, PUBLIC GIS VIEWER, DATED APRIL 10, 2023, HTTPS://GIS.RRC.TEXAS.GOV/GISVIEWER/

N

2000' 0 2000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84538
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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Title:

TRRC OIL AND GAS WELL SEARCH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	II-15
File: BVR TRANSFER STATION-II-5 & II-15-WATER WELL AND OIL AND GAS WELL LOCATION MAP.DWG		

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Attachment IIA
Historical and Cultural Resources

Attachment IIA-1
Texas Historical Commision (THC) Correspondence

Review Request Confirmation

Your request for consultation has been successfully submitted to the Texas Historical Commission.

Project Name: BVR Waste and Recycling Transfer Station

Track Number: 202500666

Date Received: 9/24/2024 3:06:10 PM

Due Date: 10/24/2024 3:06:10 PM

Thank you!

September 19, 2024

Mr. Mark Wolfe
State Preservation Office
Texas Historical Commission
108 W. 16th Street
Austin, Texas 78701

Re: Archaeological/Historical Resources Review
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

Dear Mr. Wolfe:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, Brazos County, Texas. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

Attachment 1 is a project summary and site location maps. **Attachment 2** is a cultural resources background study performed by Cox | McLain Environmental Consulting, Inc. dated February 3, 2021, for the site. According to the study's findings, there are six (6) historical resources identified from 0.5 miles to 1.0 miles from the site and two (2) historic-age cemeteries. However, due to commercial development and disturbances in the area, "the potential for prehistoric or historic-age cultural resources is considered negligible. Further, no known sites or historic properties will be impacted by the project. Consequently, no further archeological study is recommended prior to construction activities."

In accordance with the current Texas Administrative Code 30 TAC §330.61(o), we are requesting a review from the Texas Historical Commission documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – Cultural Resources Background Study (Cox | McLain)

ATTACHMENT 1

Attachment 1
Project Summary

1. Introduction

Brannon Industrial Group, LLC (“BIG”) is preparing a Registration Application (RA) to be submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division for an operation of the BVR Waste and Recycling Transfer Station (“Facility” or “Site”), a Type V Transfer Station. The Facility is located with the extraterritorial jurisdiction of City of College Station, Brazos County, Texas.

BVR Waste and Recycling Transfer Station occupies 4.419 acres of a 10-acre tract owned by BIG. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

2. Facility Location

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

The Facility is located on the property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

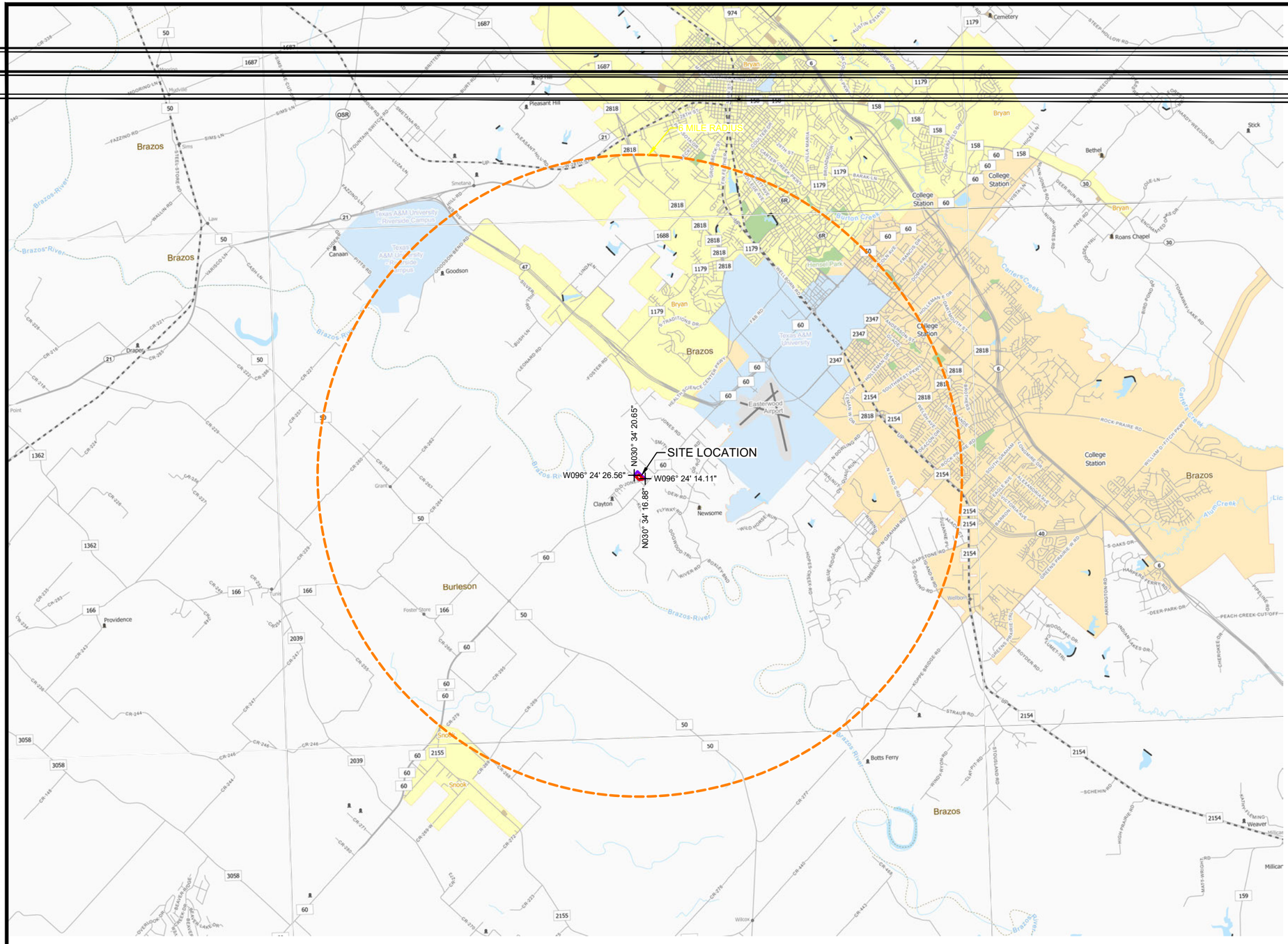
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
48456
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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N

2 MILES 0 2 MILES

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

Title:

GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

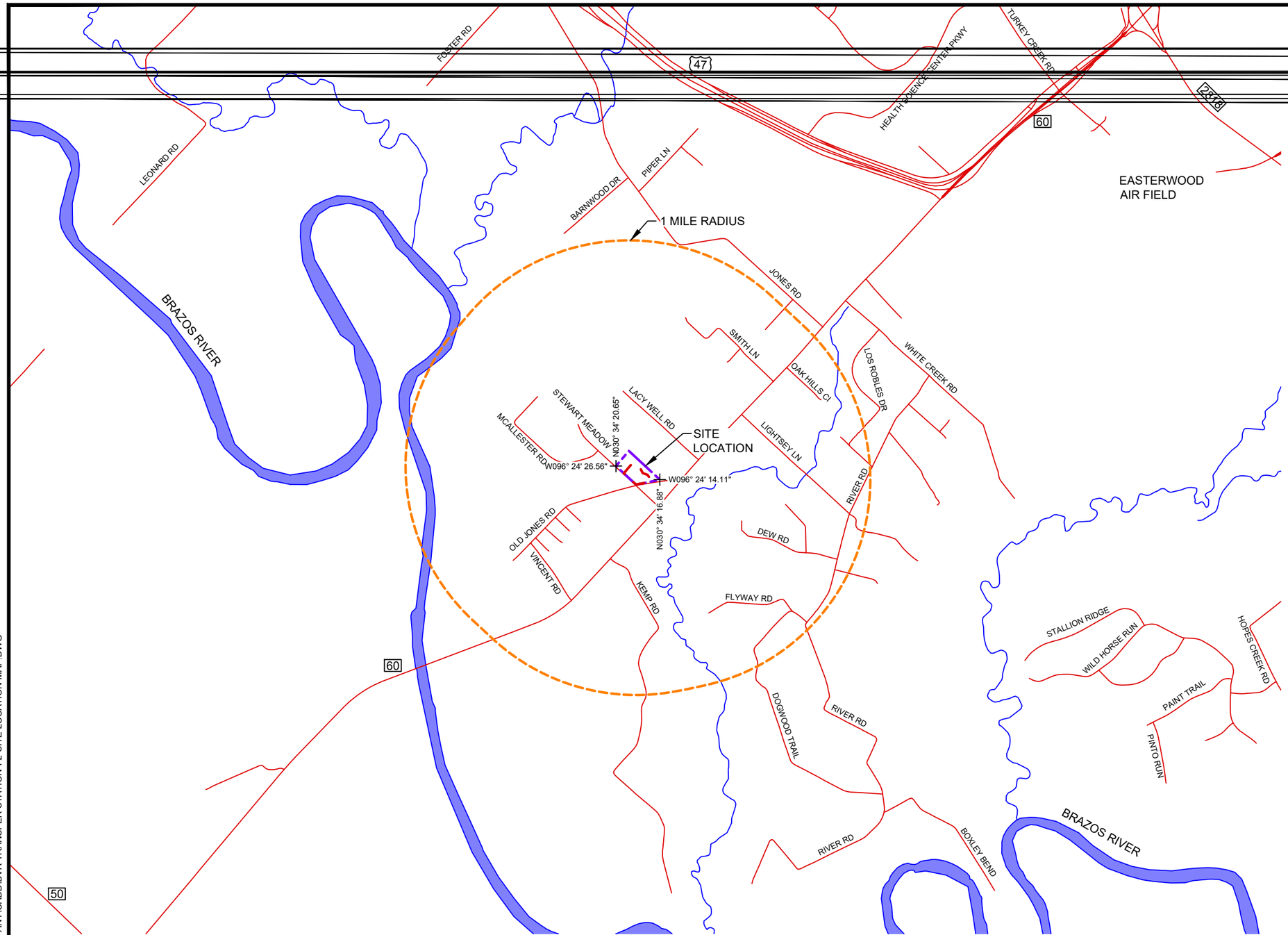
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

1/2 MILE 0 1/2 MILE

STATE OF TEXAS
GARY RUSSELL HORWITCH
68456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

N

Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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STATE OF TEXAS
GARY RUSSELL HORWITCH
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

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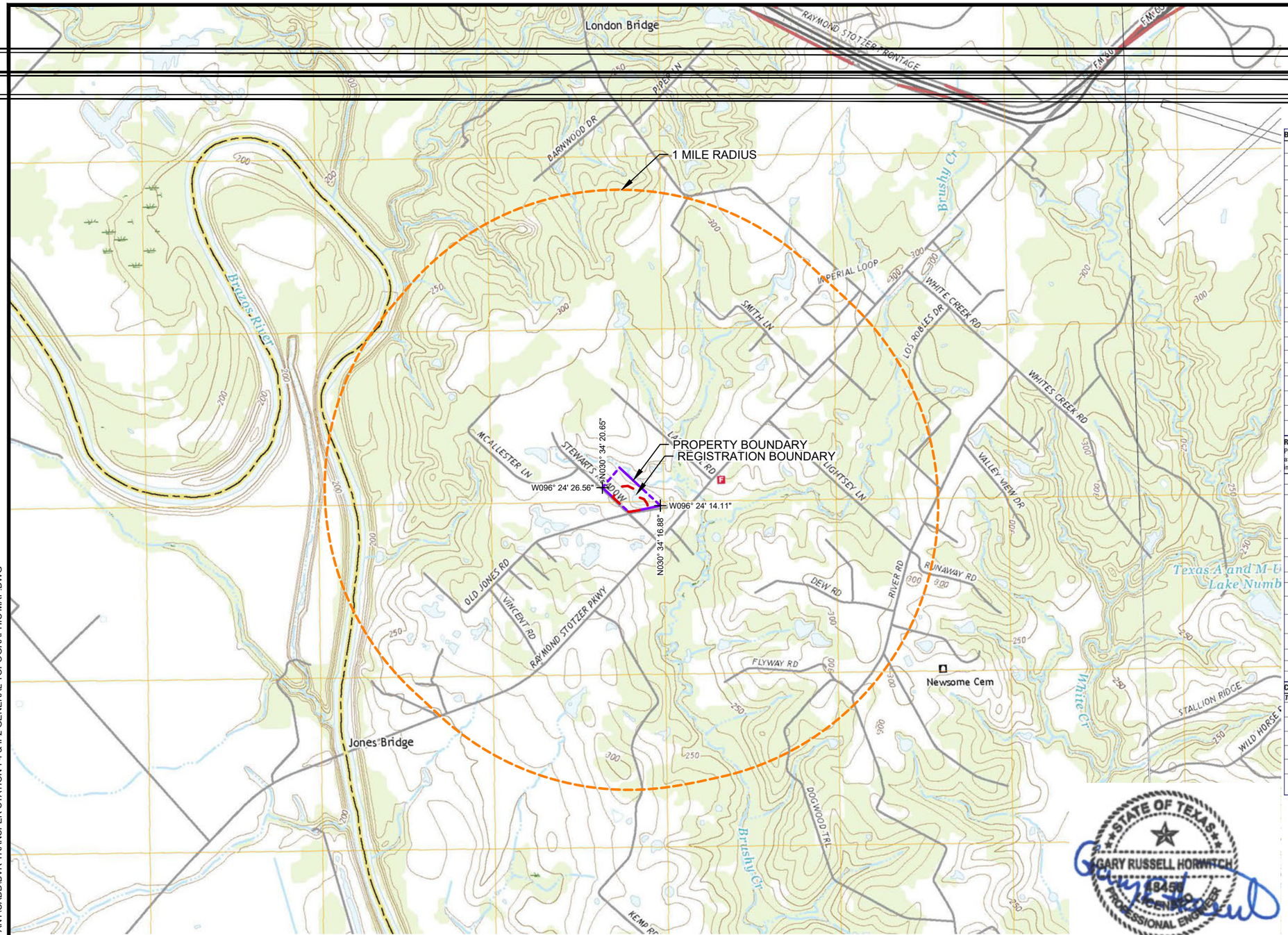

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ○ 9134 BM 277)
- Third-order or better elevation, recoverable mark, no tablet (5628)
- With number and elevation (67 ○ 4567)

Horizontal control

- Third-order or better, permanent mark (Neace Neace)
- With third-order or better elevation (BM 62 Pike BM393)
- With checked spot elevation (1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84550
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	I-4
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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ATTACHMENT 2

Attachment 2
Cultural Resources Background Study
(Cox | McLain Environmental)

COX | McLAIN
Environmental Consulting

3 February 2021

Ms. Ashley Thompson
Golder Associates
14950 Heathrow Forest Parkway, Suite 280
Houston, Texas 77032

RE: Cultural Resources Background Study for the Brazos Valley Recycling Project, Brazos County, Texas (Golder Project #20442070)

Dear Ms. Thompson:

Cox|McLain Environmental Consulting, Inc. (CMEC) cultural resources personnel conducted a desktop review for approximately 12 acres of privately owned property associated with the Brazos Valley Recycling Project located in southwestern Brazos County, Texas. The project area is bounded by Stewarts Meadow Road on the southwest, Old Jones Road on the southeast, and by developed commercial properties to the northwest and northeast (**Figure 1**).

The 12-acre project area will be privately owned and developed; however, the project may require U.S. Army Corps of Engineers (USACE) oversight per Section 404 of the Clean Water Act, which in turn triggers compliance with the Section 106 of the National Historic Preservation Act, as amended. The project has no known state nexus; therefore, the Antiquities Code of Texas (9 TNRC 191) does not apply at this time.

CMEC understands that USACE has not designated a formal archeological area of potential effects (APE) for the project; consequently, CMEC has conservatively estimated that the entire 12-acre project footprint comprises the horizontal APE for the project. No design or development plans have been made available at this time; therefore, the anticipated depth of impacts (e.g., vertical APE) is not yet known.

The APE is located at elevations between 240 and 290 feet (73.2 to 88.4 meters) above mean sea level and is situated in the Southern Post Oak Savanna subregion of the East Central Texas Plains ecoregion, which consists of a mix of post oak woods, improved pasture, and rangeland. Many areas of this subregion have more dissected and irregular topography than the Northern Post Oak Savanna to the north. Soils in this subregion are generally acidic and have an ustic soil moisture regime and more sand and sandy loam surface textures than are found in surrounding regions (Griffith et al. 2007). The APE is not intersected by any mapped waterways; however, an unnamed tributary of Brushy Creek flows approximately 110 meters (361 feet) to the east.

Geologically, the APE is underlain by the interface between two lithological units: Pleistocene-age High Gravel Deposits associated with the nearby Brazos River and the Eocene-age Yegua Formation. High Gravel Deposits consist of gravels and an upper silty clay unit and represent relict channels of the Brazos

River. The Yegua Formation is comprised of sandstone, clay, and lignite with local crossbeds of clay (US Geological Survey [USGS] 2021a).

According to Natural Resources Conservation Service (NRCS) data, the project location lies primarily within areas mapped as Silawa fine sandy loam on 2 to 5 percent slopes (western portion of APE) and 5 to 8 percent slopes (eastern portion), while a small sliver near the APE's southeastern edge is underlain by Robco-Tanglewood Complex soils (**Table 1**; Soil Survey Staff 2021). The Silawa series consists of very deep, well drained, moderately permeable soils that formed in sandy and loamy sediments. The Robco series consists of very deep, moderately well drained, slowly permeable soils that formed in loamy sediments. The Tanglewood series consists of very deep, moderately well drained, slowly permeable soils formed in sandy, clayey, and loamy residuum derived from sandstone, claystone and shale. None of the mapped soil series are associated with buried A horizons or paleosols.

Table 1. Soils Mapped Within the APE

Soil Series	Slope	Landform	Typical Depth of Subsoil (cmbs*)
Silawa fine sandy loam	2–5, 5–8	Stream terraces	33
Robco-Tanglewood Complex	1–5	Ridges/toeslopes	71 / 59
Source: Soil Survey Staff (2021); *centimeters below surface			

Currently, the APE consists of commercial facilities associated with Brazos Valley Recycling and consists of several warehouses, laydown yards, parking lots, and ancillary facilities. The area immediately northeast of these facilities consists of a heavily disturbed region composed of dug-out/mined areas and associated gravel spoil piles.

CMEC conducted a search of the Texas Archeological Sites Atlas (Atlas) maintained by the Texas Historical Commission (THC) and the Texas Archeological Research Laboratory in order to identify archeological sites, historical markers or Official Texas Historic Markers, Recorded Texas Historic Landmarks (RTHLs), properties or districts listed in the National Register of Historic Places (NRHP), State Antiquities Landmarks (SALs), cemeteries, or other cultural resources that may have been previously recorded in or near the project footprint, as well as previous surveys undertaken within a 1-mile (1.6-kilometer) study area around the project area (**Figure 2**).

According to Atlas data, no portion of the project area has been previously subjected to survey. Two known surveys have been conducted within the 1-mile study buffer: a 1993 survey and testing project associated with the Animal Science Testing and Research Complex conducted southwest of the APE by Texas A&M University and an undated linear survey along Farm-to-Market Road 60 for which the Atlas has no other information (**Figure 2**; THC 2021).

No archeological sites have been recorded within the APE, though six sites have been recorded within the one-mile study buffer; all of these sites were recorded during the aforementioned 1993 Texas A&M project. Additionally, two historic-age cemeteries are mapped within the one-mile buffer. Detailed

information for all cultural resources is presented in **Table 2**; none of these resources will be impacted by the proposed project (THC 2021; see **Figure 2**).

Table 2. Cultural Resources Mapped within 1-Mile of the APE

Resource Name	Description	Location	NRHP-eligibility
41BZ109	Late-nineteenth century artifact scatter consisting of glass, metal, and ceramic artifacts.	Approximately 1,300 meters (0.7 miles) southwest of APE	Ineligible
41BZ119	Late-nineteenth century farmstead with concrete foundations and associated artifact scatter.	Approximately 1,400 meters (0.8 miles) southwest of APE	Ineligible
41BZ120	Low-density prehistoric artifact scatter consisting of 1 barbed arrowhead point and associated debitage.	Approximately 1,500 meters (0.9 miles) southwest of APE	Ineligible
41BZ121	Late-nineteenth century artifact scatter consisting of glass, metal, and ceramic artifacts.	Approximately 1,600 meters (1.0 miles) southwest of APE	Ineligible
41BZ122	Multi-component site with chert flakes, fire-cracked rock, and late nineteenth century debris.	Approximately 740 meters (0.5 miles) southwest of APE	Ineligible
41BZ123	Early twentieth century artifact scatter consisting of glass, metal, and ceramic artifacts.	Approximately 1,600 meters (1.0 miles) southwest of APE	Ineligible
Brushy Cemetery	Historic-age cemetery with 14 interments dating to the early- to mid- twentieth century	Approximately 1,000 meters (0.6 miles) southwest of APE	N/A
Clayton Cemetery	Also known as Clayton Baptist Church Cemetery. Historic-age cemetery with 96 interments dating from the mid-twentieth century to the present.	Approximately 1,600 meters (1.0 miles) south of APE	N/A
Source: THC (2021)			

According to the Hybrid Potential Archeological Liability Map (PALM) dataset, the entire APE lies within two map units: Map Units 0 and 7. Approximately 9.6 acres (80 percent) of the APE fall within Map Unit 0 (negligible potential) while the remaining 2.4 acres (20 percent) fall within Map Unit 7 (high shallow potential, low deep potential (**Figure 3**; Abbott and Pletka 2016). Map Unit 0 seems to broadly correspond to areas that were mined for gravel in the 1990s through the 2000s (**Figure 4**; see description below), while Map Unit 7 corresponds to unmined areas that have since been disturbed by commercial buildings, lay down yards, and parking lots.

Historic topographic maps and aerial imagery were also reviewed to examine how the project locale and its associated industrial dump have been used over time. Reviewed materials include historic topographic maps from the years 1954, 1956, 1962, and 1993 (National Environmental Title Research [NETR] 2021;

USGS 2021b) and aerial imagery from the years 1960, 1971, 1981, 1984, 1985, 1995, 2003, 2004, and 2008–2018 (Google Earth Pro™ 2021; NETR 2021).

The earliest topographic map, the 1954 1:250,000-scale Austin map, is presented at too coarse of a scale to depict individual structures, but it does depict Farm-to-Market Road 60 in its current alignment and shows Brushy Creek as an intermittent stream. The 1956 1:62,500-scale Bryan map has more detail and depicts the APE as undeveloped. Old Jones Road is depicted in its current alignment, and 11 structures are depicted to the southwest and southeast of the APE (including two labeled St. Marks Church and Brushy Church). The 1962 1:24,000-scale Chances Store map shows the area north-adjacent to the APE as a gravel mine with two excavated ponds. The 1993 1:100,000-scale Bryan map once again is presented at too coarse of a scale to depict structures, but Stewarts Meadow Road is shown for the first time. No other changes to the APE or its surroundings are observable.

The earliest available aerial imagery, dated 1960, confirms the information presented in the 1956 topographic map and shows the APE as undeveloped scrub brush adjacent to Old Jones Road. Residential and commercial development south of Farm-to-Market Road 60 expands throughout the 1960s, 1970s, and 1980s but no development within the APE is apparent. The situation changes dramatically by the 1995 imagery, when extensive ground disturbance associated with gravel mining is apparent not only within the APE but to the west and north. By 2004, virtually the entire APE appears to have been excavated by the gravel mining operation (**Figure 4**). By 2008, metal warehouses and a gravel parking lot are observable within the APE's southwest corner and much of the mined area to the east has become revegetated. Although commercial and residential development continues to occur in the surrounding region over the following years, no major changes to the APE are observable (Google Earth Pro™ 2021; NETR 2021).

Summary and Recommendations

No previously recorded cultural resources are known to be present within the APE, which appears to be substantially and pervasively disturbed by a combination of gravel mining operations and commercial development. While the HPALM model maps approximately 20 percent of the APE as falling in locations where the potential for shallow cultural deposits is high, the model does not take disturbance associated with modern commercial developments into consideration.

Based upon the evidence for gravel mining and commercial development, the potential for prehistoric or historic-age cultural resources is considered negligible. Further, no known sites or historic properties will be impacted by the project. Consequently, no further archeological study is recommended prior to construction activities.

The project has a low probability of encountering human burials; however, if burials are found, Brazos County and the THC should be notified, and all requirements of 8 THSC 711 should be followed. If any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, the work should cease in that area and USACE and THC personnel should be notified immediately. During evaluation of the finds and coordination with the THC, clearing, preparation, and/or

construction could continue in any other areas along the corridor where no such deposits or materials are observed.

Please let me know if you have any questions or require additional information. Thank you for allowing us to support Golder on this project.

Sincerely,

Scotty Moore, MA, RPA
Senior Archeologist

References

Abbott, J.T and S. Pletka.
2016 *Bryan District Hybrid Potential Archeological Liability Map.* Texas Department of Transportation, Austin.

Google Earth Pro™
2021 Historic Aerial Imagery viewed through Google Earth. Available at https://www.google.com/earth/. Accessed 1 February 2021.

Griffith, G.E., S.A. Bryce, J.M. Omernik, J.A. Comstock, A.C. Rogers, B. Harrison, S.L. Hatch, and D. Bezanson
2007 *Ecoregions of Texas.* United States Geological Survey. Available at ftp://ftp.epa.gov/wed/ecoregions/tx/tx_front.pdf. Accessed 1 February 2021.

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Survey Staff, Natural Resources Conservation Service, U.S. Department of Agriculture (NRCS)
2021 Soil Survey Geographic (SSURGO) Database for Brazos County, Texas. Available at http://casoilresource.lawr.ucdavis.edu/soilweb/. Accessed 1 February 2021.

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2021 *Texas Archeological Sites Atlas*. Texas Archeological Research Laboratory and the Texas Historical Commission. Available athttps://atlas.thc.state.tx.us/Account/Login. Accessed 1 February 2021.

United States Geological Survey (USGS)
2021a *Pocket Texas Geology*. United States Geological Survey. Available at https://txpub.usgs.gov/txgeology/. Accessed 1 February 2021.

2021b *USGS Historical Topographic Map Explorer*. United States Geological Survey. Available at http://historicalmaps.arcgis.com/usgs/. Accessed 1 February 2021.

Figures

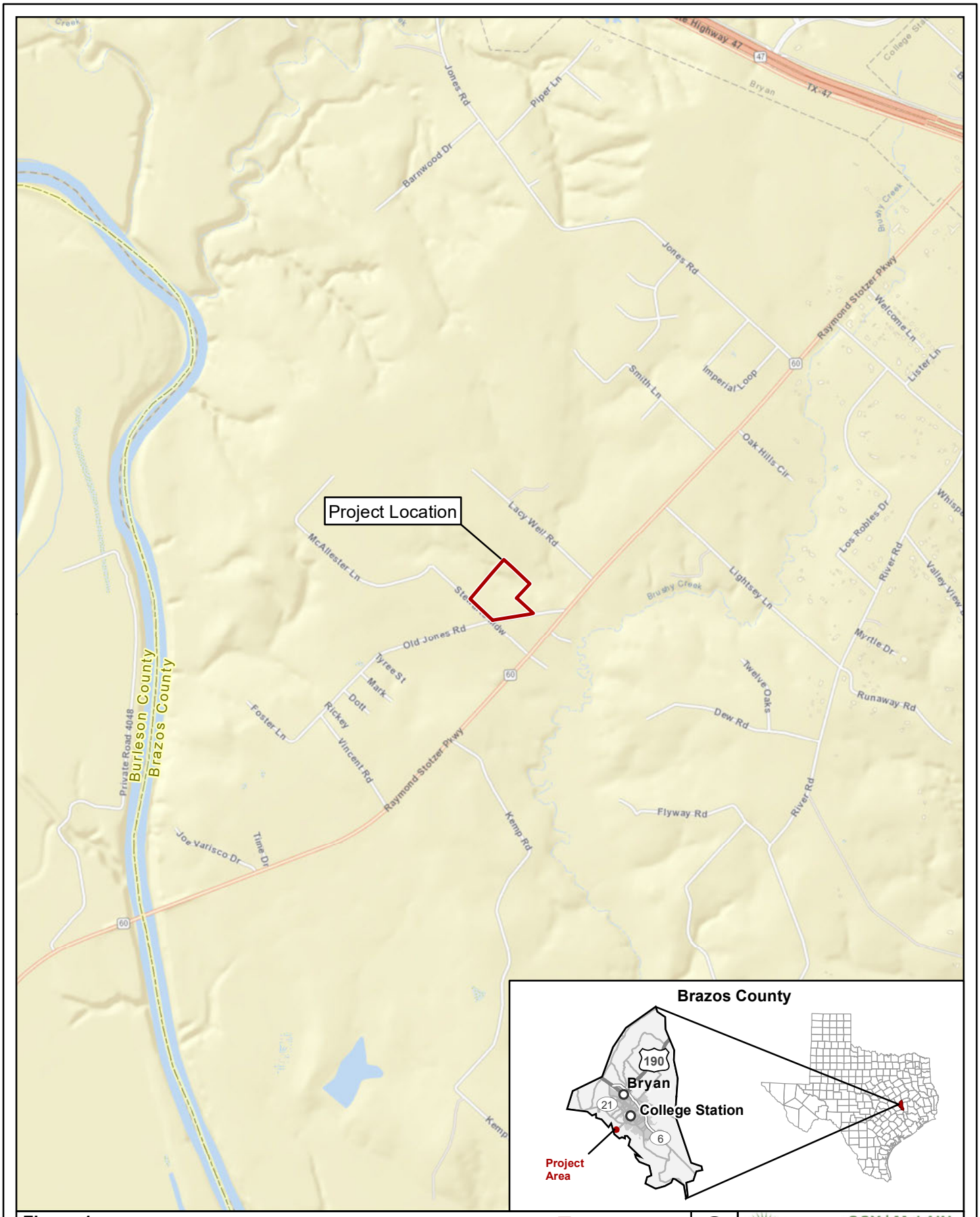

Figure 1.
Project Location (Road Base)

Brazos Valley Recycling

COX | McLAIN Environmental Consulting

1 in = 2,000 feet
Scale: 1:24,000
Date: 2/2/2021

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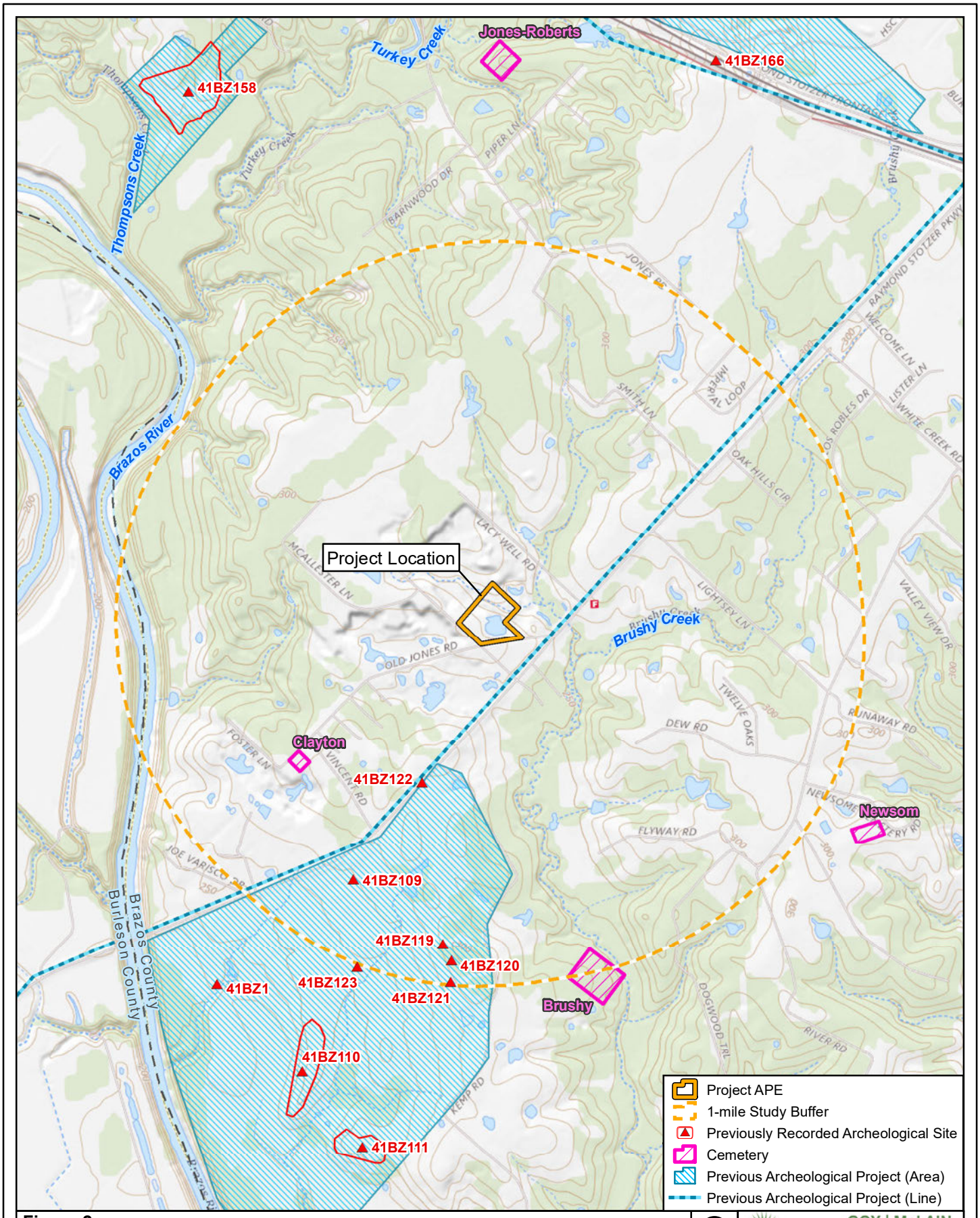

Figure 2.
Location of Archeological APE

Brazos Valley Recycling

Data Sources: THC (2020), TARL (2020), NHD (2020)
Topographic Source: USGS (2020)
USGS 7.5' Quadrangle: Chances Store

COX | McLAIN Environmental Consulting

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 2/2/2021

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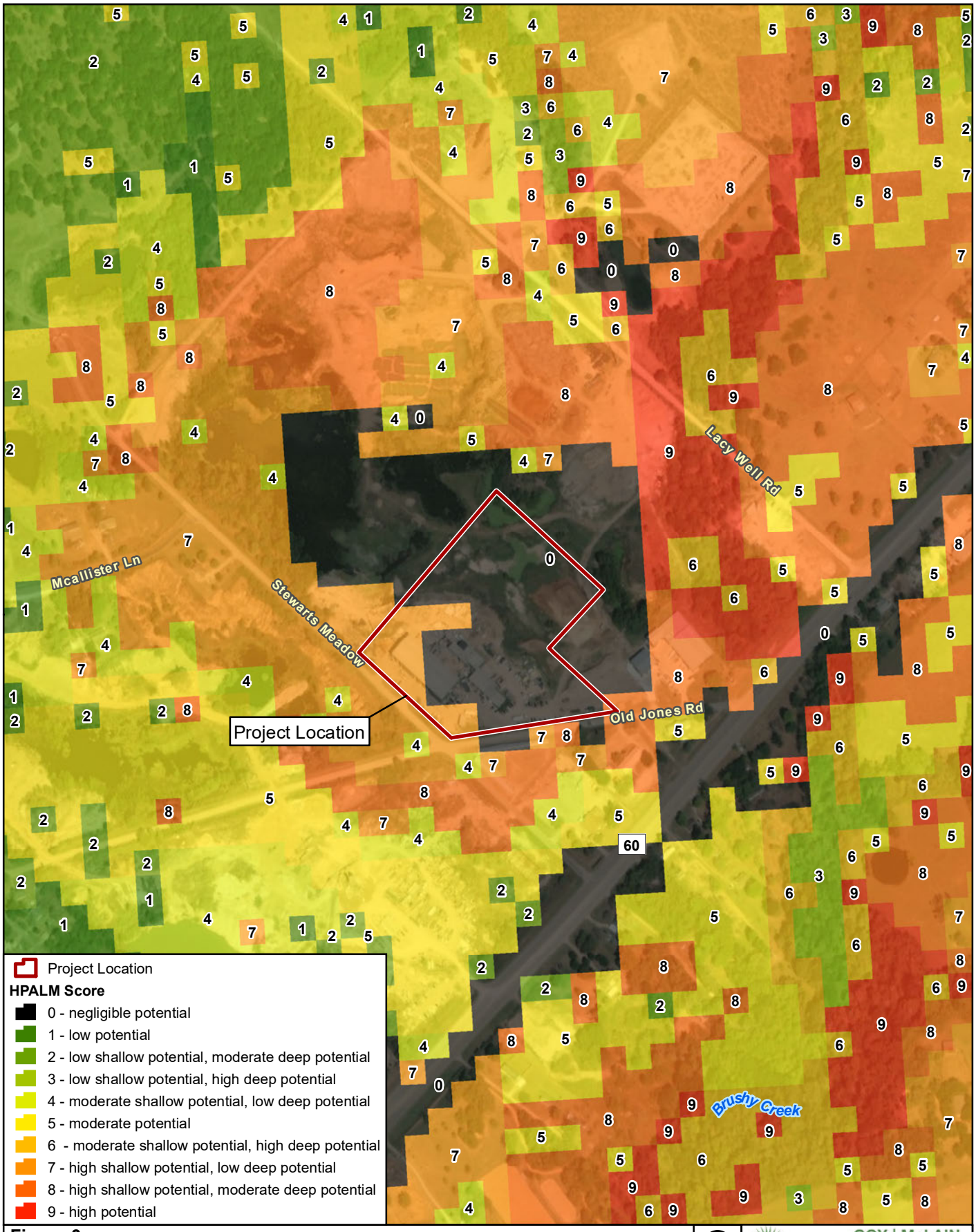

Figure 3.
HPALM Map

Brazos Valley Recycling

Data Source: TxDOT (2020)
Aerial Source: Maxar (2019)

COX | McLAIN
Environmental Consulting

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 2/1/2021

G:\Projects\Golder\Brazos Valley Recycling\Brazos_Valley_Recycling_Arch_Figure 3_HPALM_20210201_LG.mxd

Figure 4. Aerial view of the APE (in green) circa 2004 showing extensive disturbance associated with gravel mining.

Attachment IIA-2
Cultural Resources Background Study
(Cox | McLain Enviornmental)

COX | McLAIN
Environmental Consulting

3 February 2021

Ms. Ashley Thompson
Golder Associates
14950 Heathrow Forest Parkway, Suite 280
Houston, Texas 77032

RE: Cultural Resources Background Study for the Brazos Valley Recycling Project, Brazos County, Texas (Golder Project #20442070)

Dear Ms. Thompson:

Cox|McLain Environmental Consulting, Inc. (CMEC) cultural resources personnel conducted a desktop review for approximately 12 acres of privately owned property associated with the Brazos Valley Recycling Project located in southwestern Brazos County, Texas. The project area is bounded by Stewarts Meadow Road on the southwest, Old Jones Road on the southeast, and by developed commercial properties to the northwest and northeast (**Figure 1**).

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Soil Series	Slope	Landform	Typical Depth of Subsoil (cmbs*)
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Robco-Tanglewood Complex	1–5	Ridges/toeslopes	71 / 59
Source: Soil Survey Staff (2021); *centimeters below surface			

Currently, the APE consists of commercial facilities associated with Brazos Valley Recycling and consists of several warehouses, laydown yards, parking lots, and ancillary facilities. The area immediately northeast of these facilities consists of a heavily disturbed region composed of dug-out/mined areas and associated gravel spoil piles.

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Table 2. Cultural Resources Mapped within 1-Mile of the APE

Resource Name	Description	Location	NRHP-eligibility
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41BZ119	Late-nineteenth century farmstead with concrete foundations and associated artifact scatter.	Approximately 1,400 meters (0.8 miles) southwest of APE	Ineligible
41BZ120	Low-density prehistoric artifact scatter consisting of 1 barbed arrowhead point and associated debitage.	Approximately 1,500 meters (0.9 miles) southwest of APE	Ineligible
41BZ121	Late-nineteenth century artifact scatter consisting of glass, metal, and ceramic artifacts.	Approximately 1,600 meters (1.0 miles) southwest of APE	Ineligible
41BZ122	Multi-component site with chert flakes, fire-cracked rock, and late nineteenth century debris.	Approximately 740 meters (0.5 miles) southwest of APE	Ineligible
41BZ123	Early twentieth century artifact scatter consisting of glass, metal, and ceramic artifacts.	Approximately 1,600 meters (1.0 miles) southwest of APE	Ineligible
Brushy Cemetery	Historic-age cemetery with 14 interments dating to the early- to mid- twentieth century	Approximately 1,000 meters (0.6 miles) southwest of APE	N/A
Clayton Cemetery	Also known as Clayton Baptist Church Cemetery. Historic-age cemetery with 96 interments dating from the mid-twentieth century to the present.	Approximately 1,600 meters (1.0 miles) south of APE	N/A
Source: THC (2021)			

According to the Hybrid Potential Archeological Liability Map (PALM) dataset, the entire APE lies within two map units: Map Units 0 and 7. Approximately 9.6 acres (80 percent) of the APE fall within Map Unit 0 (negligible potential) while the remaining 2.4 acres (20 percent) fall within Map Unit 7 (high shallow potential, low deep potential (**Figure 3**; Abbott and Pletka 2016). Map Unit 0 seems to broadly correspond to areas that were mined for gravel in the 1990s through the 2000s (**Figure 4**; see description below), while Map Unit 7 corresponds to unmined areas that have since been disturbed by commercial buildings, lay down yards, and parking lots.

Historic topographic maps and aerial imagery were also reviewed to examine how the project locale and its associated industrial dump have been used over time. Reviewed materials include historic topographic maps from the years 1954, 1956, 1962, and 1993 (National Environmental Title Research [NETR] 2021;

USGS 2021b) and aerial imagery from the years 1960, 1971, 1981, 1984, 1985, 1995, 2003, 2004, and 2008–2018 (Google Earth Pro™ 2021; NETR 2021).

The earliest topographic map, the 1954 1:250,000-scale Austin map, is presented at too coarse of a scale to depict individual structures, but it does depict Farm-to-Market Road 60 in its current alignment and shows Brushy Creek as an intermittent stream. The 1956 1:62,500-scale Bryan map has more detail and depicts the APE as undeveloped. Old Jones Road is depicted in its current alignment, and 11 structures are depicted to the southwest and southeast of the APE (including two labeled St. Marks Church and Brushy Church). The 1962 1:24,000-scale Chances Store map shows the area north-adjacent to the APE as a gravel mine with two excavated ponds. The 1993 1:100,000-scale Bryan map once again is presented at too coarse of a scale to depict structures, but Stewarts Meadow Road is shown for the first time. No other changes to the APE or its surroundings are observable.

The earliest available aerial imagery, dated 1960, confirms the information presented in the 1956 topographic map and shows the APE as undeveloped scrub brush adjacent to Old Jones Road. Residential and commercial development south of Farm-to-Market Road 60 expands throughout the 1960s, 1970s, and 1980s but no development within the APE is apparent. The situation changes dramatically by the 1995 imagery, when extensive ground disturbance associated with gravel mining is apparent not only within the APE but to the west and north. By 2004, virtually the entire APE appears to have been excavated by the gravel mining operation (**Figure 4**). By 2008, metal warehouses and a gravel parking lot are observable within the APE's southwest corner and much of the mined area to the east has become revegetated. Although commercial and residential development continues to occur in the surrounding region over the following years, no major changes to the APE are observable (Google Earth Pro™ 2021; NETR 2021).

Summary and Recommendations

No previously recorded cultural resources are known to be present within the APE, which appears to be substantially and pervasively disturbed by a combination of gravel mining operations and commercial development. While the HPALM model maps approximately 20 percent of the APE as falling in locations where the potential for shallow cultural deposits is high, the model does not take disturbance associated with modern commercial developments into consideration.

Based upon the evidence for gravel mining and commercial development, the potential for prehistoric or historic-age cultural resources is considered negligible. Further, no known sites or historic properties will be impacted by the project. Consequently, no further archeological study is recommended prior to construction activities.

The project has a low probability of encountering human burials; however, if burials are found, Brazos County and the THC should be notified, and all requirements of 8 THSC 711 should be followed. If any unanticipated cultural materials or deposits are found at any stage of clearing, preparation, or construction, the work should cease in that area and USACE and THC personnel should be notified immediately. During evaluation of the finds and coordination with the THC, clearing, preparation, and/or

construction could continue in any other areas along the corridor where no such deposits or materials are observed.

Please let me know if you have any questions or require additional information. Thank you for allowing us to support Golder on this project.

Sincerely,

Scotty Moore, MA, RPA
Senior Archeologist

References

Abbott, J.T and S. Pletka.
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Figures

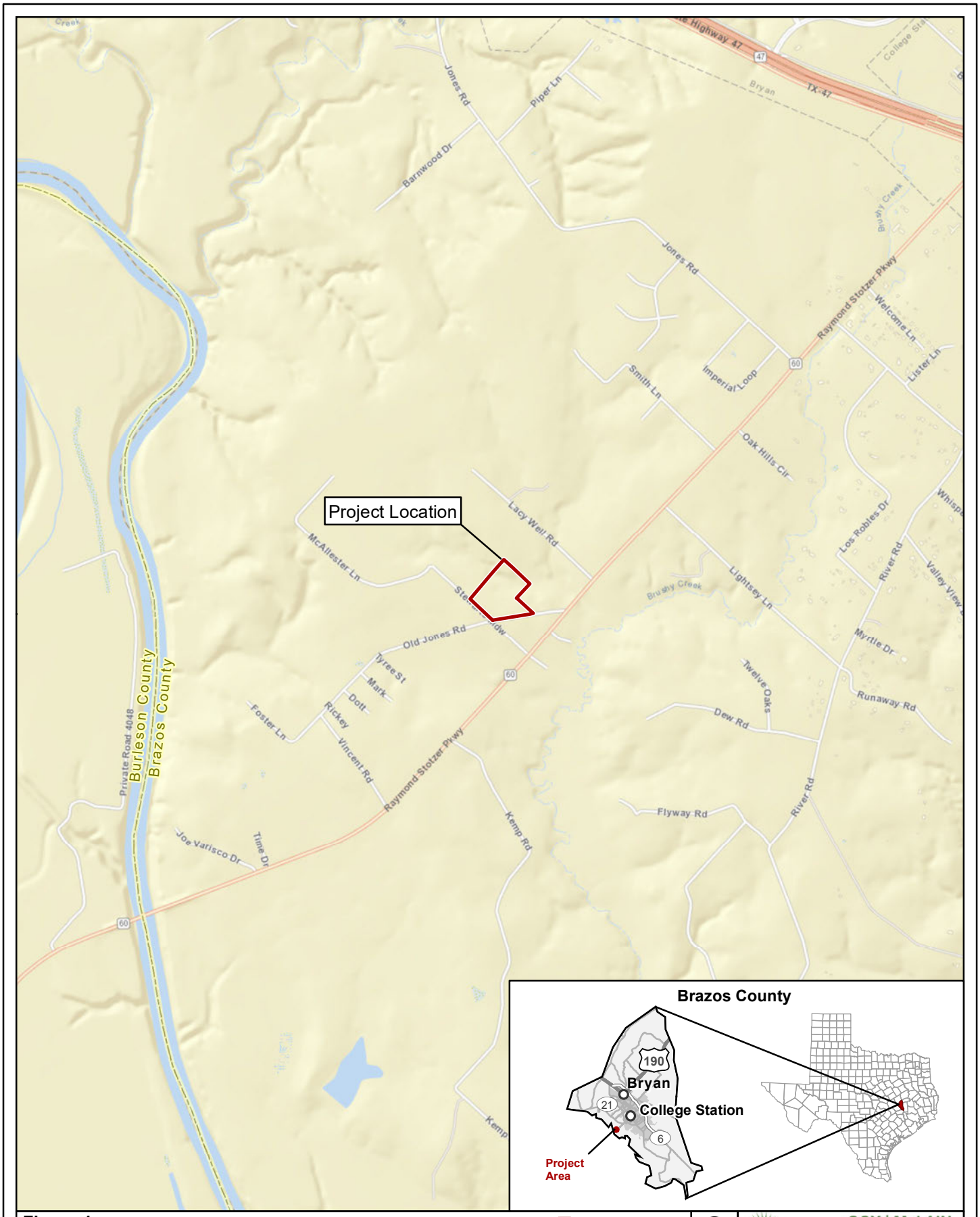


Figure 1.
Project Location (Road Base)

Brazos Valley Recycling

COX | McLAIN Environmental Consulting

1 in = 2,000 feet
Scale: 1:24,000
Date: 2/2/2021

G:\Projects\Golder\Brazos Valley Recycling\Brazos_Valley_Recycling_all_Figure 1_Project Location_Road_20210201_LG.mxd

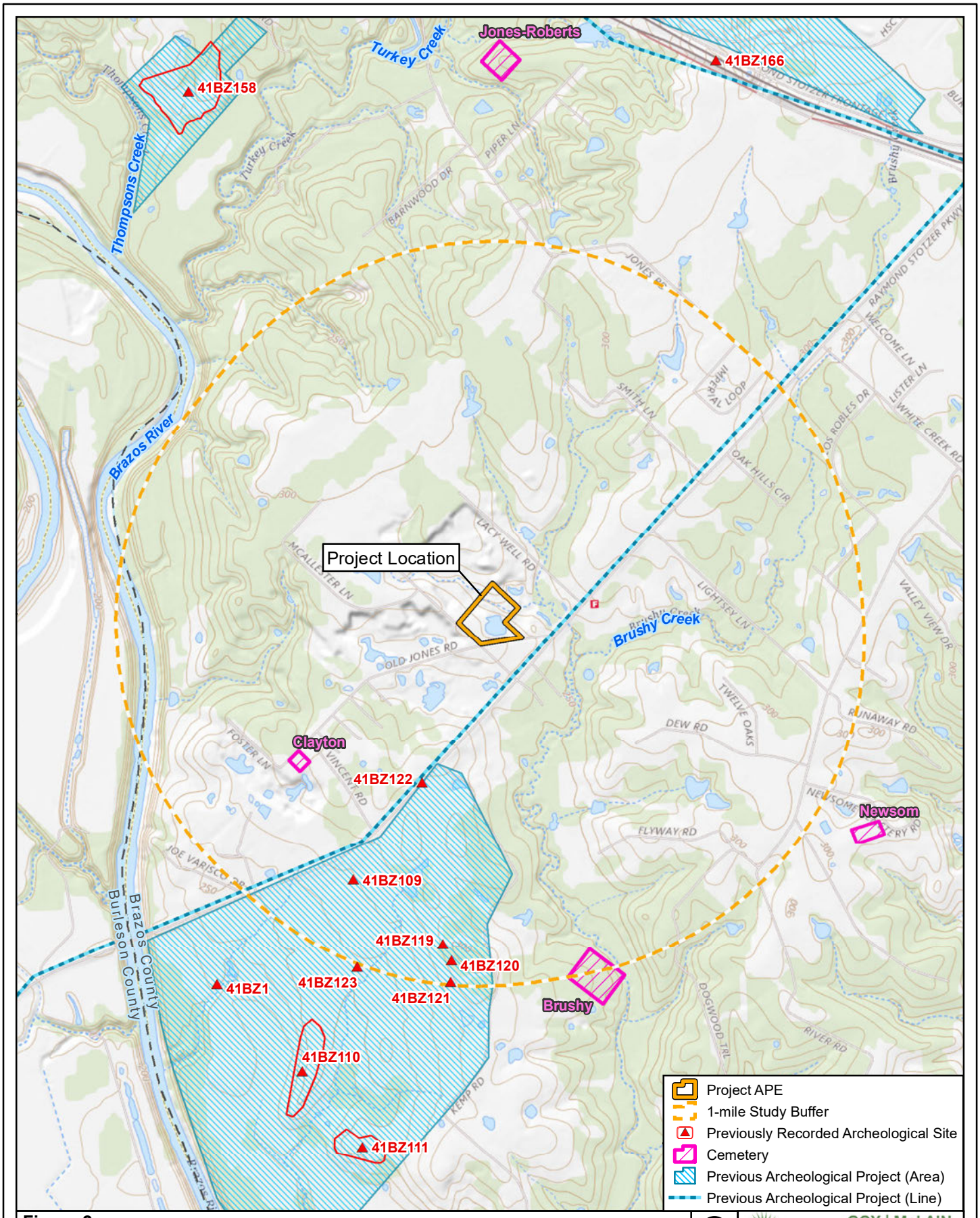


Figure 2.
Location of Archeological APE

Brazos Valley Recycling

Data Sources: THC (2020), TARL (2020), NHD (2020)
Topographic Source: USGS (2020)
USGS 7.5' Quadrangle: Chances Store

COX | McLAIN Environmental Consulting

0 2,000 Feet
0 600 Meters

1 in = 2,000 feet
Scale: 1:24,000
Date: 2/2/2021

G:\Projects\Golder\Brazos Valley Recycling\Brazos_Valley_Recycling_Arch_Figure 2_APE_20210201_LG.mxd

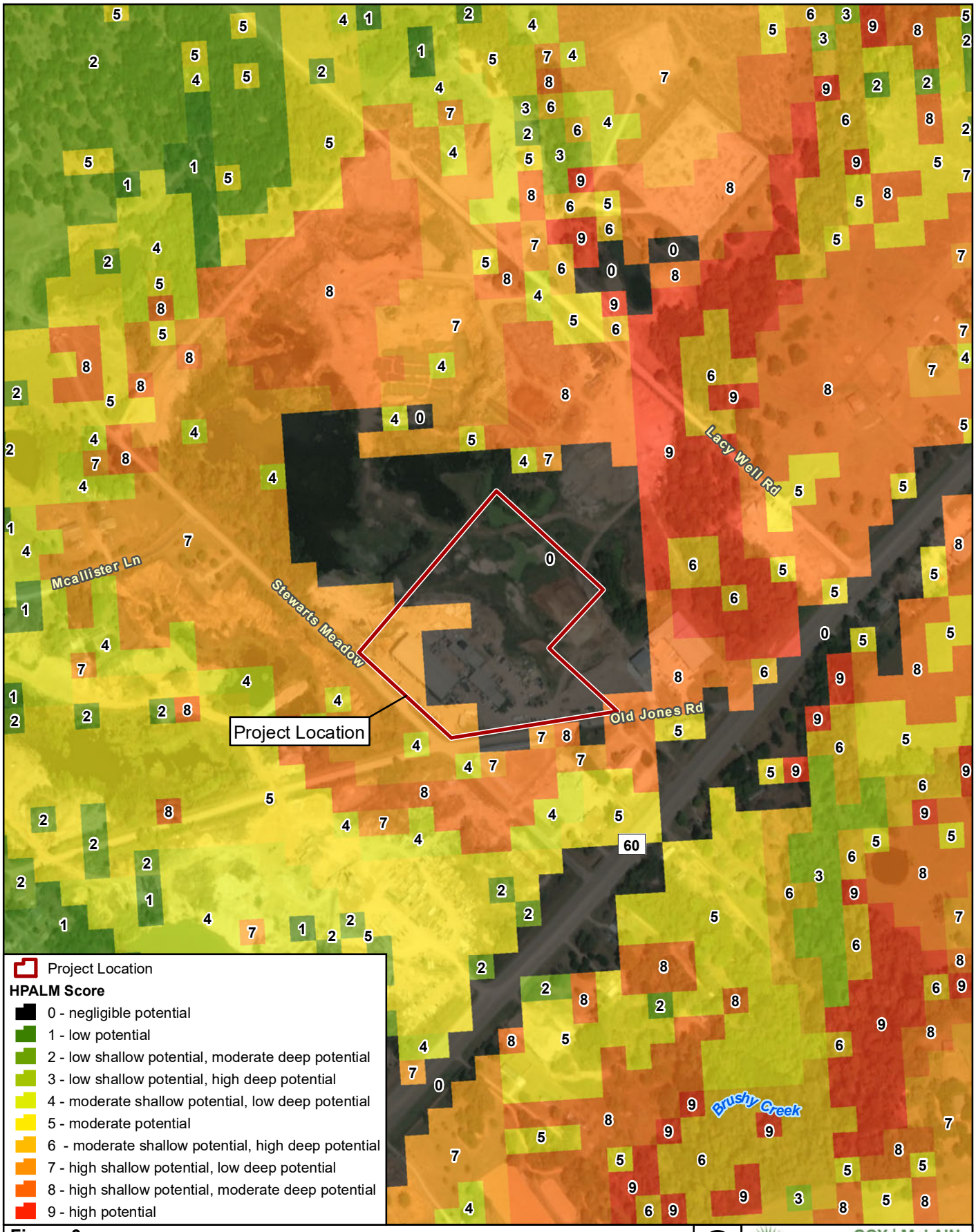


Figure 3.
HPALM Map

Brazos Valley Recycling

Data Source: TxDOT (2020)
Aerial Source: Maxar (2019)

COX | McLAIN
Environmental Consulting

0 500 Feet
0 100 Meters

1 in = 500 feet
Scale: 1:6,000
Date: 2/1/2021

G:\Projects\Golder\Brazos Valley Recycling\Brazos_Valley_Recycling_Arch_Figure 3_HPALM_20210201_LG.mxd

Figure 4. Aerial view of the APE (in green) circa 2004 showing extensive disturbance associated with gravel mining.

Attachment IIB
Water Well Database

9-185—July 1931
Revised

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES BRANCH

WELL SCHEDULE BS 5929602

Date 5/15, 19 64 Field No. _____

Record by Cano Office No. _____

Source of data Landowner of record

1. *Location:* State Texas County Bragg

Map _____

_____ ¼ _____ ¼ sec. _____ T _____ N/S R _____ E/W

2. *Owner:* Leon Moore Address Box 157, hwy 60

Tenant _____ Address _____

Driller _____ Address _____

3. *Topography* Brazos Terrace

4. *Elevation* 272 ft. above/below interpolated from topo sheet

5. *Type:* Dug, drilled, driven, bored, jetted _____ 19____

6. *Depth:* Rept. 50 to 60 ft. Meas. _____ ft.

7. *Casing:* Diam. ± 30 in., to _____ in., Type Concrete tiles

Depth _____ ft., Finish _____

8. *Chief Aquifer* Alluvium From _____ ft. to _____ ft.

Others _____

9. *Water level* 48.20 ft. rept./meas 5/15 19 64 above/below MP

Top of casing which is 1.0 ft. above/below surface

10. *Pump:* Type none Capacity _____ G. M.

Power: Kind " Horsepower _____

11. *Yield:* Flow _____ G. M., Pump _____ G. M., Meas., Rept. Est. _____

Drawdown _____ ft. after _____ hours pumping _____ G. M.

12. *Use:* Dom., Stock, PS., RR., Ind., Irr., Obs. Domestic, none

Adequacy, permanence _____

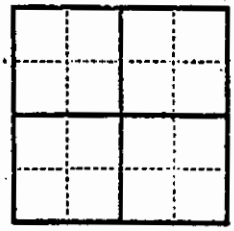
13. *Quality* _____ Temp _____ °F.

Taste, odor, color _____ Sample Yes/No _____

Unfit for _____

14. *Remarks:* (Log, Analyses, etc.) Over a 600' municipal

Source, drilled by Lingle



FORM 9-1642B (DEC. 68)

Well No. SL-59-29-602

WELL SCHEDU[illegible] 30 Lin 4.

U. S. DEPT. OF THE INTERIOR GEOLOGICAL SURVEY WATER RESOURCES DIVISION

CAW 64

MASTER CARD

Record by CRF Source of data _____ Date 7-22-70 Map Chances Lane 2

State Tex 49 County (or town) Kinney BJ

Latitude: 30 deg 33 min 15 sec N S Longitude: 0962449 12 degrees 15 min sec 18 Sequential number: 1 19

Lat-long accuracy: 20 T. _____ S, R _____ W, Sec _____, _____ k, _____ k, _____ k _____ B & M

Local well number: BJ-59-29-602 Other number: _____

Local use: _____ Owner or name: BJ Varisco D.V.M.

Owner or name: _____ Address: _____

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist P 67

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Dom, (I) Irr, (M) Mnd, (N) Ind, (P) P S, (R) Rec, (S) Stock, (T) Instit, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other U 68

Use of well: (A) Anode, (D) Drain, (G) Seismic, (H) Heat Res, (O) Obs, (O) Oil-gas, (R) Recharge, (T) Test, (U) Unused, (W) Withdraw, (W) Waste, (Z) Destroyed Z 69

DATA AVAILABLE: Well data 70 Freq. W/L meas.: _____ 71 Field aquifer char. 72

Hyd. lab. data: _____ 73

Qual. water data; type: _____ 74

Freq. sampling: _____ 75 Pumpage inventory: yes no, period: _____ 76

Aperture cards: _____ yes 77

Log date: _____ 78 79

area
North Brushy Crk
PWS.
Did not see
deep well.
Med did
not know
much

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 50± ft 50 Meas. Rept 24

Depth cased; (first perf.) _____ ft Casing type: Conc Rings Diam. 30 in accuracy 30

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. screen, (H) horiz. gallery, (O) open end, (P) perf., screen, sd. pt., (S) shored, (T) open hole, (Z) other Ø 31

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other D 32

Date Drilled: _____ 33 35 Pump intake setting: _____ ft 36 38

Driller: _____ name _____ address

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple, (cent.), (M) multiple, (turb.), (N) none, (P) piston, (R) roc, (S) submerg, (T) curb, (Z) other ☒ 39 Deep Shallow 40

Power (type): diesel, elec, gas, gasoline, hand, gas, wind; nat LP H.P. _____ 41 Trans. or meter no. _____

Descrip. MP Top csg +1.0 ft above below LSD, Alt. MP _____

Alt. LSD: 272 2 7 2 42 43 Accuracy: (source) 10' Topo 47

Water Level 48.20 ft above below MP; Ft above below LSD 4 7 48 51 Accuracy: Topo 52

Date meas: 5-15-64 53 5 6 4 55 Yield: _____ gpm 56 60 Method determined 61

Drawdown: _____ ft 62 64 Accuracy: _____ 65 Pumping period _____ hrs 66 68

QUALITY OF WATER DATA: Iron _____ ppm 69 Sulfate _____ ppm 70 Chloride _____ ppm 71 Hard. _____ ppm 72

Sp. Conduct _____ K x 10^6 73 Temp. _____ °F 74 76 Date sampled 77 79

Taste, color, etc. _____

1970 - W22 [illegible] log of [illegible]

Well No.

Texas Water Development Board
Well Schedule

groundwater resources

State Well Number: **59-29-603** Previous Well Number: County: **Brazos** **41**

Latitude (dms): **303400** Longitude (dms): **962432** Coordinate Accuracy: **Global Positioning System - GPS**

River Basin: **Brazos River** GMA: **12** RWPA: **G** GCD: **Brazos Valley GCD**

Owner: **Brushy WSC Well #1**

Driller: **Key Water Well Drilling Company**

Aquifer ID: **Sparta**

Aquifer Code: **124SPRT**

SPARTA SAND

Depth (ft): **1100**

Elevation (ft): **291**

Source of Depth: **Driller's Log**

Source of Elevation: **Digital Elevation Model -DEM**

Date Drilled: **07/26/1966** Well Type: **Withdrawal of Water**

Type of Lift: **None** Power: Horsepower:

Construction: **Hydraulic Rotary** Completion: **Gravel Pack w/Screen**

Casing Material: **Steel** Screen Material: **Stainless Steel**

CASING INTERVALS:
Casing/Blank Pipe (C)
Well Screen/Slotted Zone (S)
Open Hole (O)

Dia. (in.)	Top (ft.)	Bottom (ft.)

WATER USE

Primary: **Plugged or Destroyed** Secondary: Tertiary:

Water Levels:

2 measurements
1966 to 2002
MIN -82.2 MAX -80

Water Quality: **Y**

Other Data: **C** Logs: **DZ**

REMARKS:

Owners well #1. PWS ID #0210014A. Measured yield 86 GPM with 113 feet drawdown after pumping 15 hours in 1966. Specific capacity 0.76 GPM/ft Pumping level 193 feet. Cemented from 0 to 1022 feet. Undereamed and gravel packed from 1022 to 1110 feet. Well was originally drilled to 1502 feet and plugged back to 1110 feet. Plugged PS well on September 10,2003. Plugging report tracking #14074.

Reporting Agency: **TWDB or Predecessor Agency**

Date Collected or Reported: **08/11/1987**

Recorded by: D. R. Jones

Upda

TRACKING# 14074
Date Entered: 10/7/2003

State of Texas
PLUGGING REPORT

A. WELL IDENTIFICATION AND LOCATION DATA

OWNER: BRUSHY WATER SUPPLAY

OWNER ADDRESS: PO BOX WELLBORN , TX 77881

ADDRESS OF WELL'S LOCATION:
3 MI SOUTHEAST OF
COLLEGE STATI , TX

COUNTY: Brazos **LATITUDE:** 303448 **LONGITUDE:** 962404 **Brand/Model of GPS:** GPS

OWNER'S WELL NO. **Grid Number:** 59 - 29 - 6

WELL TYPE ☑ Water ☐ Monitor ☐ Injection ☐ De-Watering

B. HISTORICAL DATA ON WELL TO BE PLUGGED

Driller: **License No.:** **Well Report Tracking No.:**

Date Drilled:

Diameter of Hole: **Total Depth of Well:** 1200 **feet.**

C. CURRENT PLUGGING DATA

Date Well Plugged: 9/10/2003

Name of Driller/Pump Installer who actually performed the plugging operations:
JO

Method of Plugging:

☑ Tremmie pipe cement from bottom to top

☐ Pour in 3/8 bentonite chips when standing water in well is less than 100 feet in depth, cement top 2 feet

☐ Other (Explained in Comments)

☐ Tremmie pipe bentonite from bottom to 2 feet from surface, cement top 2 feet

☐ Large diameter well filled with clay material from top to bottom

Plugging Variance No.:

Driller Comments
DG

Casing and Cemention Data Relative to the Plugging Operations:

Casing Left in Well:

Diameter (inches)	From (feet)	To (feet)
8	0	

Cement/Bentonite Plug(s) Placed in Well:

From (feet)	To (feet)	Sack(s) of Cement Used
0	0	120

D. VALIDATION OF INFORMATION INCLUDED IN FORM

I certify that I plugged this well (or the well was plugged under my supervision) and that each and all of the statements herein are true and correct. I understand that falure to complete items 1 thru 10 will result in the report(s) being returned for completion and resubmittal.

COMPANY NAME: SIEGERT WATER WELLS **WELL DRILLER'S LICENSE NO.** 897

ADDRESS 4411 BURT RD. BRYAN TX 77807

Name as Signature JASON **Registered Driller Apprentice**

021 0014 A

59-29-603

TEXAS WATER DEVELOPMENT BOARD

WELL SCHEDULE

Aquifer(s) Sparta (164) Project No. _____ State Well No. 59-29-603

Field No./Owner's Well No. _____ County Brazos

1. Location: ___ ¼, ___ ¼, Section ___, Block ___, Survey _____, Lat. 30-33-58, Long. 96-24-30

2. Owner: Brushy Water Supply Corp. Address: 409) 846-4947

Tenant (other): _____ Address: _____

Driller: Key Water Well Drilling Address: Garrison, Tex

3. Land Surface Elevation: 292 ft. above msl determined by Chances store

4. Drilled: 7-26 19 66 ; Dug, Cable Tool, (Rotary), Air, _____

5. Depth: ~~Rept.~~ Drilled 1502 ft. ~~Meas.~~ Completed 1110 ft.

6. Borehole Completion: Open Hole, Straight Wall, (Underreamed), (Gravel Packed)

7. Pump: Mfr. _____ Type Subm

No. Stages _____, Bowls Diam. ___ in., Setting _____ ft.

Column Diam. _____ in., Length Tailpipe _____ ft.

8. Motor: Mfr. _____ Fuel elec. HP. ___

9. Yield: Flow ___ gpm, Pump ___ gpm, Meas., Rept., Est. ___ Date ___

10. Performance Test: Date ___ Length of Test 15hrs Made by driller

Static Level ___ ft. Pumping Level ___ ft. Drawdown 113 ft.

Production 86 gpm Specific Capacity _____ gpm/ft.

* 11. Quality: (Remarks on taste, odor, color, etc.) _____

Analyses

Date 7-25-80 Laboratory TDH TDS ___ Sp Cond ___

Date _____ Laboratory _____ TDS ___ Sp Cond ___

12. Other data available (as circled): Pumping Test, Power & Yield Test, (Drillers Log)

Formation Samples, (Geophysical Log) (type) Q-37

13. Water Level(s): 80 ft. (rept) meas. 8-31 19 66 above below _____ which is ___ ft. above below Land Surface

_____ ft. rept. meas. _____ 19 ___ above below _____ which is ___ ft. above below Land Surface

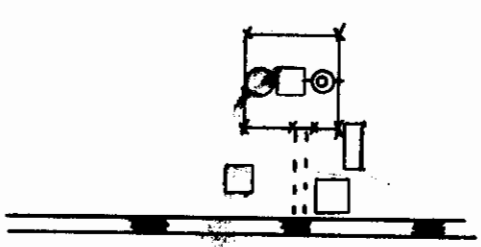
14. Use: Dom., Stock, (Public Supply), Ind., Irr., Observation, Other (Test Hole, Oil Test, etc.) _____

15. Recorded by: D. Coker Source of data: Previous sched. obs. Date: 8-11-87

16. Remarks: _____

* 12-8-69-USGS, 9-19-66 - Curtis Labs.

17. Location or Sketch:



CASING, BLANK PIPE & WELL SCREEN Cemented From 0 ft. to 1022 ft.

Diam. (in.)	Type	Setting (feet) from	to
14	SC	0	32
8 5/8	liner	+2	1022
4	liner	922	1022
.010	screen	1022	1044
4	blank	1044	1082
.010	screen	1082	1100
4	blank	1100	1110

TWDB-0308 (Rev. 12-11-85)

W/L Obs. Well ___ W/Q Obs. Well ___

State Well No. 59-29-603

FORM 9-1642 (DEC. 68)

We BS-59-29-603

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

MASTER CARD

Record by CRT Source of data TWDB Date 12-8-69 Map Channelview

State Tx 49 County (or town) Brazoria BJ

Latitude: 30 33 58 N/S Longitude: 096 24 51 Sequential number: 1

Lat-long accuracy: T. ____ S, R ____ W, Sec ____, ____ ¼, ____ ¼, ____ ¼ ____ B & M

Local well number: BJ-59-29-603 Other number: ____

Local use: ____ Owner or name: Brushy Water Supply Corp.

Owner or name: ____ Address: ____

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist ____ N

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Dom, (I) Irr, (M) Ind, (N) P S, (R) Rec, (S) Stock, (T) Instit, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other ____ P

Use of well: (A) Anode, (D) Drain, (G) Seismic, (H) Heat Rec, (O) Obs, (O) Oil-gas, (R) Recharge, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed W

DATA AVAILABLE: Well data ____ Freq. W/L meas.: ____ Field aquifer char. ____

Hyd. lab. data: ____

Qual. water data; type: ____

Freq. sampling: ____ Pumpage inventory: yes / no, period: ____

Aperture cards: Wellcore yes

Log date: at TWDB Elog 100-1497

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 1110- ft 1110 Meas. est accuracy ____

Depth cased: (first perf.) ____ ft Casing type: S ; Diam. 7 in 7

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (O) open end, (P) perf., (S) screen, (T) sd. pt., (W) shored, (X) open hole, (Z) other ____ S

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other ____

Date Drilled: 8-31-66 (9 6 6) Pump intake setting: garrison ft

Driller: Key Water Well Drlg & Dev. Co. @ 300' (name, address)

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple (cent.), (M) multiple (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other S Deep / Shallow D

Power (type): diesel, (E) elec, nat gas, gasoline, hand, LP gas, wind; H.P. 10 Trans. or meter no. ____

Descrip. MP ____ ft above/below LSD, Alt. MP ____

Alt. LSD: 292 (2 9 2) Accuracy (source): 10' topo

Water Level 80 R ft above/below MP; Ft above/below LSD (8 0) Accuracy: Est

Date meas: 7-31-66 (8 6 6) Yield: 80R gpm (8 0) Method determined ____

Drawdown: ____ ft Accuracy: ____ Pumping period ____ hrs

QUALITY OF WATER DATA: Iron 3 ppm Sulfate 22 ppm Chloride 82 ppm Hard. 7 ppm

Sp. Conduct 1410 K x 10^6 Temp. ____ °F Date sampled 12-3-69 (D 6 9)

Taste, color, etc. T.S. 8.9 Sept. 3, 66

8 SW collegedale. Back (NW) of Lafair Place on Hwy 60

drilled to 1502

Well No.

Well No. BJ-3[illegible]-29-603

-5-

Latitude-longitude N S d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: _____ (20–21) Section: _____

_____ (22) Drainage Basin: _____ (23–25) Subbasin: _____ (26)

Topo of well site: (D) depression, (C) stream channel, (E) dunes, (F) flat, (H) hilltop, (K) sink, (L) swamp, (O) offshore, (P) pediment, (S) hillside, (T) terrace, (U) undulating, (V) valley flat _____ (27) S

MAJOR AQUIFER: _____ system, _____ series (28–29) Upper aquifer, formation, group (30–31)

Lithology: _____ (32–33) Origin: _____ (34) Aquifer Thickness: _____ ft

(35–37) Length of well open to: _____ ft (38–40) Depth to top of: _____ ft (41–43)

MINOR AQUIFER: _____ system, _____ series (44–45) _____ aquifer, formation, group (46–47)

Lithology: _____ (48–49) Origin: _____ (50) Aquifer Thickness: _____ ft

(51–53) Length of well open to: _____ ft (54–56) Depth to top of: _____ ft (57–59)

Intervals Screened: Accom 1022-1044 & 1082-1100

Depth to consolidated rock: _____ ft (60–62) Source of data: _____ (64)

Depth to basement: _____ ft (63–68) Source of data: _____ (69)

Surficial material: _____ (70–71) Infiltration characteristics: _____ (72)

Coefficient Trans: _____ gpd/ft (73–75) Coefficient Storage: _____ (76–78)

Coefficient Perm: _____ gpd/ft^2; Spec cap: _____ gpm/ft; Number of geologic cards: _____ (79)

RP 294

LSD 297

86 dd - after 15 hrs @ 113 gpm

Packer [illegible] Elev by CPT

Top	LSD +Elev	Elev +Elev	Thick
Chl	-610	-320	410
S	-1020	-730	220
W	1240	-950	60
QC	1305	-1010	

in QC at 1500

Well No.

GPO 869-201

(FD

CW 7

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 58-34-58
Located on map Yes
Received:
Form GW 8
Form GW 9

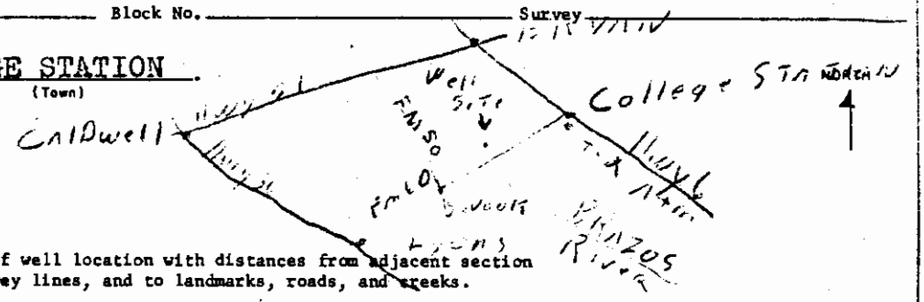
1) OWNER:
Person having well drilled BRUSHY WATER SUPPLY CORP (Name) Address BRAZOS COUNTY TEXAS (Street or RFD) (City) (State)

Landowner BRUSHY WATER SUPPLY CORP (Name) Address BRAZOS COUNTY TEXAS (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County BRAZOS Labor Laague Abstract No.

NW¼ NE¼ SW¼ SE¼ of Section Block No. Survey
(Circle as many as are known)

8 miles in SW (NE., SW., etc.) direction from COLLEGE STATION (Town).



Sketch map of well location with distances from adjacent section or survey lines, and to landmarks, roads, and creeks.

3) TYPE OF WORK (Check):
New Well ☒ Deepening ☐
Reconditioning ☐ Plugging ☐

4) PROPOSED USE (Check):
Domestic ☐ Industrial ☐ Municipal ☒
Irrigation ☐ Test Well ☐ Other ☐

5) TYPE OF WELL (Check):
Rotary ☒ Driven ☐ Dug ☐
Cable ☐ Jetted ☐ Bored ☐

6) WELL LOG:
Diameter of hole 7 7/8 in. Depth drilled 1502 ft. Depth of completed well 1110 ft. Date drilled 7/26/66

All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	212	SANDY SHALE
212	226	SAND
226	250	SANDY SHALE
250	262	SAND
262	590	SANDY SHALE
590	1020	SHALE
1020	1047	SAND ←
1147	1082	SANDY SHALE
1082	1100	SAND ←
1100	1136	SANDY SHALE
1136	1156	SAND
1156	1196	SANDY SHALE
1196	1220	SAND
1220	1350	SANDY SHALE
1350	1388	SAND
1388	1502	HARD SANDY SHALE (reverse side if necessary)

7) COMPLETION (Check):
Straight wall ☐ Gravel packed ☒ Other ☐
Under reamed ☒ Open hole ☐

8) WATER LEVEL:
Static level 80 ft. below land surface Date 8/31/66
Artesian pressure ____ lbs. per square inch Date

9) CASING:
Type: old ☐ New ☒ Steel ☐ Plastic ☐ Other ☐
Cemented from *2 ft. to 1022 ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
14	0	32	
8 5/8	‡2	1022	
4	922	1022	
4	1044 to 1082 & 1100 to 1110		

10) SCREEN:
Type JOHNSON SS WIRE WRAPPED
Perforated ☐ Slotted ☐

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot size
4	1022	1044	#10 gage
4	1082	1100	

11) WELL TESTS:
Was a pump test made? ☒ Yes ☐ No If yes by whom?
R P KEY & Mr. SKRABANK

Yield: 86 gpm with 113 ft. drawdown after 15 hrs
Bailer test ____ gpm with ____ ft. drawdown after ____ hrs
Artesian flow ____ gpm Date
Temperature of water
Was a chemical analysis made? ☒ Yes ☐ No
Did any strata contain undesirable water? ☐ Yes ☐ No
Type of water? depth of strata

12) PUMP DATA:
Manufacturer's Name FLINT & WALLING
Type SUBMERSIBLE H.P. 10
Designed pumping rate 80 gpm ☐ gph ☐
Type power unit FLINT & WALLING SUB. MOTOR
Depth to bowls, cylinder, jet, etc., 300 ft.
below land surface.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME R P KEY (Type or Print) Water Well Drillers Registration No. 136

Address RT 2 (Street or RFD) GARRISON (City) TEXAS (State)

(Signed) R P Key (Water Well Driller) KEY WATER WELL DRILLING & DEVELOPMENT CO (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available.

BJ59-29-603

Q-37

Water Quality Sampling Run

SWN: 59-29-603
County: Brazos
Aquifer(s): Sparta 124

Name: Brushy W.S.C.
Address: P.O. Drawer 350
Wellborn, Tx. 77881.

Sample No. 346
Date: 3/9/94 10:30
By: D.R. Jones

	Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6	Bottle 7	Total SUB-Samples
	1 liter Anions	1 liter Cations	1 liter Radioactivity	500 ml Nitrate	1 Qt.(glass) (TOC)Organics			4
Preserve with:		2 ml HNO (Nitric)	2 ml HNO (Nitric)	1 ml H SO (Sulfuric)				All filtered unless otherwise stipulated. All on ice.

Water Level — LSD Remark
Temperature (00010) 30.8 c
Specific Conductance (00094) 1371 umhos/cm
pH (00400) 8.42
Eh (00090) +97.7 mv.
Phenol ALK (82244) 15.0 mg/l
Total ALK (39086) 640.0 mg/l
Carbonate (00452) 0.6 meq/l 18.00 mg/l
Bicarbonate (00453) 12.2 meq/l 744.41 mg/l
Total Cations(+)
Total Anions (-)
Total Hardness (46570) 12
Dissolved Solids(70301) 840

Time in: Pump on 9:30
Time out: 10:50
Weather Cloudy, windy, + cold.
Outside Temp: 7.0°C

Starting pH 8.63
32.0 ml. of 0.02N to
50 ml. of Sample
Ending pH 4.50

Sampling point: Installed faucet on discharge.

Time:	9:35	9:42	9:47	9:54	9:57	
pH:	8.35	8.38	8.41	8.43		
Temp:	29.5	30.0°	30.3	30.8	30.8	
Eh:				+	97.7	
Cond.	1294	1313	1356	1371		

other notes:

ml.	pH	ml.	pH	ml.	pH
0.75	8.28	11.0	7.01	31.0	5.65
1.0	8.19	13.0	6.91	32.0	4.50
2.0	7.96	15.0	6.82		
3.0	7.77	17.0	6.69		
4.0	7.65	19.0	6.58		
5.0	7.52	21.0	6.48		
6.0	7.42	23.0	6.37		
7.0	7.33	25.0	6.24		
8.0	7.19	27.0	6.12		
9.0	7.09	29.0	5.97		

Texas Water Development Board

Chemical Water Analysis Report

HM- DRJ-1994-346
HM = Heavy Trace and Alkaline-Earth Metals

TWDB Use Only
Work No. 3120-11220
IAC No. _____

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: 59-39-603
County: Brazos
Date & Time: 3/9/94 10:30
Owner: Brushy W.S.C.
☑ Send Copy To Owner
Address: P.O. Drawer 350 Wellborn, TX 77881
Sampled After Pumping: 1 Hours
Date Drilled: 7/26/66 Depth: 1502'
Yield: _____ GPM ☐ Measured ☐ Estimated
Collection Point: Faucet on discharge pH 8.42
Use: P.S. Temperature: 30.8 °C
By: D.R. Jones
Specific Conductance: 1371

Requested Ch[redacted]
Laboratory No[redacted] Date Received: MAR. 11 1994 Date Reported: APR. 28 1994

		mg/l			mg/l
Calcium	(00915)	3.5	Sodium	(00930)	339
Magnesium	(00925)	1.0	Potassium	(00935)	3.2

		µg/l			µg/l
Aluminum	(01106)	<20	Manganese	(01056)	3.6
Arsenic	(01000)	<1.0	Mercury	(71890)	<0.13
Barium	(01005)	16.4	Molybdenum	(01062)	<20
Cadmium	(01025)	<2	Selenium	(01145)	<4.0
Chromium	(01030)	<10	Silver	(01075)	<10
Copper	(01040)	<10	Strontium	(01080)	55
Iron	(01046)	63.2	Vanadium	(01085)	<20
Lead	(01049)	<5	Zinc	(01090)	22.3

Note: Crossout those elements not to be analyzed.

Texas Water Development Board

Chemical Water Analysis Report

GWN- DRJ-1994-346
(Nitrogen Cycle)

TWDB Use Only
Work No. 3120-11220
IAC No. _____

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: 59-29-603
County: Brazos
Date & Time: 3/9/94 10:30
Owner: Brushy W.S.C.
☑ Send Copy To Owner
Address: _____
Sampled After Pumping: _____ Hours
Date Drilled: _____ Depth: _____
Yield: _____ GPM ☐ Measured ☐ Estimated
Collection Point: _____ pH _____
Use: _____ Temperature: _____ °C
By: D.R. Jones
Specific Conductance: _____

Requested Chemical Analysis

Laboratory No.: [redacted] Date Received: MAR. 1 1 1994 Date Reported: MAR. 1 8 1994

THD-Sample No. EB4 35 Date Received 03/11/94 Date Reported 03/17/94

00623-	1.5	TKN as N mg/L
00608-	0.98	Ammonia as N mg/L
00613-	< 0.01	Nitrite as N mg/L
00618-	< 0.01	Nitrate as N mg/L

*Note: To convert NO_3-N to NO_3, multiply by 4.427.

Texas Water Development Board

Chemical Water Analysis Report

RAD - DBJ - 1994 - 346
RAD = Radioactivity Sample

TWDB Use Only
Work No. 3120 - 11220
IAC No. _____

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: 59-29-603
County: Brazos
Date & Time: 3/9/94 10:30
Owner: Brushy w.s.c.
☑ Send Copy To Owner
Address: _____
Sampled After Pumping: _____ Hours
Date Drilled: _____ Depth: _____
Yield: _____ GPM ☐ Measured ☐ Estimated
Collection Point: _____ pH _____
Use: _____ Temperature: _____ °C
By: D.R. Jones
Specific Conductance: _____

Requested Chemical Analysis

Laboratory No.: [redacted]
Date Received: MAR. 1 1 1994
Date Reported: 5/31/94 mgr

/ Alpha	(01503)	< 4.0	pCi/l
/ Beta	(03503)	< 5.0	pCi/l
~~Radium-226~~	~~(09509)~~		pCi/l
~~Radium-228~~	~~(81366)~~		pCi/l
~~Total Radium~~	~~(11500)~~		pCi/l
~~Thorium~~	~~(26402)~~		pCi/l
~~Uranium~~	~~(22703)~~		pCi/l

Texas Water Development Board

Chemical Water Analysis Report

GWR- DRJ-1994-346
(Anions)

TWDB Use Only
Work No. 3120-11220
IAC No. _____

Send Reply To:
Ground Water Unit
Texas Water Development Board
P.O. Box 13231
Austin, Texas 78711

Attention: Phil Nordstrom
State Well Number: 59-29-603
County: Brazos
Date & Time: 3/9/94 10:30
Owner: Brushy W.S.C.
☑ Send Copy To Owner
Address: _____
Sampled After Pumping: _____ Hours
Date Drilled: _____ Depth: _____
Yield: _____ GPM ☐ Measured ☐ Estimated
Collection Point: _____ pH _____
Use: _____ Temperature: _____ °C
By: D.R. Jones
Specific Conductance: _____

Requested Chemical Analysis

Laboratory No. [redacted] Date Received: MAR. 11 1994 Date Reported: MAR. 29 1994

THD-Sample No. EB4 26 Date Received 03/11/94 Date Reported 03/28/94

		MEQ/L	MG/L			MEQ/L	MG/L
Silica	(00955)		16				
				Sulfate	(00946)	2.31	111
				Chloride	(00941)	2.31	82
				Fluoride	(00950)	0.04	0.77
P.Akalinity	(00415)	0.00	0				
T.Akalinity	(00410)	8.86	443				

use 11.1

* Convert mg/l Report to ug/l for data entry

Typewrite (Black ribbon) or Print Plainly
(soft pencil or black ink)
Do not use ball point pen

Texas Department of Health Laboratories
1100 West 49th Street
Austin, Texas 78756

FOR LABORATORY ONLY
Organization No. 410 Lab No.
Work No. 6040-410

CHEMICAL WATER ANALYSIS REPORT

Send report to:

Data Collection and Evaluation Section
Texas Department of Water Resources
P.O. Box 13087
Austin, Texas 78711

B. R. S.

SEP 18 1980

County 021 Brazos
State Well No. 59-29-603
Well No.
Date Collected 07-25-80

Location Brazos County Sample No. By F. Bilberry
Source (type of well) Sub./elec. Owner Brushy Water Supply Corp. Bryan, TX 77801
Date Drilled 8-31-66 Depth 1,110 ft. WBF
Producing intervals Water level ft. Sample depth ft.
Sampled after pumping POA hrs. Yield GPM meas. est. Temperature 072 °F °C
Point of collection Faucet At Disch. Pipe Appearance ☑ clear ☐ turbid ☐ colored ☐ other
Use P/S Remarks

(FOR LABORATORY ONLY)

CHEMICAL ANALYSIS

Laboratory No. CO14917 Date Received JUL 30 1980 KEY PUNCHED SEP 15 '80 Date Reported

		MG/L	ME/L
Silica	00955	15	
Calcium	00915	2	0.09
Magnesium	00925	1	0.07
Sodium	00929	348	15.13
	Total		15.29
☐ Potassium	00937		
[3] ☐ Manganese	01055		%Na
☐ Boron	01022		SAR
[3] ☐ Total Iron	01045		RSC
☐ (other)		MG/L	

		MG/L	ME/L
Carbonate	00445	20	0.68
Bicarbonate	00440	355 722	11.84
Sulfate	00945	22	0.46
Chloride	00940	85	2.40
Fluoride	00951	1.0	—
Nitrate	71850	0.1	—
pH	00403	8.7	
	Total		15.38
[1] Dissolved Solids (residue at 180°C)	70300		870
Phenolphthalein Alkalinity as $CaCO_3$ (0.34)	00415		17
Total Alkalinity as $CaCO_3$ (12.52)	00410		626
Total Hardness as $CaCO_3$ (0.16)	00900		8
[2] Nitrogen Cycle			
Ammonia - N	00610		
Nitrite - N	00615		
Nitrate - N	00620		
Organic Nitrogen	00605		

Specific Conductance (micromhos/cm3) 00095 1175
Diluted Conductance (micromhos/cm3) 9 x 169
1521

" ☐ " items will be analyzed if checked.

RECEIVED
APR 13 1981
CR/TDWR

[1] The bicarbonate reported in this analysis can be converted by computation (multiplying by 0.4917) to an equivalent amount of carbonate, and the carbonate figure used in the computation of dissolved solids.
[2] Nitrogen cycle requires separate sample.
[3] Total Iron and Manganese require separate sample.

Analyst Checked By

TDWR-0148 (Rev. 1-8-80)

Geological Survey 126101

UNITED STATES DEPARTMENT OF THE INTERIOR
Ground Water Analysis

Water Resources Division
Austin, Texas

State: Texas 49 (1 2) County: Brazos BJ (3 4) Well No. Latitude 303358N (5 11) Longitude 0962451 (12 18) Seq. No. 1 (19) Date M D Y 12 08 69 (20 25) Sampling Depth (26 29) Type G (30)

Local Well No. BJ-59-29-603 Location 5 SW College Station Project: Brazos-Burleson

Owner: Brushy Water Supply Corp. Date drilled: 1966 Depth: 1110 WBF

KEY PUNCHED

Prod. intervals

Static 80 ' below LSD

Water level

2 of 2

Sampled after pumping X Yield - GPM Pt. of coll. Hydrant nearby house Appearance

Use Public Supply Collector Follett

K x 10^6		1410 (31 35)	
R KCl 233	R sample 165		
pH	8.1 (36 38)	Temperature °C	(39 41)
Density at 20°C		mg/l	me/l
SiO_2	5 ml	15 (42 44)	
mg/l x sample 15.0			
Al	ml		
A 0.00250 mg		mg/l	
.00625 mg			
.0125 mg			
.025 mg			
Sample			
Fe A 0.025 mg			
ml Sample Total		mg/l	
ml Sample Diss.		mg/l	
Mn Total		mg/l	
Dissolved		mg/l	
Ca	ml	18 (45 49)	.09
A.A. 1.75, 1.76} 1.76			
Mg .60, .60, .60} 0.60		06 (50 53)	.05
Na		(54 58)	
Na + K Calc.		359	15.62
K		(59 61)	
Percent error	Total cations		15.76

Refilled Burette

HCO_3	25 ml	716 (62 65)	11.74
18.80			
17.45 °C Total Alk as CO_3	387		
CO_3	25 ml	35 (66 67)	1.17
.90			
SO_4	10 ml	22 (68 72)	0.46
Blk			
Std			
Sample 1.08			
Cl	25 ml	82 (73 78)	2.31
4.10			
Source 79	Card No. 80 Q		
F	10 ml	04 (26 28)	0.05
A 1.00 mg/l			
2.00 mg/l	mg/l x sample .92		
NO_3	ml Std. Blueine 5 ml	09 (29 32)	0.01
A sample .05702 mg/l			
A ml std			
A ml std Factor			
NO_2	ml	mg/l	
A 0.01 mg			
.02 mg			
.05 mg			
Sample			
PO_4 ml Ortho	Total	(33 35)	
A 0.0050 mg			
.0100 mg			
.0250 mg			
.0500 mg			
Sample			
Total anions			15.74

Milliequivalents per liter

Na+K — Cl

Ca — HCO_3+CO_3

Mg — SO_4

B A	mg	ml	(36 38)
	mg		
	mg		
	mg		
Al		Fe	Mn
	(39 41)	(42 45)	(46 49)
Cu		Pb	Zn
	(50 52)	(53 54)	(55 57)
Dissolved solids: Determined		Calculated	869 (64 69)
	(58 63)		
Hardness ml		Ca+Mg	7 (70 73)
me/l Ca + Mg	0.14		
me/l Alk	12.4		
me/l NCH	~	NCH	0 (74 77)
Color	(78 79)	Card No.	R (80)
Br	(26 28)	I	(29 31)
Alk. as $CaCO_3$	(32 35)	Free CO_2	(36 38)
Percent Na 99	SAR 59 (39 41)	RSC	128 (42 44)
MBAS	(45 47)	NO_2 (67 68)	Card No. S (80)

Analyst EMS & W.C.B Checked by DWD

Date begun JAN 8 1970 Completed JAN 9 1970

Transmittals	Date
Records processing----	
Collector----	
Owner----	

Recorded by: Punched by: Date:

J. D. CURTIS

W. W. CURTIS

Curtis Laboratories
ESTABLISHED 1926
ANALYTICAL AND CONSULTING CHEMISTS
PHONE OX. 4-6371
3922 HAIN STREET
HOUSTON, TEXAS 77009

Q-37

BJ-59-29-603

1 of 2.

BJ-59-29-603

September 21, 1966

Key Water Well Drilling and Development Co.
Garrison, Texas

SAMPLE OF: Water RECEIVED: September 19, 1966
MARKED: Brushy Water Supply Co., Well #1, Total Depth 1110 feet.

	Parts per Million Milligrams per Liter
Calcium	2.5
Magnesium	0.4
Iron (Fe)	0.3
Manganese	0.02-
Sodium	337.5
Carbonate	0
Bicarbonate	732.0
Sulphate	35.6
Chloride	72.0
Fluoride	0.6
Nitrate	0.10
Phenolphthalein Alkalinity as $CaCO_3$	0
Total Alkalinity as $CaCO_3$	600.
Total Hardness as $CaCO_3$	8.
Dissolved Residue (TS)Weighod	840
Specific Conductance Micromhos/cm	1382
pH	8.30
Silica	14.0
Iron Oxide	0.4
Aluminium Oxide	0.6
Volatile & Organic Matter	14.0

Appearance: Light straw color.

Respectfully submitted,

CURTIS LABORATORIES

B. E. Curtis

KEY PUNCHED

Report No. 9-6605.

Analyzed by Curtis Laboratories

Water Quality Field Data

59-29-603

SWN: 59-29-603
County: BRAZOS
Aquifer(s): 124 SPRT

mail to
P.O BOX 250
Wellborn TX 77881

Brushy ~~Water~~ Water Supply Corporation
Name: c/o Stephen Cast
Address: 4118 Greens Prairie Rd.
Wellborn TX 77881
owner's well # plant #1

409/690-9799

Sample No. 447
Date: 04/10/1998
By: ~~DJ~~ / DJ

Bottle 1	Bottle 2	Bottle 3	Bottle 4	Bottle 5	Bottle 6	Bottle 7	Total SUB-Samples 3
500 ml Anions	1 liter Cations	250 ml Nitrate	1 liter Radioactivity				
	2 ml HNO_3 (Nitric)	0.5 ml H_2SO_4 (Sulfuric)	2 ml HNO_3 (Nitric)				All filtered unless otherwise stipulated

Water Level _____ LSD Remark _____
Temperature (00010) 31.8 c
Specific Conductance (00094) 1406 *umhos/cm
pH (00400) 8.37
Eh (00090) -66.1 mv.
Phenol ALK (82244) 12.6 mg/l
Total ALK (39086) 664.0 mg/l
Carbonate (00452) 0.50 meq/l 15.1 mg/l
Bicarbonate (00453) 12.8 meq/l 779.6 mg/l
Total Cations(+) 8
Total Anions (-) _____
Total Hardness (00900) 8
Dissolved Solids 835

Time in 0825
Time out 0935 Sample time 0915
Weather Clear well use P
Outside Temp 14.5°C
Sampling point

Starting pH 8.57 @ 26.4 °C
33.20 ml. of 0.02N to
50 ml. of Sample
Ending pH 4.50

Time:	0903	0908	0911	0912		
pH:	8.42	8.38	8.37			
Temp:	31.6	31.8	31.8			
Eh:				-66.1		
Cond.	1437	1415	1406			

ml.	pH	ml.	pH	ml.	pH
0.63	8.29	20.00	6.29		
2.00	7.86	22.00	6.15		
4.00	7.49	24.00	6.03		
6.00	7.26	25.00	5.97		
8.00	7.10	26.00	5.87		
10.00	6.96	28.00	5.77		
12.00	6.80	31.00	5.42		
14.00	6.68	33.00	4.66		
16.00	6.57	33.20	4.50		
18.00	6.42				

* Conductivity unreliable due to non-conformance to all stds.

other notes:

Environmental Laboratory Services
The Solution Lab

FINAL ANALYSIS REPORT

LAB ID: 9807352 SAMPLE DESCRIPTION: Groundwater
COMPANY: TX Water Dev. Board SAMPLE DATE: 04/10/98
ACCT NO: SAMPLE TIME: 0915
REQUISITION No.: R06780 DATE RECEIVED: 04/10/98
LOCATION ID: 59-29-603 REPORT DATE: 05/21/98

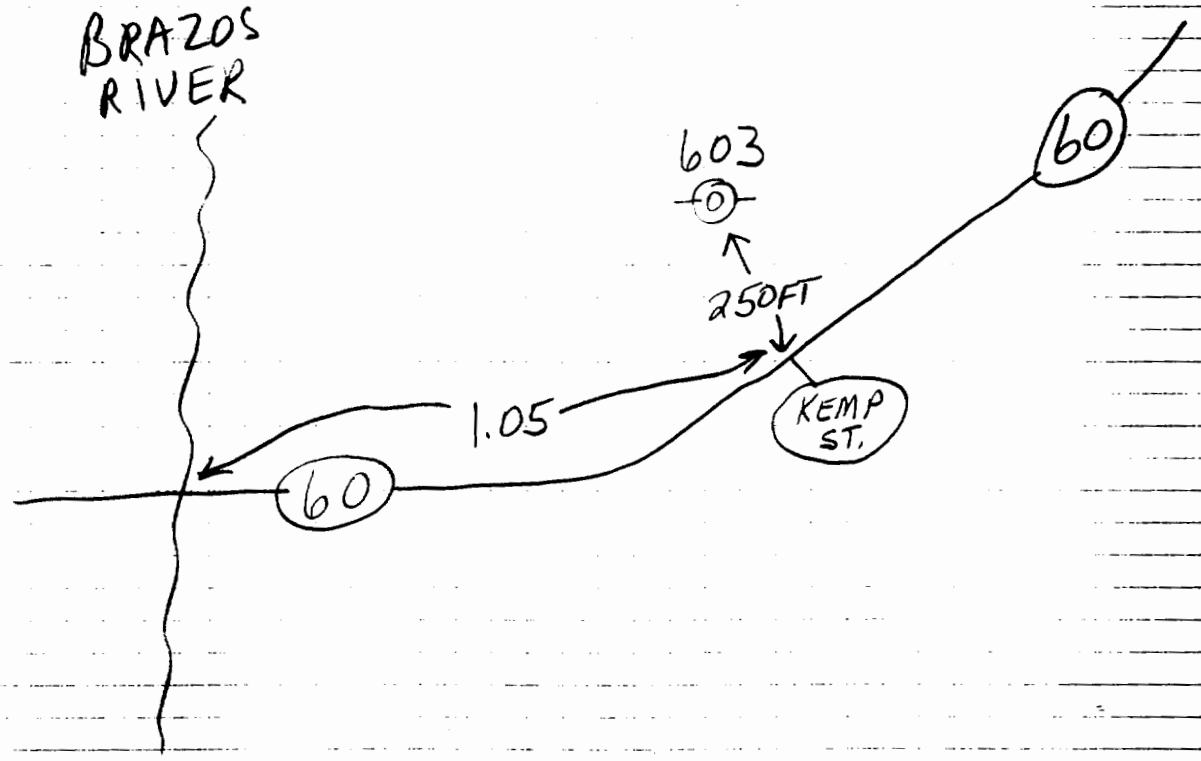
PARAMETER	RESULTS	UNITS	STORET #	PQL in WATER	DATE ANALYZED
Iron, Dissolved	90.00	ug/L	01046	-----	04/27/98
Alkalinity, Phenol.	12	mg/L	00415	0	04/23/98
Alkalinity, Total	640	mg/L	00410	1	04/23/98
Bromide	<0.10	mg/L	71870	0.02	04/14/98
Chloride	69.2	mg/L	00941	1.5	04/14/98
Fluoride	0.84	mg/L	00950	0.01	04/14/98
Nit.,Nitrate/Nitrite	<0.040	mg/L	00630	0.020	04/17/98
Nitrogen, Kjeldahl	1.520	mg/L	00623	0.100	04/22/98
Nitrogen, ammonia	1.190	mg/L	00608	0.050	04/17/98
Phosphorus, Total	0.760	mg/L	00665	0.100	04/22/98
Silica	16.20	mg/L	00955	1.00	04/14/98
Sulfate	11.90	mg/L	00946	1.50	04/14/98
Aluminum, Dis. ICPMS	4.5	ug/L	01106	4.0	05/06/98
Antimony, Dis. ICPMS	<1.0	ug/L	01095	1.0	05/06/98
Arsenic, Diss. ICPMS	<5.0	ug/L	01000	2.0	05/06/98
Barium, Diss. ICPMS	17.7	ug/L	01005	1.0	05/06/98
Beryllium, Dis ICPMS	<1.0	ug/L	01010	1.0	05/06/98
Boron, Diss. ICPMS	1179.0	ug/L	01020	2.0	05/06/98
Cadmium, Diss. ICPMS	<1.0	ug/L	01025	1.0	05/06/98
Calcium, Dissolved	2.45	mg/L	00915	0.50	04/27/98
Chromium, Diss ICPMS	26.8	ug/L	01030	1.0	05/06/98
Cobalt, Diss. ICPMS	<1.0	ug/L	01035	1.0	05/06/98
Copper, Diss. ICPMS	9.4	ug/L	01040	2.0	05/06/98
Lead, Diss. ICPMS	2.7	ug/L	01049	1.0	05/06/98
Lithium, Diss. ICPMS	17.1	ug/L	01130	2.0	05/06/98
Magnesium, Dissolved	<0.50	mg/L	00925	0.05	04/27/98
Manganese, Dis ICPMS	3.8	ug/L	01056	1.0	05/06/98
Molybdenum Dis ICPMS	<1.0	ug/L	01060	1.0	05/06/98
Nickel, Diss. ICPMS	<1.0	ug/L	01065	1.0	05/06/98
Potassium, Dissolved	2.40	mg/L	00935	1.00	04/27/98
Selenium, Dis. ICPMS	<5.0	ug/L	01145	4.0	05/06/98
Sodium, Dissolved	331.00	mg/L	00930	0.10	04/27/98
Strontium, Dis ICPMS	51.5	ug/L	01080	1.0	05/06/98
Thallium, Diss ICPMS	<1.0	ug/L	01057	1.0	05/06/98
Vanadium, Diss ICPMS	7.6	ug/L	01085	1.0	05/06/98
Zinc, Diss. ICPMS	9.8	ug/L	01090	2.0	05/06/98

Lower Colorado River Authority • P. O. Box 220 • Austin, Texas 78767
3505 Montopolis Drive • Austin, Texas 78744 • (512) 356-6022 • (800) 776-5272 • (512) 356-6021 FAX

Texas Water Development Board - Well Location Sketch

By: BIRI Date: 5-22-02 Division:

County: BRAZOS Well Number: 59-29-603



V:\HEMon\Share\Forms\sketch

59-29-603
Well Number

2002FY TWDB Water Quality Field Data Sheet

State Well Number: 59-29-603
County: BRAZOS
County Code: 041
Aquifer Code: 124 SPRT
Aquifer Id: 27

Name: BRUSHY CREEK
Address: BOX 250
WELLBORN 77881
Phone Number: 690-6140
Attention:
Well Name or #: PUMP HOUSE #1

Sample ID Number: 2280
Date: 5-22-02
Sampler(s): DIRI

Calibration Verification Readings		
pH	7.00	7.00
	4 or 10	4.01
SLP =		60.3
Conductivity	500	504
	1000	1010
	2000	1990
	5000	

CIRCLE EACH SAMPLE FRACTION COLLECTED:

1	2	3	4	5
500ml (filtered)	500ml (filtered)	250ml (filtered)	40 ml (unfiltered)	1L (unfiltered)
Anions / Total Alk.	**Cations**	**Nitrate**	**Atrazine**	**Radioactivity**
Ice	Nitric (HNO3)	Ice + H2SO4	Ice and in dark	Nitric (HNO3)

Proper preservation requires adding enough of the correct acid to each sample fraction to bring the pH below 2.0 .

Time In: 0840 Time Out: 1035

W. L. depth from LSD (ft.): 82.2 W.L. remark: M.P. = 1.5

Pumping Since: 0910 Sampling Point: FAW

Well Use: UNUSED
Lift: S
Power: E

FIELD G.P.S. readings
Latitude: 30 34 01
Longitude: 96 24 32

Sample Time: 1000 Filter pressure: hand pump / fine

94
10.3
83.7

Field Alkalinity Titration:

8.38	Start pH ____ End pH
50.0	mL Sample Size
0.0	mL Acid added for Phenol (> 8.3)
17.90	mL Acid added for Total (8.3 - 4.5)

Items below calculated from: mL acid added x 20 = Alkalinity

Phenol Alkalinity (82244): 2 mg/L
Total Alkalinity (39086): 358 mg/L

Items Below Calculated Later From Results:
Dissolved Solids (mg/L): 746
Hardness (as CaCO3): 4
Balanced: ✓

Water Quality Stabilization Parameters Table (at least 3 readings at five minute intervals)

Time:	0940	0945	0950	0955	1000		
pH:	9.00	8.77	8.71	8.70	8.38		
Celcius Temp. (00010):	24.8	26.3	27.2	28.0	30.6		
Conductivity (uS/cm):	1313	1290	1282	1281	1283		

Notes:
WELL IS GOING TO BE PLUGGED
WOULD BE GOOD W.L. WELL

Data Entered By Sampler into Database: yes / no

LCRA Environmental Laboratory Services

Date: *24-Jun-02*

CLIENT: Texas Water Development Board
Client Sample ID: 59-29-603
Lab Order: 0205353 **File No:** 19939
Project: TWDB FY02
Collection Date: 5/22/02 10:00:00 AM
Lab ID: 0205353-04
Matrix: GROUNDWATER

Analyses	Storet	Result	PQL	Qual	Units	DF	BatchID	Date Analyzed
ICP METALS DISSOLVED			**E200.7**					Analyst: **MLP**
Calcium		1.25	0.20		mg/L	1	R14452A	6/5/02 4:48:13 PM
Magnesium		0.40	0.20		mg/L	1	R14452A	6/5/02 4:48:13 PM
Potassium		1.74	0.20		mg/L	1	R14452A	6/5/02 4:48:13 PM
Sodium		281	0.70		mg/L	1	R14452A	6/5/02 4:48:13 PM
ICP METALS DISSOLVED			**E200.7**					Analyst: **MLP**
Boron		746	50		µg/L	1	R14459A	6/5/02 4:48:13 PM
Iron		ND	50		µg/L	1	R14459A	6/5/02 4:48:13 PM
Strontium		39	20		µg/L	1	R14459A	6/5/02 4:48:13 PM
ICPMS DISSOLVED METALS			**E200.8**					Analyst: **SW**
Aluminum		5.23	4.00		µg/L	1	R14418A	6/3/02
Antimony		ND	1.00		µg/L	1	R14418A	6/3/02
Arsenic		ND	2.00		µg/L	1	R14418A	6/3/02
Barium		14.7	1.00		µg/L	1	R14418A	6/3/02
Beryllium		ND	1.00		µg/L	1	R14418A	6/3/02
Cadmium		ND	1.00		µg/L	1	R14418A	6/3/02
Chromium		2.75	1.00		µg/L	1	R14418A	6/3/02
Cobalt		ND	1.00		µg/L	1	R14418A	6/3/02
Copper		2.11	1.00		µg/L	1	R14418A	6/3/02
Lead		1.09	1.00		µg/L	1	R14418A	6/3/02
Lithium		16.3	2.00		µg/L	1	R14418A	6/3/02
Manganese		4.13	1.00		µg/L	1	R14418A	6/3/02
Molybdenum		ND	1.00		µg/L	1	R14418A	6/3/02
Nickel		ND	1.00		µg/L	1	R14418A	6/3/02
Selenium		29.1	4.00		µg/L	1	R14418A	6/3/02
Thallium		ND	1.00		µg/L	1	R14418A	6/3/02
Vanadium		ND	1.00		µg/L	1	R14418A	6/3/02
Zinc		ND	4.00		µg/L	1	R14418A	6/3/02
CATION/ANION BALANCES			**CALCULATION**					Analyst: **AMJ**
Cation/Anion Balance		Balanced			Date	1	R14599	6/14/02
ANIONS BY ION CHROMATOGRAPHY, DISSOLVE			**E300**					Analyst: **WR**
Bromide Dissolved		0.26	0.10		mg/L	5	R14551A	6/10/02 7:24:21 PM
Chloride Dissolved		85.8	5.00		mg/L	5	R14551A	6/10/02 7:24:21 PM

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

LCRA Environmental Laboratory Services

Date: *24-Jun-02*

CLIENT: Texas Water Development Board
Client Sample ID: 59-29-603

Lab Order: 0205353 **File No:** 19939
Project: TWDB FY02
Collection Date: 5/22/02 10:00:00 AM
Lab ID: 0205353-04
Matrix: GROUNDWATER

Analyses	Storet	Result	PQL	Qual	Units	DF	BatchID	Date Analyzed
ANIONS BY ION CHROMATOGRAPHY, DISSOLVE	**E300**							Analyst: **WR**
Fluoride Dissolved		0.57	0.05		mg/L	5	R14551A	6/10/02 7:24:21 PM
Sulfate Dissolved		151	5.00		mg/L	5	R14551A	6/10/02 7:24:21 PM
ALKALINITY	**M2320 B**							Analyst: **CMM**
Alkalinity, Phenolphthalein		10	0		mg/L CaCO	1	R14378	5/31/02
Alkalinity, Total (As CaCO3)		346	2		mg/L CaCO	1	R14378	5/31/02
NITRATE AND NITRITE	**E353.2**							Analyst: **WR**
Nitrogen, Nitrate & Nitrite		ND	0.04		mg/L	2	R14545K	6/11/02
SILICA	**E370.1**							Analyst: **WM**
Silica, Dissolved (as SiO2)		17.0	0.50		mg/L	1	R14428A	6/4/02

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

FORM 9-164
(DEC. 68)

No. BJ-59-29-604

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

MASTER CARD

Record by CRF Source of data log Date 12-8-69 Map Chancellor

State Tex [49] County (or town) Brazos [BZ]

Latitude: 30 34 09 N Longitude: 096 23 14 Sequential number: 1

Lat-long accuracy: [ ] T. ____ S, R ____ W, Sec ____, ____ k, ____ k, ____ k ____ B & M

Local well number: BZ-59-29-604 Other number: ____

Local use: ____ Owner or name: Dr. L. C. Grumbles

Owner or name: ____ Address: ____

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist [P]

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Dom, Irr, (M) Mnd, Ind, (N) P S, (P) Rec, (S) Stock, (T) Instit, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other [H]

Use of well: (A) Anode, (D) Drain, (G) Seismic, (H) Heat Res, (O) Obs, (P) Oil-gas, (R) Recharge, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed [W]

DATA AVAILABLE: Well data [ ] Freq. W/L meas.: ____ [ ] Field aquifer char. [ ]

Hyd. lab. data: ____ [ ]

Qual. water data; type: ____ [ ]

Freq. sampling: ____ [ ] Pumpage inventory: yes / no, period: ____ [ ]

Aperture cards: ____ yes [ ]

Log data: log on T H D B [ ]

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 535 ft [535] Meas. repr log accuracy [ ]

Depth cased (first perf.) 460 ft [460] Casing type: S ; Diam. 4, 2 in [4]

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (Φ) open end, (P) perf., screen, (T) sd. pt., (W) shored, (X) open hole, (Z) other [S]

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other [H]

Date Drilled: 12-16-62 [962] Pump intake setting: 300 ft [300]

290 Driller: Carl Wynn (name) (address)

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple (cent.), (M) multiple (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (Z) other [S] Deep / Shallow [D]

Power (type): diesel, elec, nat gas, LP gas, gasoline, hand, wind; H.P. 3/4 [ ] Trans. or meter no. ____

Descrip. MP ____ ft above/below LSD, Alt. MP ____

Alt. LSD: 300 [300] Accuracy (source): 10' topo [ ]

Water Level 65 ft above/below MP; Ft above/below LSD [65] Accuracy: Est [ ]

Date meas: 12-16-62 [D62] Yield: 6½R gpm [ ] Method determined [ ]

Drawdown: ____ ft [ ] Accuracy: ____ [ ] Pumping period ____ hrs [ ]

QUALITY OF WATER DATA: Iron ____ ppm [ ] Sulfate ____ ppm [ ] Chloride ____ ppm [ ] Hard. ____ ppm [ ]

Sp. Conduct ____ K x 10^6 [ ] Temp. ____ °F [ ] Date sampled ____ [ ]

Taste, color, etc. ____

Well No.

Well No. BJ-29-604

Latitude-longitude N S d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: _____ (20–21) Section: _____

_____ (22) Drainage Basin: _____ (23–25) Subbasin: _____ (26)

Topo of well site: (D) depression, (C) stream channel, (E) dunes, (F) flat, (H) hilltop, (K) sink, (L) swamp, (Ø) offshore, (P) pediment, (S) hillside, (T) terrace, (U) undulating, (V) valley flat _____ (27)

535
300
-235

MAJOR AQUIFER: _____ system, _____ series (28–29) y aquifer, formation, group (30–31)

Lithology: _____ (32–33) Origin: _____ (34) Aquifer Thickness: _____ ft

(35–37) Length of well open to: _____ ft (38–40) Depth to top of: _____ ft (41–43)

MINOR AQUIFER: _____ system, _____ series (44–45) _____ aquifer, formation, group (46–47)

Lithology: _____ (48–49) Origin: _____ (50) Aquifer Thickness: _____ ft

(51–53) Length of well open to: _____ ft (54–56) Depth to top of: _____ ft (57–59)

Intervals screened: _____

Depth to consolidated rock: _____ ft (60–63) Source of data: _____ (64)

Depth to basement: _____ ft (65–68) Source of data: _____ (69)

Surficial material: _____ (70–71) Infiltration characteristics: _____ (72)

Coefficient Trans: _____ gpd/ft (73–75) Coefficient Storage: _____ (76–78)

Coefficient Perm: _____ gpd/ft^2; Spec cap: _____ gpm/ft; Number of geologic cards: _____ (79)

Well No.

GPO 869-201

Well BJ-59-29-604
Owner: Dr. L.C. Grumbles

Dr. L.C. Grumbles

59-29-604

File original copy with Texas Water Commission P. O. Box 2311, Capitol Station Austin 11, Texas

State of Texas

DRILLERS LOG AND WELL DATA REPORT

Dr. L.C. Grumbles

For use by TWC only
Well No.
Located on map
By Date
Map no.

1) Well Owner: 504 Kyle (Street or RFD) College station, Texas (City, State)

2) Land Owner: (Same) (Street or RFD) (City, State)

3) Intended use: Industrial ☐ ; Municipal ☐ ; Irrigation ☐ ; Other Household and live stock

4) Location of well: County Brazos Labor League Abstract No.

NW¼ NE¼ SW¼ SE¼ (Circle as many as are known) of Section Block No. Survey

3 miles in: (NE, SW, etc.) direction

from College Station (Town) on Left side on Jones Bridge Rd.

at brown brick house

Noone home

Elev 300.

Not located

Sketch map of well location with distances from two section or survey lines, and to landmarks, roads, and creeks.

DRILLERS LOG OF WELL

Method of drilling: Rotary Diameter of hole 6 1/2 in. Date drilled Dec. 16, 1962

All measurements made from 0 ft. above ground level.

Depth From (ft)	Depth To (ft)	Thickness	Description and color of formation material
0	20	20	Red clay
20	34	14	red sand
34	220	186	sandy shale
220	227	7	fine sand
227	410	183	blue shale
410	420	10	blue sand
420	520	100	blue shale
520	535	15	white sand
535	541		blue shale

From (ft)	To (ft)	Description and color of formation material

(Use continuation sheets if necessary)

COMPLETION DATA

COMPLETION

Straight wall ☐
Under reamed ☐
Gravel packed ☐
Open hole ☐
Other Lead seal

CASING

Type: Old ☐ New ☒
Cemented from None ft.
to ft.

Diameter (inches)	Setting from (ft)	Setting to (ft)
4"	0	460

SCREEN

Type Stainless steel .012 Gauged
Perforated ☐ Slotted ☐

Diameter (inches)	Setting from (ft)	Setting to (ft)
2"	460	541

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

Driller Rt. #4, Box 409 (Street), Bryan (City), Texas (State) Reg. No. 290

Please attach electric log, chemical analysis, and other pertinent information if available.

If well was tested by your company or if you installed the permanent pump please complete the following:

WATER LEVEL AND PUMP DATA

Static water level 65
ft. below

Pumping level

feet	hours	gpm

Pump type Submergable
Designed pumping rate 400 gpm ☐ gph ☒
Type power unit ~~3/4 H.P.~~ Electric
Horsepower 3/4 H.P.
Depth to bowls, cylinder, jet, etc., 300 ft. below pump base.

Name of contractor testing well or installing permanent pump if other than your company:

C-34 (62-4)

FORM 9-1642B (DEC. 68)

Well No. BJ-59-29-605

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

MASTER CARD

Record by CRF Source of data log Date 12-8-69 Map Chances Store

State Tex 49 County (or town) Brazos BJ

Latitude: 30 34 22 N Longitude: 096 23 34 Sequential number: 1

Lat-long accuracy: T. ____ S, R ____ W, Sec ____, ____ ¼, ____ ¼, ____ ¼ ____ B & M

Local well number: BJ-59-29-605 Other number: ____

Local use: ____ Owner or name: Nd Rowan

Owner or name: ____ Address: ____

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist ____ P

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Dom, (I) Irr, (M) Mad, (N) Ind, (P) P S, (R) Rec, (S) Stock, (T) Instit, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other ____ H

Use of well: (A) Anode, (D) Drain, (G) Seismic, (H) Heat Res, (O) Obs, (P) Oil-gas, (R) Recharge, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed W

DATA AVAILABLE: Well data ____ Freq. W/L meas.: ____ Field aquifer char. ____

Hyd. lab. date: ____

Qual. water data; type: ____

Freq. sampling: ____ Pumpage inventory: yes / no, period: ____

Aperture cards: ____ yes

Log data: logan TWDB sheet

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 307 ft 307 Meas. rept log accuracy

Depth cased; (first perf.) ____ ft Casing type: S; Diam. 4, 2 in 4

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallery, (O) open end, (P) perf., (S) screen, (T) sd. pt., (W) shored, (X) open hole, (Z) other ____ S

Method Drilled: (A) air rot, (B) borad, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) reverse rotary, (T) trenching, (V) driven, (W) drive wash, (Z) other ____ H

Date Drilled 4-15-69 969 Pump intake setting: 147 ft 147

Driller: Carl Logan (name) ____ (address)

Lift (type): (A) air, (B) bucket, (C) cent, (J) jet, (L) multiple (cent.), (M) multiple (turb.), (N) none, (P) pieton, (R) rot, (S) submerg, (T) turb, (Z) other S Deep / Shallow D

Power (type): diesel, elec, nat gas, gasoline, hand, gas, wind, LP; H.P. 1 Trans. or meter no. ____

Descrip. MP ____ ft above below LSD, Alt. MP ____

Alt. LSD: 282 282 Accuracy: (source) 10' topo

Water Level 70 ft above below MP; Ft above below LSD 70 Accuracy: Est

Date meas: 4-15-69 461 Yield: 23R gpm 23 Method determined ____

Drawdown: ____ ft ____ Accuracy: ____ Pumping period ____ hrs ____

QUALITY OF WATER DATA: Iron ____ ppm Sulfate ____ ppm Chloride ____ ppm Hard. ____ ppm

Sp. Conduct ____ K x 10^6 Temp. ____ °F Date sampled ____

Taste, color, etc. ____

Well No.

Well No. B-09-29-605

Latitude-longitude N S d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: (20–21) Section:

(23) Drainage Basin: (24–25) Subbasin: (26)

Topo of well site: (D) depression, (C) stream channel, (E) dunes, (F) flat, (H) hilltop, (K) sink, (L) swamp, (Ø) offshore, (P) pediment, (S) hillside, (T) terrace, (U) undulating, (V) valley flat (27) 5

MAJOR AQUIFER: system, series (28–29) Yegua aquifer, formation, group (30–31)

Lithology: (32–33) Origin: (34) Aquifer Thickness: ft

(35–37) Length of well open to: ft (38–40) Depth to top of: ft (41–43)

MINOR AQUIFER: system, series (44–45) aquifer, formation, group (46–47)

Lithology: (48–49) Origin: (50) Aquifer Thickness: ft

(51–53) Length of well open to: ft (54–56) Depth to top of: ft (57–59)

Intervals Screened:

Depth to consolidated rock: ft (60–63) Source of data: (64)

Depth to basement: ft (65–68) Source of data: (69)

Surficial material: (70–71) Infiltration characteristics: (72)

Coefficient Trans: gpd/ft (73–75) Coefficient Storage: (76–78)

Coefficient Perm: gpd/ft^2; Spec cap: gpm/ft; Number of geologic cards: (79)

Well No.

GW 7

Send original copy by certified mail to the Texas Water Development Board P. O. Box 12386 Austin, Texas 78711

State of Texas

WATER WELL REPORT

For TWDB use only
Well No. 57-33-41A
Located on map 1 c 5
Received:
Form GW 8
Form GW 9

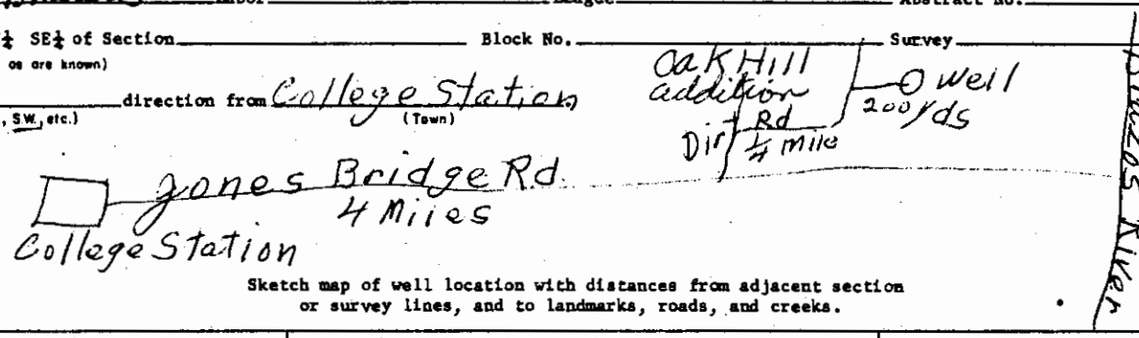
1) OWNER:
Person having well drilled N. J. Rowman (Name) Address 4 (Street or RFD) Bryan (City), Texas (State)

Landowner Same (Name) Address (Street or RFD) (City) (State)

2) LOCATION OF WELL:
County Brazos Labor League Abstract No.

NW¼ NE¼ SW¼ SE¼ of Section Block No. Survey
(Circle as many as are known)

4 miles in (NE., SW, etc.) direction from College Station (Town)



Sketch map of well location with distances from adjacent section or survey lines, and to landmarks, roads, and creeks.

3) TYPE OF WORK (Check):
New Well ☒ Deepening ☐
Reconditioning ☐ Plugging ☐

4) PROPOSED USE (Check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

5) TYPE OF WELL (Check):
Rotary ☒ Driven ☐ Dug ☐
Cable ☐ Jetted ☐ Bored ☐

6) WELL LOG:
Diameter of hole 6¼ in. Depth drilled 307 ft. Depth of completed well 307 ft. Date drilled 4-15-67
All measurements made from 0 ft. above ground level.

From (ft.)	To (ft.)	Description and color of formation material
0	40	shale
40	50	Gravel
50	72	shale
72	90	sandy shale
90	160	shale
160	162	sand
162	203	shale
203	210	sand
210	277	shale
277	300	sand
300	307	shaley sand

(Use reverse side if necessary)

7) COMPLETION (Check):
Straight wall ☐ Gravel packed ☐ Other ☒
Under reamed ☐ Open hole ☐

8) WATER LEVEL:
Static level 70 ft. below land surface Date 4-15-67
Artesian pressure lbs. per square inch Date

9) CASING:
Type: old ☐ New ☒ Steel ☐ Plastic ☐ Other ☐
Cemented from None ft. to ft.

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Gage
4	0	173	

10) SCREEN:
Type stainless steel
Perforated ☐ Slotted ☐

Diameter (inches)	Setting From (ft.)	Setting To (ft.)	Slot size
2	173	307	

11) WELL TESTS:
Was a pump test made? ☐ Yes ☐ No If yes by whom?
Gethedly air Carl Ryan
Yield: gpm with ft. drawdown after hrs
Bailer test gpm with ft. drawdown after hrs
Artesian flow gpm Date
Temperature of water
Was a chemical analysis made? ☐ Yes ☐ No
Did any strata contain undesirable water? ☐ Yes ☐ No
Type of water? depth of strata

12) PUMP DATA:
Manufacturer's Name Aermotor, Chse.
Type Submersible H.P. 1
Designed pumping rate 1400 gpm ☐ gph ☒
Type power unit Elect
Depth to bowls, cylinder, jet, etc., 147 ft. below land surface.

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

NAME Carl Ryan (Type or Print) Water Well Drillers Registration No. HH9

Address 4 (Street or RFD) Bryan (City) Texas (State)

(Signed) Carl Ryan (Water Well Driller) Carl Ryan Drilling Co. (Company Name)

Please attach electric log, chemical analysis, and other pertinent information, if available. BJ59-29605

FORM 9-164 (DEC. 68)

No. BJ-59-29-606

WELL SCHEDULE

U. S. DEPT. OF THE INTERIOR — GEOLOGICAL SURVEY — WATER RESOURCES DIVISION

MASTER CARD

Record by CRT Source of data log Date 12-8-69 Map Chances Store

State Tex 49 County (or town) Brazos BZ

Latitude: 30 deg 34 min 23 sec N Longitude: 96 deg 23 min 20 sec W Sequential number: 1

Lat-long accuracy: T. ____ N S. R ____ W. Sec ____, ____ ¼, ____ ¼, ____ ¼ B & M

Local well number: BJ-59-29-606 Other number: ____

Local use: ____ Owner or name: BB Holland

Owner or name: ____ Address: ____

Ownership: (C) County, (F) Fed Gov't, (M) City, (N) Corp or Co, (P) Private, (S) State Agency, (W) Water Dist ____ P

Use of water: (A) Air cond, (B) Bottling, (C) Comm, (D) Dewater, (E) Power, (F) Fire, (H) Dom, (I) Irr, (M) Ind, (N) P S, (P) Rec, (S) Stock, (T) Inactive, (U) Unused, (V) Repressure, (W) Recharge, (X) Desal-P S, (Y) Desal-other, (Z) Other ____ H

Use of well: (A) Anode, (D) Drain, (G) Seismic, (H) Heat Res, (O) Obs, (P) Oil-gas, (R) Recharge, (T) Test, (U) Unused, (W) Withdraw, (X) Waste, (Z) Destroyed W

DATA AVAILABLE: Well data ____ Freq. W/L meas.: ____ Field aquifer char. ____

Hyd. lab. data: ____

Qual. water data; type: ____

Freq. sampling: ____ Pumpage inventory: yes no, period: ____

Aperture cards: ____ yes

Log data: log on TWDB sheet

WELL-DESCRIPTION CARD

SAME AS ON MASTER CARD Depth well: 190 ft 190 Meas. rept log accuracy ____

Depth cased; (first perf.) 159 ft 159 Casing type: S ; Diam. 4, 2 in 4

Finish: (C) porous concrete, (F) gravel w. (perf.), (G) gravel w. (screen), (H) horiz. gallary, (O) open end, (P) perf., screen, (S) (T) sd. pt., (W) shored, (X) open hole, (B) other ____ S

Method Drilled: (A) air rot, (B) bored, (C) cable, (D) dug, (H) hyd rot., (J) jetted, (P) air percussion, (R) raverse rotary, (T) trenching, (V) driven, (W) drive wash, (B) other ____ H

Date Drilled 4-27-63 963 Pump intake setting: 105 ft 105

Driller: Carl Ryan (name), ____ (address)

Lift (type): (A) air, (B) bucket, (C) cant, (J) jet, (L) multiple, (cant.), (M) multiple, (turb.), (N) none, (P) piston, (R) rot, (S) submerg, (T) turb, (B) other S Deep Shallow D

Power (type): diesel, elec, nat gas, gasoline, hand, LP gas, wind; H.P. 1 Trans. or meter no. ____

Descrip. MP ____ ft above below LSD, Alt. MP ____

Alt. LSD: 290 290 Accuracy: (source) 10' topo

Water Level 64 ft above below MP; Ft above below LSD 64 Accuracy: Unk

Date meas: 4-27-63 63 Yield: 1118 gpm 1118 Method determined ____

Drawdown: ____ ft ____ Accuracy: ____ Pumping period ____ hrs ____

QUALITY OF WATER DATA: Iron ____ ppm ____ Sulfate ____ ppm ____ Chloride ____ ppm ____ Hard. ____ ppm ____

Sp. Conduct ____ K x 10^6 ____ Temp. ____ °F ____ Date sampled ____

Taste, color, etc. ____

Well No.

Well No. BJ-7-29-606

Latitude-longitude N S d m s d m s

HYDROGEOLOGIC CARD

SAME AS ON MASTER CARD (1–19) Physiographic Province: _____ (20–21) Section: _____

_____ (22) Drainage Basin: _____ (23–25) Subbasin: _____ (26)

Topo of well site: (D) depression, (C) stream channel, (E) dunes, (F) flat, (H) hilltop, (K) sink, (L) swamp, (Q) offshore, (P) pediment, (S) hillside, (T) terrace, (U) undulating, (V) valley flat _____ (27)

MAJOR AQUIFER: _____ system, _____ series (28–29) Upper Miocene aquifer, formation, group (30–31)

Lithology: _____ (32–33) Origin: _____ (34) Aquifer Thickness: _____ ft

(35–37) Length of well open to: _____ ft (38–40) Depth to top of: _____ ft (41–43)

MINOR AQUIFER: _____ system, _____ series (44–45) _____ aquifer, formation, group (46–47)

Lithology: _____ (48–49) Origin: _____ (50) Aquifer Thickness: _____ ft

(51–53) Length of well open to: _____ ft (54–56) Depth to top of: _____ ft (57–59)

Intervals Screened: _____

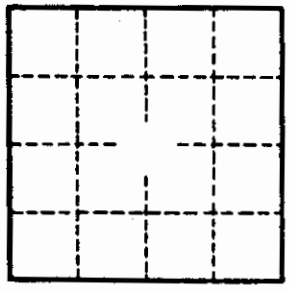
Depth to consolidated rock: _____ ft (60–63) Source of data: _____ (64)

Depth to basement: _____ ft (65–68) Source of data: _____ (69)

Surficial material: _____ (70–71) Infiltration characteristics: _____ (72)

Coefficient Trans: _____ gpd/ft (73–75) Coefficient Storage: _____ (76–78)

Coefficient Perm: _____ gpd/ft^2; Spec cap: _____ gpm/ft; Number of geologic cards: _____ (79)



Well No. _____

GPO 869-201

b: B. Holland

RECEIVED
MAY 3 - 1963

File original copy with
Texas Water Commission
P. O. Box 2311, Capitol Station
Austin 11, Texas

State of Texas

DRILLERS LOG AND WELL DATA REPORT

TEXAS

For use by TWC only
Well No. [illegible]
Located on map [illegible]
By [illegible] Date
Map no. [illegible]

1) Well Owner: 4 (Street or RFD) Bryan (City) Texas (State)

2) Land Owner: Same (Street or RFD) (City) (State)

3) Intended use: Industrial ☐ ; Municipal ☐ ; Irrigation ☐ ; Other Household + Livestock

4) Location of well: County Brazos Labor _____ League _____ Abstract No. _____

NW¼ NE¼ SW¼ SE¼ (Circle as many as are known) of Section _____ Block No. _____ Survey _____

3 miles in west (NE, SW, etc) direction
from College Station (Town)

3 miles out on Jones Bridge Road
pass air Port, one mile on dirt road
to the left

Sketch map of well location with distances from two section or survey lines, and to landmarks, roads, and creeks.

DRILLERS LOG OF WELL

Method of drilling: Rotary Diameter of hole 6¼ in. Date drilled April 27, 1963

All measurements made from 0 ft. above ground level.

From (ft)	To (ft)	Description and color of formation material
0	35	Blue Clay
35	47	White Sand
47	160	Blue Shale
160	190	Sand

From (ft)	To (ft)	Description and color of formation material
[illegible]	[illegible]	

(Use continuation sheets if necessary)

COMPLETION DATA

COMPLETION

Straight wall ☐
Under reamed ☐
Gravel packed ☐
Open hole ☐
Other Lead Seal

CASING

Type: Old ☐ New ☑
Cemented from None ft.
to _____ ft.

Diameter (inches)	Setting from (ft)	Setting to (ft)
4"	0	159

SCREEN

Type Stainless Steel
Perforated ☐ Slotted ☐

Diameter (inches)	Setting from (ft)	Setting to (ft)
2"	159	190

I hereby certify that this well was drilled by me (or under my supervision) and that each and all of the statements herein are true to the best of my knowledge and belief.

Driller Rt. 4, Box 459 (Street) Bryan (City) Texas (State) Reg. No. 290

Please attach electric log, chemical analysis, and other pertinent information if available.

If well was tested by your company or if you installed the permanent pump please complete the following:

WATER LEVEL AND PUMP DATA

Static water level 64
ft. below Surf. of Ground

Pumping level

feet	hours	gpm

Pump type Sub. Goulds
Designed pumping rate 650 gpm ☐ gph ☑
Type power unit Elect.
Horsepower 1
Depth to bowls, cylinder, jet, etc., 105 ft. below pump base.

BJ59-29-606

Name of contractor testing well or installing permanent pump if other than your company: _____

C-34 (62-4)

9

Attachment IIC
Transportation

ATTACHMENT IIC-1

Attachment IIC-1
Texas Department of Transportation (TxDOT) Correspondence

September 19, 2024

Chad Bohne, P.E.
Bryan District Engineer
Texas Department of Transportation (TxDOT)
2591 N. Earl Rudder Freeway
Bryan, Texas 77803

Re: Traffic and Location Restrictions Review
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

Dear Mr. Bohne:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, Brazos County, Texas. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**. Current and future traffic volumes for roadways within one mile of the site are shown on **Figure II-8**.

Attachment 1 is a project summary and site location maps. **Attachment 2** is a copy of the transportation analysis portion of the RA.

In order to comply with the current Texas Administrative Code 30 TAC §330.61(i)(4), we are requesting a letter from TxDOT indicating that TxDOT has reviewed traffic and location impacts associated with the Transfer Station and determined that the Facility will not adversely affect roadways in the vicinity of the Facility. By submission of this letter, we are officially demonstrating coordination with TxDOT as required by the TAC.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – Transportation Analysis

4759.0001H000

ATTACHMENT 1

Attachment 1
Project Summary

1. Introduction

Brannon Industrial Group, LLC (“BIG”) is preparing a Registration Application (RA) to be submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division for an operation of the BVR Waste and Recycling Transfer Station (“Facility” or “Site”), a Type V Transfer Station. The Facility is located with the extraterritorial jurisdiction of City of College Station, Brazos County, Texas.

BVR Waste and Recycling Transfer Station occupies 4.419 acres of a 10-acre tract owned by BIG. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

2. Facility Location

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on Figures I-1 and I-2. Additionally, an aerial photograph showing the site is provided as Figure I-3, and the general topographic map is included as Figure I-4.

The Facility is located on the property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

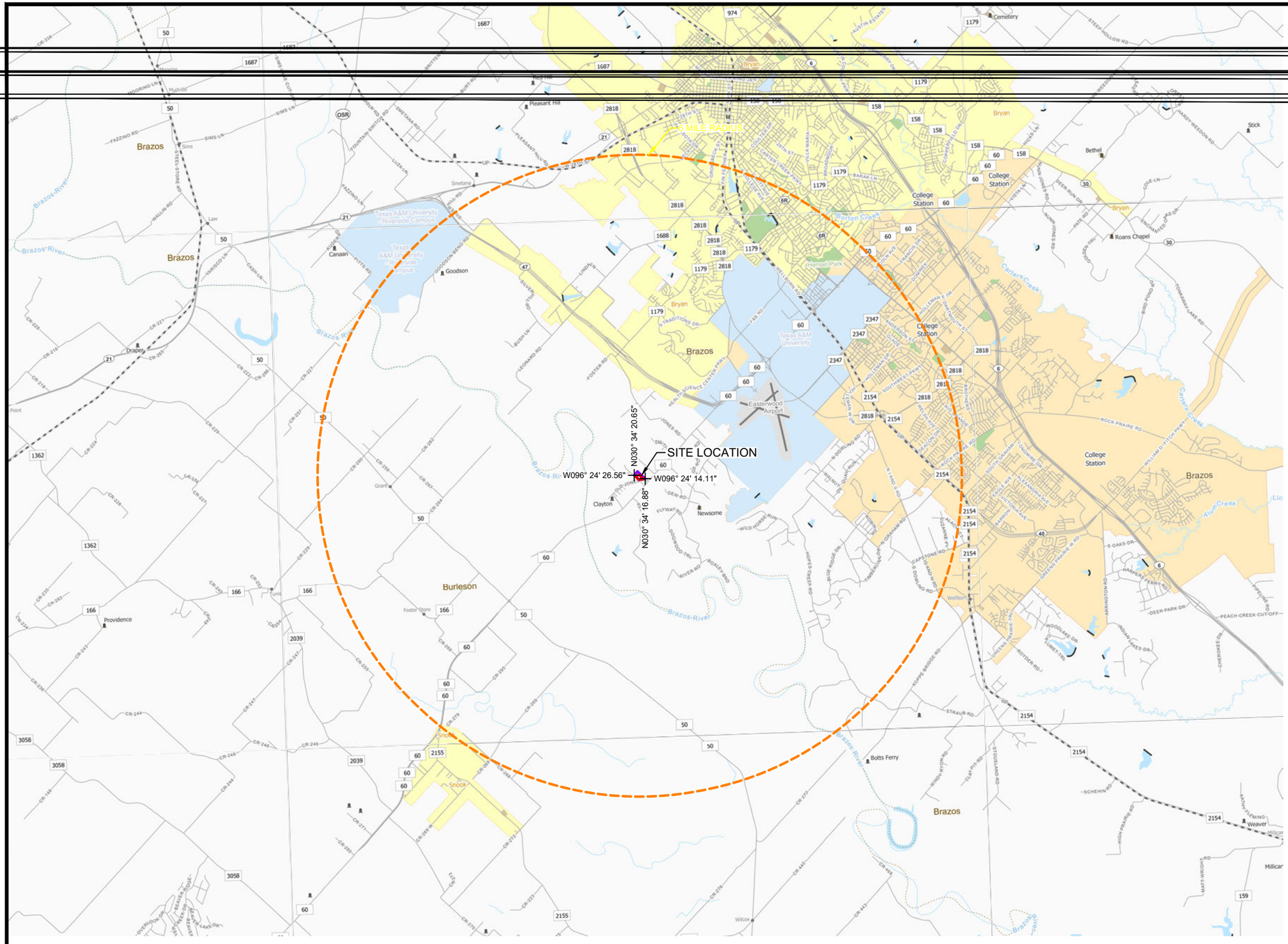
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
84551
LICENSED
PROFESSIONAL ENGINEER
INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

N

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

2 MILES 0 2 MILES

Title:
GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

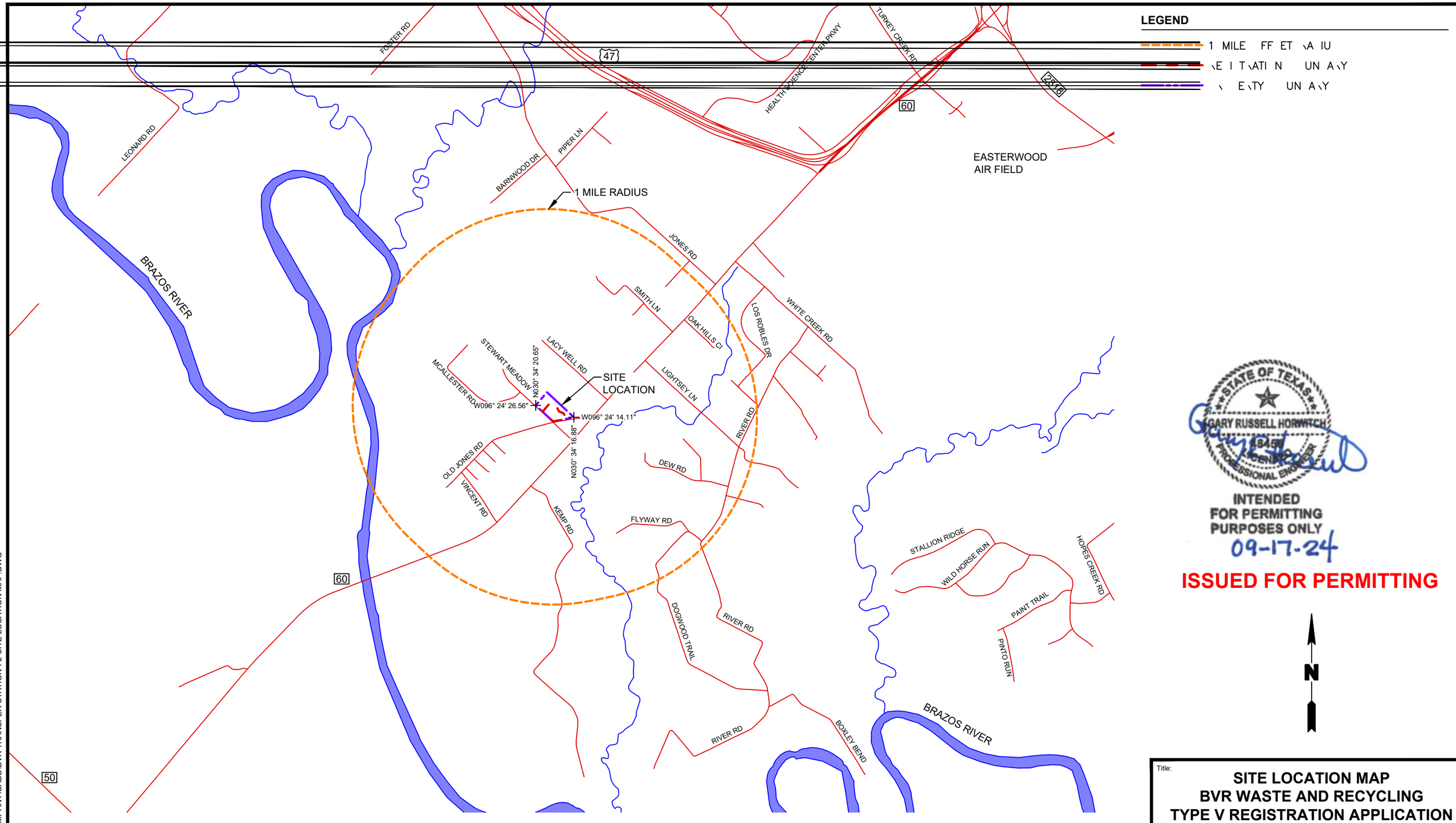
Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024
Prepared by: AEP	Scale: AS SHOWN
Project Mgr: ATN	Project: 4759.0001H000
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG	

FIGURE I-1

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

STATE OF TEXAS
GARY RUSSELL HORWITCH
84570
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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LEGEND

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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84598
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

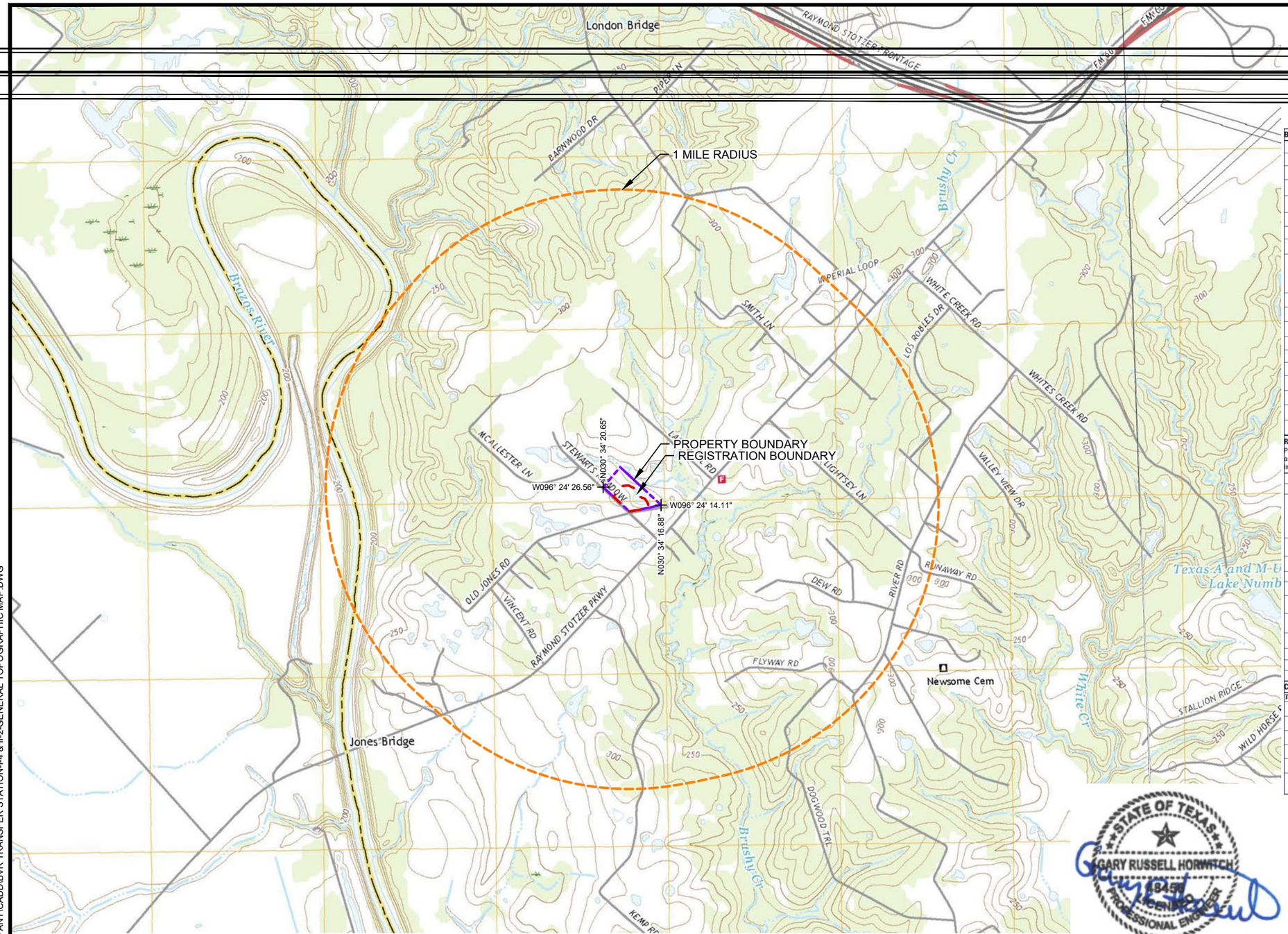
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG



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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ○ 9134 BM 277)
- Third-order or better elevation, recoverable mark, no tablet (5628)
- With number and elevation (67 ⊡ 4567)

Horizontal control

- Third-order or better, permanent mark (△ Neace Neace)
- With third-order or better elevation (BM △ 62 Pike BM393)
- With checked spot elevation (△ 1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84554
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	I-4
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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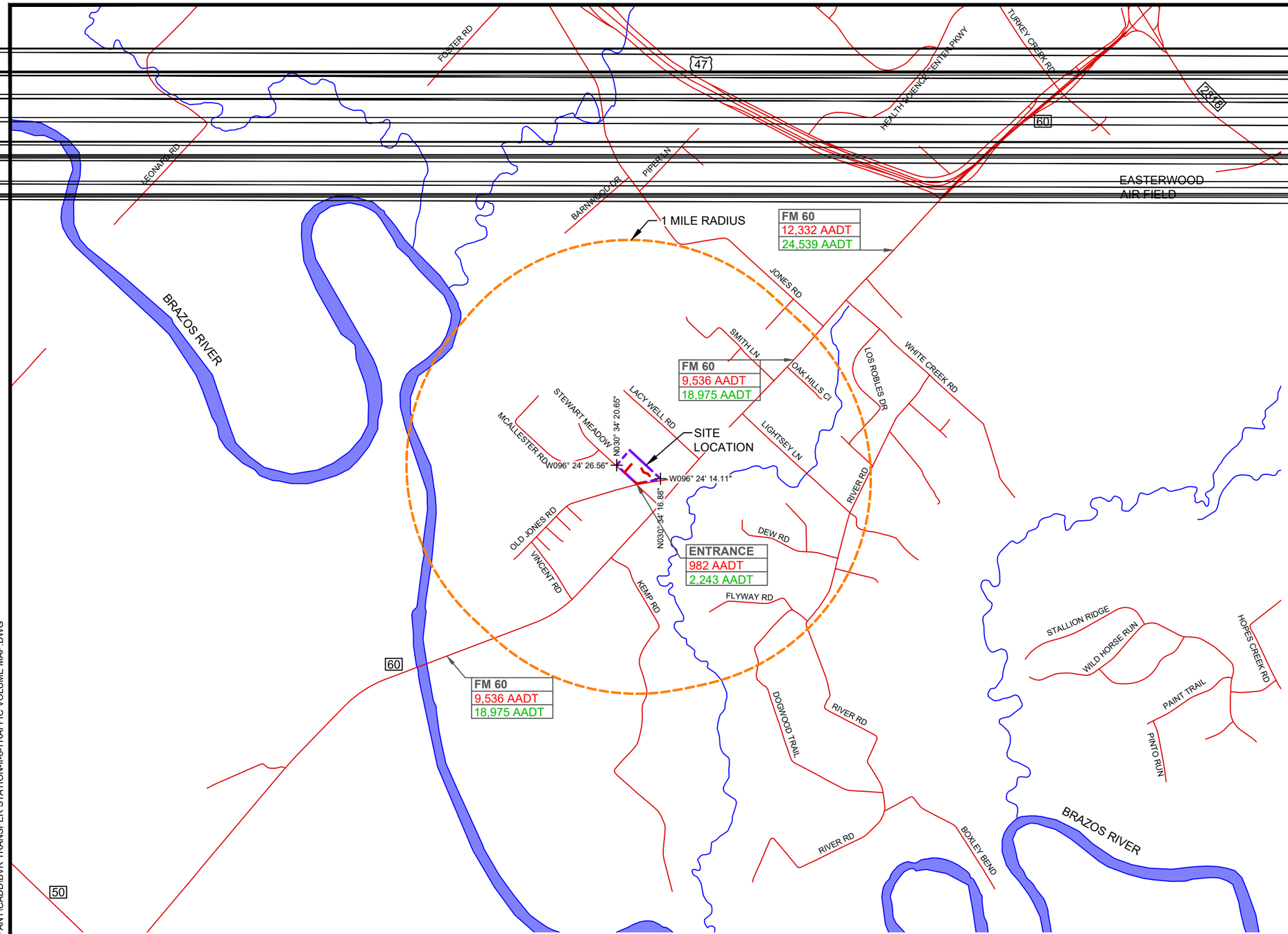

LEGEND

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- 24,539 AADT FUTU\E ANNUAL AVE\A E AILY T\AFFI 41

SURFACE TYPES

FM 60	ASPHALTIC CONCRETE PAVEMENT

NOTE(S)

1. 2023 ANNUAL AVERAGE DAILY TRAFFIC COUNTS PROVIDED BY TXDOT.

REFERENCE(S)

1. BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG.
2. ANNUAL AVERAGE DAILY TRAFFIC AND FUTURE AADT COUNTS WERE PROVIDED BY TXDOT THROUGH HTTP://WWW.DOT.STATE.TX.US/APPS/STATEWIDE_MAPPING/STATEWIDEPLANNINGMAP.HTML VISITED IN MARCH 2023.

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STATE OF TEXAS
GARY RUSSELL HORWITCH
88456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

TRAFFIC VOLUME MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-8
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-8-TRAFFIC VOLUME MAP.DWG		

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ATTACHMENT 2

Attachment 2
Transportation Analysis

1. Transportation Analysis

1.1 Transportation Analysis 30 TAC §330.61(i)(1)-(4)

Consistent with 30 TAC §330.61(i)(1)-(4), a transportation analysis was performed for the proposed BVR Waste and Recycling Transfer Station. The surface types and traffic volumes on the access roads in the vicinity of the site have been analyzed for their availability and adequacy.

1.1.1 Access Road Adequacy

The Facility sits north of the intersection of Stewarts Meadow and Old Jones Road. There is existing direct access to the Facility. The Facility can be reached by taking FM 60 (also known as Raymond Stotzer Parkway) to Old Jones Road. The facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. The Facility entrance and exits are paved.

Table II-1. Access Roadway Characteristics

Roadway	Maximum Weight (pounds)	Number of Lanes[1]	Curb/Shoulders	Surface Type	Entity Responsible for Maintenance
FM 60 / Raymond Stotzer Parkway	80,000	4	Shoulders and Center divider (also acting as a turn lane)	Asphaltic concrete	TxDOT
Old Jones Road	80,000	2	N/A	Paved	Brazos County
Stewarts Meadow	80,000	2	N/A	Paved	Brazos County

[1] The number of lanes is total in both direction

According to TxDOT Statewide Planning Map, accessed November 2021, there are no projects with construction to begin within 4 years or to begin in 5 to 10 years within one mile of the proposed Facility.

1.1.2 Access Road Traffic Volumes

Table II-2 presents the latest traffic volumes on the access roads in the vicinity of the site provided by TxDOT through their Statewide Planning Map. The annual average daily traffic (AADT) for FM 60 / Raymond Stotzer Parkway is provided for 2021 and a projected AADT is provided for 2041. The 2021 AADT and projected 2041 AADT for Old Jones Rd are also available. These traffic counts represent vehicles and represent traffic in both directions of travel. On the local roadways, TxDOT does not adjust the average daily traffic for trucks or seasonal variations. All traffic counts are for a 24-hour period and for both directions of travel. No AADT data is available for Stewarts Meadow, which is a less frequently used local public road. Current and future traffic volumes for roadways within one mile of the site are shown on **Figure II-8**.

Table II-2 also shows the signalized highway generalized service volume for the local roadways.

Table II-2. Traffic Volumes

Roadway	2021 AADT	2041 AADT	Level of Service B Service Volume[2]
FM 60 / Raymond Stotzer Parkway	9,536	18,895	34,600[3]
Old Jones Road	982[1]	2,243	16,500[4]
Stewarts Meadow	N/A	N/A	16,500[4]
FM 60, south of Kemp Rd	9,536	18,975	N/A
FM 60, north of Lightsey Ln	12,332	24,539	NA

[1] The AADT data for Old Jones Road is from TxDOT dated 2017, not 2021. The projected AADT data is for 2041.

[2] **Table 15. Signalized highway generalized service volume table**, "*Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System*," U.S. Department of Transportation, Federal Highway Administration, October 2017 (see **Attachment IIC-2)**

[3] 4 lanes, 50% Green Time, Speed Limit 60 mph

[4] 2 lanes, 50% Green Time, Speed Limit 35 mph

1.1.3 Facility Generated Traffic

The Facility is currently operating under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, receives waste loads daily. It is estimated that 135 waste transfer vehicles visit the facility each day, with the number potentially increasing to 270 vehicles during the operational period. Despite the potential increase in vehicles generated by the Facility, the Level of Service for nearby roadways is anticipated to remain unchanged by the year 2041. Consequently, any traffic increase is expected to align with the general traffic growth on Old Jones Road and FM 60 / Raymond Stotzer Parkway.

Based on the findings of the transportation analysis, there are no existing or future restrictions on the main access roadway in the vicinity of the Facility that would prevent safe and efficient operations for both the generated traffic as well as the other vehicles in the area.

2. Conclusion

In conclusion, Old Jones Road and the surrounding access roads within a one-mile radius of the facility are adequate for the projected traffic of the facility. Roux Associates, Inc. requests written consent that there are no traffic and location restrictions that will arise due to the proposed registration application of BVR Waste and Recycling Transfer Station.

ATTACHMENT IIC-2

Attachment IIC-2
Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System

Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System

October 2017

U.S. Department of Transportation
Federal Highway Administration

Notice

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16. Abstract

The Federal Highway Administration's Highway Performance Monitoring System (HPMS) provides information on the extent, condition, performance, use, and operating characteristics of the Nation's highways. Each year State Transportation Agencies must submit HPMS data to the FHWA. The Sample Panel portion of HPMS provides detailed statistical data on a randomly selected sample of roadway sections on the State's public road system. One data item submitted for sample panels is capacity (Sample Panel Data Item 69). The HPMS Field Manual guidance for capacity is as follows: "The capacity of a roadway facility is the maximum reasonable hourly rate at which vehicles can be expected to transverse a point or a uniform section of lane or roadway during a given time period under prevailing road-way, traffic, and control conditions." Reasonable expectancy is that the stated capacity can be achieved repeatedly. The Highway Capacity Manual (HCM) provides procedures, formulas, graphics, and tables in assessing roadway capacity. This item should be estimated based on procedures consistent with the HCM.

The results of the project are the development of:
1. Capacity computation methods that use HPMS data items to the extent possible, and can be used to validate HPMS Sample Panel Item 69; and
2. Simplified Methodologies to Create Generalized Level of Service (LOS) Lookup Tables. Both of these results use the most recent HCM methodologies. Specifically, it was found that the procedures in National Cooperative Research Program Report 825 ("Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual") could be easily adapted to the types of data present in HPMS.

17. Key Words	18. Distribution Statement
Highway Capacity Manual; level of service; generalized service volumes; HPMS data	No restrictions

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CHAPTER 1. INTRODUCTION

The Federal Highway Administration's (FHWA) Highway Performance Monitoring System (HPMS) provides information on the extent, condition, performance, use, and operating characteristics of the Nation's highways. Each year State Transportation Agencies (STA) must submit HPMS data to the FHWA. Certain data items, including length, lane-miles, and travel are required for all public roads that are eligible for Federal-aid highway funds. The data items reported for all public roads are known as full extent data items. In addition to full extent data items, there are data items that are reported on a partial extent basis, which are known as sample panel data items. The sample panel provides more detailed statistical data on a randomly selected sample of roadway sections in the State's public road system. One data item submitted for sample panels is capacity (Sample Panel Data Item 69). The HPMS Field Manual guidance for capacity is as follows: "The capacity of a roadway facility is the maximum reasonable hourly rate at which vehicles can be expected to transverse a point or a uniform section of lane or roadway during a given time period under prevailing roadway, traffic, and control conditions. Reasonable expectancy is that the stated capacity can be achieved repeatedly. The *Highway Capacity Manual (HCM)* provides procedures, formulas, graphics, and tables in assessing roadway capacity. This item should be estimated based on procedures consistent with the HCM. All urban and rural capacity for freeways and other multilane facilities is for the peak direction. If a rural facility has two or three lanes with one-way operation, it is considered to be a multilane facility for determining capacity. The capacity for rural facilities with two or three lanes and two-way operation is for both directions."

The objectives of the project are to develop:

1. Capacity computation methods that: 1) use HPMS data items to the extent possible, and 2) can be used to validate HPMS Sample Panel Item 69.
2. Simplified methodologies to create generalized level of service (LOS) lookup tables.
3. These two objectives were covered by tasks 2 and 3 and are presented as separate sections below (figure 1).

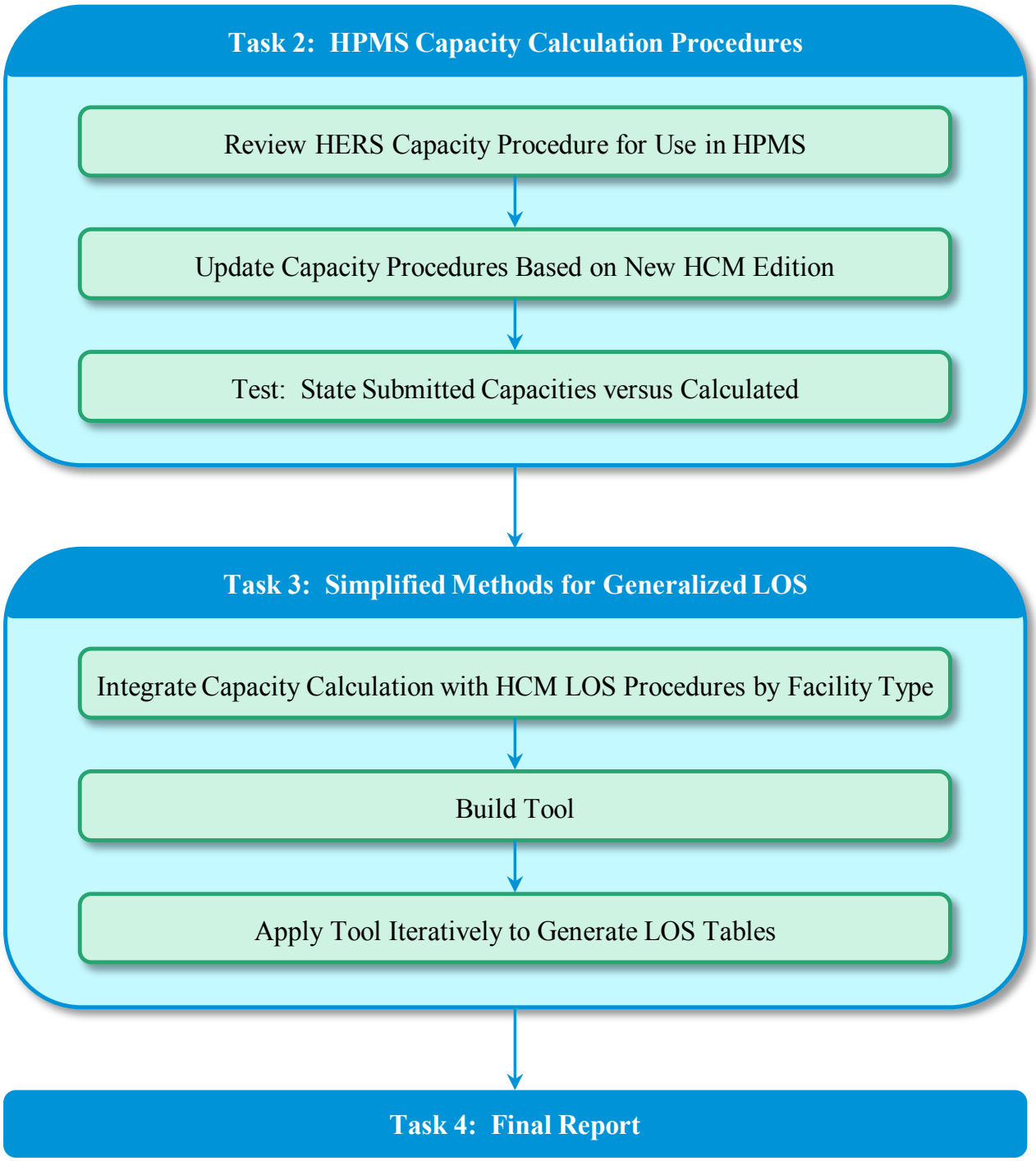

Figure 1. Flow chart. Overview of major task activities.

CHAPTER 2. DEVELOPMENT OF CAPACITY COMPUTATION METHODS

REVIEW HIGHWAY ECONOMIC REQUIREMENTS SYSTEM CAPACITY PROCEDURES FOR USE IN HIGHWAY PERFORMANCE MONITORING SYSTEM

The Highway Economic Requirements System (HERS) capacity procedures, completed in 2014, adapted the Highway Capacity Manual (HCM) 2010 capacity calculation methods.[1] It utilized Highway Performance Monitoring System (HPMS) data items to the maximum extent but also had to make many assumptions about default values. The HPMS data items that were used are shown in table 1. HCM capacity input data that had to set to default values are as follows:

- **Freeways—**ramp density, peak-hour factor, and driver population factor.
- **Multilane highways—**driveway density, peak-hour factor, and driver population factor.
- **Signals—**lane group assignments (based on presence of right- and left-turning lanes), grade, number of parking maneuvers per hour, bus blockage, area type, lane utilization, left- and right-turn lanes.
- **Rural two-lane highways—**driveway density and peak-hour factor.
- **Stop signs—**conflicting flow rates, base critical gap, follow-up times, and assignment of turning movements to lanes.

The project team compared the HERS procedures with National Cooperative Highway Research Program (NCHRP) Project 07-22, Planning and Preliminary Engineering Applications Guide to the HCM. The report has recently been published as NCHRP Report 825.[2] Its midlevel analysis methods for capacity are very similar to the HERS procedures which preceded it. Where the two methods differ, we developed a test procedure using 2014 HPMS data to compare the capacity values obtained with each method. The results of the comparison are as follows.

Table 1. Highway performance monitoring system data items used in the highway economic requirements system capacity calculation procedures.

	Facility Type				
HPMS Data Item	**Freeways**	**Multilane**	**Signals**	**Rural Two Lane**	**Stop Sign**
Lane Width	●	●	●	●	–
Right Shoulder Width	●	●	–	●	–
Left Shoulder Width	–	●	–	–	–
Through Lanes	●	●	–	–	●
Peak Lanes	–	–	–	–	●
% SU Trucks	●	●	●	●	●

[1] Task 6 Technical Memo: Procedures for Estimating Highway Capacity, May 2014.

[2] Dowling, Richard et al., *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual*, NCHRP Report 825, 2016, http://www.trb.org/NCHRP/Blurbs/174958.aspx.

Table 1. Highway performance monitoring system data items used in the highway economic requirements system capacity calculation procedures (continuation).

HPMS Data Item	Facility Type				
	Freeways	**Multilane**	**Signals**	**Rural Two Lane**	**Stop Sign**
% Comb. Trucks	●	●	●	●	●
Median Type	–	–	–	–	–
No. Other Intersections	–	●	–	●	–
Right-Turn Lanes	–	–	●	–	●
Left-Turn Lanes	–	–	●	–	●
K-factor	–	–	●	●	●
D-factor	–	–	●	●	●
Percent Green Lime	–	–	●	–	–
Terrain	●	●	–	●	–
Functional Class	–	–	–	–	●
Speed Limit[a]	–	–	–	●	–

[a] Speed limit is generally used in the computation of service measures but except for rural two-lane highways is not used in capacity calculation.

Freeways

The HERS capacity procedure is very similar to that of NCHRP 825. The HERS procedure follows the HCM procedure verbatim, with adjustments for lane width, lateral clearance, interchange density, heavy trucks, and the peak-hour factor. The NCHRP method excludes the peak-hour factor. However, their formulations for the final capacity value are slightly different. When applied to 2014 Sample Panel data (21,940 freeway sections), HERS-developed capacity values are five percent lower than those of NCHRP 825. We consider this difference negligible, ***so we recommend the NCHRP 825 method for capacity and (Level of Service) LOS calculations.***

$$Capacity = \frac{\left(2{,}200 + 10 \times (\min(70, FFS) - 50)\right)}{1 + \%HV/100} \times Lanes$$

Where: FFS = free flow speed
%HV = percent of heavy vehicles (decimal), with heavy vehicles consisting of trucks with more than four tires, buses, and recreational vehicles Multilane Highways

Figure 2. Equation. Capacity calculation for freeway capacity.

$$FFS = 75.4 - f_{LW} - f_{RLC}$$

Where: f_{LW} = adjustment for lane width (HPMS data item 34)
f_{RLC} = adjustment for right side lateral clearance (HPMS data item 38)
Lanes = HPMS data item 10

Figure 3. Equation. Calculation or free flow speed for freeways.

The HERS method follows the HCM faithfully. NCHRP 825 recommends using the HCM method, so the two methods are the same. ***Therefore, the HCM method (which also is the HERS method) is recommended for capacity and LOS calculations.***

Multilane Highways

The HERS method follows the HCM faithfully. NCHRP 825 recommends using the HCM method, so the two methods are the same. ***Therefore, the HCM method (which is also the HERS method) is recommended for capacity and LOS calculations.***

$$Capacity = BaseCapacity \times f_{HV} \times Lanes$$

Where: $BaseCapacity = 1{,}000 + 20 \times FFS; for\ FFS \leq 60; 2{,}200\ otherwise$

f_{HV} = adjustment for heavy vehicles

$$f_{HV} = \frac{1}{(1 + PT \times (ET - 1))}$$

PT = HPMS data item 23 + HPMS data item 25
ET = 1.5 if HPMS data item 2 indicates a forma urban area; otherwise:
= 1.5 if HPMS data item 44 = 1
= 2.5 if HPMS data item 44 = 2
= 4.5 if HPMS data item 44 = 3
FFS = HPMS data item 14 + 5
Lanes = HPMS data item 10

Figure 4. Equation. Calculation of capacity for multilane highways.

Signalized Highways

Different philosophies are taken between the HERS method and NCHRP 825 method. In the HERS method, the capacity of the entire approach is calculated. This done because in HERS' speed estimation, turning movement volumes are not available in HPMS and the volume on the entire segment is used. In the NCHRP 825 method, only the through movement is used. (It offers a solution if only total volume is available: if exclusive left-turn and right lanes exist, deduct 10 percent for each.) To be comparable, we used the HERS method to analyze just the through

movement. In the HERS method, saturation flow rate is adjusted downward for lane width, heavy vehicles, parking, and the peak-hour factor. In the NCHRP 825 method, saturation flow rate is unadjusted. As a result, when applied to the Sample Panel data (26,504 signalized sections), the HERS method produces capacities that are 14 percent lower than NCHRP 825. The main problem with the HERS method is that the turning lane and their volume assignments are based on many assumptions. ***Because of its simplicity in dealing with turning movements, we recommend the NCHRP 825 method for capacity and LOS calculations.***

$$Capacity = \frac{g}{C} \times Lanes \times 1{,}900$$

Where: g/C = HPMS data item 30
Lanes = HPMS data item 10

Figure 5. Equation. Calculation of capacity for signalized highways.

Two-Lane Highways with No Traffic Control

Completely different approaches are taken by the two methods. The HERS method assumes that no traffic control is present while the NCHRP 825 method includes delay at intersections if they are present. The HERS procedure calculates two-way capacity while the NCHRP method uses one-way capacity and assigns a fixed value, either 1,450 or 1,490 vehicles per hour, but capacity is not used in the calculation of LOS—it is only used to create a v/c ratio for screening. Because of this difference, no tests were made. The HERS method is quite complex, accounting for grades, heavy vehicles, peak-hour factor, and percent no passing zones. The NCHRP 825 approach is simpler for capacity, but the calculation of speed and associated LOS basically follows the same method as for the capacity calculation in HERS. This is because capacity is "backcalculated" in the HERS method so that the HERS speed equations, which are based on the AADT-to-capacity ratio, can be used. In the NCHRP 825 method, capacity is largely irrelevant for two-lane highway LOS as it is based on average travel speed or percent of time following. ***Because it is more closely tied to HCM methods for the calculation of average travel speed (the basis for LOS), we recommend the NCHRP 825 method for capacity (one-way) and LOS calculations. That is, the one-way capacity is set at 1,490 vehicles per hour.***

Stop-Controlled Highways

Very different capacity calculations are used in the HCM 2010 depending on whether an intersection has two-way stop control or all-way stop control. Unfortunately, it is impossible to distinguish the two conditions with HPMS data. Both HERS and NCHRP 825 procedures are complex and highly dependent on turning movements on all the approaches. The HERS procedure is based on the HCM 2000 procedure for two-way stop-controlled intersections. It is data intensive and makes many assumptions about turning movements based on the presence of turning lanes. In contrast, the NCHRP 825 procedure uses the highly simplified adaptation of the HCM procedure for all-way stop control and a more complex procedure for two-way stop control which is based on the update to the HCM 2010. For this reason, we did not run any comparisons between the two methods. ***Because, the two-way stop control procedures in NCHRP 825 is***

based on the recently updated version of the HCM 2010, we recommend that the NCHRP 825 procedure be used for capacity and LOS calculations. In doing so, it is assumed that all stop control is two-way.

Capacity = 1,200 vehicles/hour; where HPMS data item 10 = 1

= 1,500 vehicles/hour otherwise

Figure 6. Equation. Calculation of capacity for stop-controlled highways.

UPDATE CAPACITY PROCEDURES BASED ON NEW HIGHWAY CAPACITY MANUAL EDITION

The Major Update to the HCM 2010 has been released. We reviewed the new procedures against the HERS capacity procedures and found no changes in the way capacity is calculated except for two-way stop-controlled intersections. The NCHRP 825 method is consistent with the new HCM as the researchers had access to the draft chapters. Therefore, the recommendations made above are not changed.

CHAPTER 3. BACKGROUND DEVELOP SIMPLIFIED METHODOLOGIES TO CREATE GENERALIZED LEVEL OF SERVICE (LOS) LOOKUP TABLES

BACKGROUND

This report documents the work performed on Task 3: Develop Simplified Methodologies to Create Generalized Level of Service (LOS) Lookup Tables. At the kickoff meeting it was decided that a stand-alone tool would be built that can interface directly with Highway Performance Monitoring System (HPMS) data. Based on the task 2 assessment, the **National Cooperative Highway Research Program** (NCHRP) Report 825 version of the Highway Capacity Manual (HCM) procedures for calculating LOS has been programmed into this tool.[3] The advantage is that all relevant HPMS data elements could be used. Also, updating would be much easier—all that is required is to change the procedure rather than regenerate the massive lookup table that otherwise would have been created. In addition to the LOS designation for an HPMS section, the actual value of the service measure on which LOS is based will also be reported. It also was decided that generalized service volume tables for each facility would be produced, accounting for all of the nondefault factors that are covered by the NCHRP 825 methodology.

The types of facilities that are included in the analysis are as follows. These follow the facility types covered by the HCM:

- Freeways.
- Multilane highways.
- Rural two-lane highways.
- Signalized highways.
- Stop-controlled highways.

HPMS sections can be grouped into these categories based on their data elements. A hierarchy is used to make these assignments:

- If functional system is one or two, and full access control exists, then the section is a freeway.
- If stop signs exist, then the section is stop controlled.
- If signals exist, then the section is signalized.
- If through lanes are greater than or equal to four, the section is multilane.
- If through lanes are equal to two or three and the urban code indicates rural, the section is rural two lane.

However, a significant number of HPMS Sample Panel sections (about 30,000) cannot be classified using the above scheme. These tend to be two-, three-lane urban highways with no traffic control device on the actual section. Level of Service was not calculated for these

[3] Dowling, Richard et al., *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual*, NCHRP Report 825, 2016, http://www.trb.org/NCHRP/Blurbs/174958.aspx.

sections. One option for these sections is to treat them as signalized highways with 100 percent green time, but this results in a vast majority in LOS A, which is most likely misleading. Therefore, Level of Service was not calculated for these sections.

DEFAULT VALUES

For freeways and multilane highways, the NCHRP 825 method is followed directly and all of the required data elements are present in the HPMS Sample Panel. For signalized highways, the only data element not present in HPMS is cycle length. The following cycle lengths are assumed:

- **Principal arterials—**120 seconds.
- **Minor arterials—**90 seconds.
- **Collectors—**60 seconds.

For rural two-lane highways, LOS is based on average travel speed (ATS). A greatly simplified method was used for stop-controlled highways because so much of the required data on turning movements and cross-street volumes do not exist in HPMS:

- It is assumed that the section is two-way stop controlled.
- Conflicting flow rates are based on the values in table 2.

Table 2. Conflicting flow rates for two-way stop-controlled highways—vehicles per hour.

Land Use	Functional System		
	Principal Arterial	**Minor Arterial**	**Collector**
Rural	100	150	200
Urban	250	500	750

Preliminary analysis of the 2014 HPMS Sample Panel revealed that many data items used to undertake the LOS calculations were missing. As a result, the project team developed default values for the required data items. These were calculated as the median value for records where the data items were present (table 3).

RESULTS

Tables 4 and 5 present the results of applying the HCM-based LOS calculation procedures to the 2014 HPMS Sample Panel data. Tables 6 through 10 show the individual HPMS sections with LOS and service measure attached for each highway type; a separate spreadsheet contains the entire dataset. Tables 11 and 12 provide the LOS ranges for each highway type from the HCM.

Generalized service volume tables are provided in the appendix.

Table 3. Default values for level of service calculation.

HPMS Data Item	Freeways		Multilane			Rural Two Lane
	Urban	**Rural**	**Urban**	**Rural**	**Signalized**	
LANE_WIDTH	12	12	12	12	11	12
SHOULDER_WIDTH_R	10	10	10	10		5
AADT_SINGLE_UNIT	=AADT*0.034	=AADT*0.043	=AADT*0.038	=AADT*0.043		=AADT*0.051
AADT_COMBINATION	=AADT*0.060	=AADT*0.193	=AADT*0.035	=AADT*0.082		=AADT*0.048
K_FACTOR	10	9	10	10	10	11
D_FACTOR	55	55	59	57	57	57
MEDIAN_TYPE			3	2		
SPEED_LIMIT			55	65	40	55
PCT_GREEN_TIME					50	
SIGNAL_TYPE					2	
TERRAIN_TYPE	1	2	1	2		2

Table 4. Level of service for 2014 highway performance monitoring system sample panel—rural sections.

Area Type	Highway Type	Level of Service	No. Sections	Mileage	% of Mileage
Rural	Freeway	A	3,561	18,209	56.3%
Rural	Freeway	B	2,148	8,711	26.9%
Rural	Freeway	C	687	3,402	10.5%
Rural	Freeway	D	270	1,407	4.4%
Rural	Freeway	E	78	343	1.1%
Rural	Freeway	F	88	265	0.8%
Rural	**Freeway**	**A-F Total**	**6,832**	**32,336**	**100.0%**
Rural	Multilane	A	2,624	30,015	89.7%
Rural	Multilane	B	478	2,647	7.9%
Rural	Multilane	C	131	616	1.8%
Rural	Multilane	D	43	91	0.3%
Rural	Multilane	E	13	42	0.1%
Rural	Multilane	F	12	47	0.1%
Rural	**Multilane**	**A-F Total**	**3,301**	**33,459**	**100.0%**
Rural	Rural Two Lane	A	9,559	374,043	77.9%
Rural	Rural Two Lane	B	1,679	33,692	7.0%
Rural	Rural Two Lane	C	1,323	28,683	6.0%
Rural	Rural Two Lane	D	888	18,033	3.8%
Rural	Rural Two Lane	E	1,808	23,353	4.9%
Rural	Rural Two Lane	F	182	2,333	0.5%
Rural	**Rural Two Lane**	**A-F Total**	**15,439**	**480,137**	**100.0%**
Rural	Signalized	A	442	6,921	87.7%
Rural	Signalized	B	101	566	7.2%
Rural	Signalized	C	81	277	3.5%
Rural	Signalized	D	23	30	0.4%
Rural	Signalized	E	15	24	0.3%
Rural	Signalized	F	40	76	1.0%
Rural	**Signalized**	**A-F Total**	**702**	**7,894**	**100.0%**
Rural	Stop Controlled	A	100	1,334	1.0%
Rural	Stop Controlled	B	2,022	127,671	97.6%
Rural	Stop Controlled	C	62	1,359	1.0%
Rural	Stop Controlled	D	10	138	0.1%
Rural	Stop Controlled	E	6	177	0.1%
Rural	Stop Controlled	F	15	74	0.1%
Rural	**Stop Controlled**	**A-F Total**	**2,215**	**130,754**	**100.0%**

Note: Mileage is the expanded mileage—section length times the HPMS expansion factor.

Table 5. Level of service for 2014 highway performance monitoring system sample panel—urban sections.

Area Type	Highway Type	Level of Service	No. Sections	Mileage	% of Mileage
Urban	Freeway	A	3,507	6,338	21.7%
Urban	Freeway	B	3,631	6,465	22.2%
Urban	Freeway	C	3,170	6,445	22.1%
Urban	Freeway	D	2,130	4,397	15.1%
Urban	Freeway	E	975	2,107	7.2%
Urban	Freeway	F	1,695	3,414	11.7%
Urban	**Freeway**	**A-F Total**	**15,108**	**29,166**	**100.0%**
Urban	Multilane	A	5,774	18,605	56.9%
Urban	Multilane	B	2,875	8,616	26.4%
Urban	Multilane	C	1,393	3,632	11.1%
Urban	Multilane	D	508	1,264	3.9%
Urban	Multilane	E	195	304	0.9%
Urban	Multilane	F	147	273	0.8%
Urban	**Multilane**	**A-F Total**	**10,892**	**32,695**	**100.0%**
Urban	Signalized	A	8,759	57,615	56.3%
Urban	Signalized	B	5,495	20,887	20.4%
Urban	Signalized	C	4,558	11,602	11.3%
Urban	Signalized	D	2,061	4,083	4.0%
Urban	Signalized	E	1,336	2,525	2.5%
Urban	Signalized	F	2,918	5,571	5.4%
Urban	**Signalized**	**A-F Total**	**25,127**	**102,284**	**100.0%**
Urban	Stop Controlled	B	1,643	3,358	5.5%
Urban	Stop Controlled	C	7,525	34,253	55.6%
Urban	Stop Controlled	D	1,234	8,657	14.1%
Urban	Stop Controlled	E	559	3,682	6.0%
Urban	Stop Controlled	F	1,839	11,611	18.9%
Urban	**Stop Controlled**	**A-F Total**	**12,800**	**61,560**	**100.0%**

Table 6. Selected highway performance monitoring system freeway sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Freeway	1	1	2	65	182.47	183.53	1	C	Density	21.8	3.61
Freeway	1	1	2	10	29.07	29.073	3	E	Density	44.4	0.00
Freeway	1	1	2	10	29.073	30.258	3	F	Density	51.1	1.26
Freeway	1	1	2	10	30.258	32.77	3	F	Density	58.1	2.68
Freeway	1	1	2	10	32.77	34.5	3	F	Density	58.1	1.84
Freeway	1	1	2	10	34.5	34.98	3	F	Density	58.1	0.51
Freeway	1	1	2	10	34.984	35.181	3	F	Density	49.8	0.20
Freeway	1	1	2	10	35.181	38.775	3	E	Density	38.6	3.60
Freeway	1	1	2	10	38.775	41.3	3	C	Density	18.5	2.53
Freeway	1	1	2	10	41.3	44.31	3	C	Density	18.5	3.01
Freeway	1	1	2	10	44.32	44.89	3	B	Density	13.8	0.57
Freeway	1	1	2	10	44.89	44.899	3	B	Density	13.8	0.01
Freeway	1	1	2	10	58.56	66.29	3	C	Density	19.9	36.99
Freeway	1	1	2	65	32.21	34.07	3	C	Density	21.4	8.90
Freeway	1	1	2	65	34.092	37.77	3	A	Density	9.8	4.70
Freeway	1	1	2	65	37.77	37.88	3	A	Density	7.8	0.14
Freeway	1	1	2	65	107.5	111.81	13	B	Density	12.5	20.62
Freeway	1	1	2	65	120.25	123.87	13	B	Density	13.6	17.32
Freeway	1	1	2	65	126.09	126.44	13	B	Density	13.3	0.52
Freeway	1	1	2	65	128.12	129.66	13	B	Density	12.7	2.29
Freeway	1	1	2	65	130.2	131.11	13	B	Density	15.1	1.36
Freeway	1	1	2	65	131.81	133.93	13	B	Density	15.5	10.14
Freeway	1	1	2	65	135.21	139.6	13	B	Density	15.5	21.01

Table 7. Selected highway performance monitoring system multilane sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Multilane	6	2		20	14.869	15.231	13	B	Density	17.1	4.34
Multilane	6	2		20	14.869	15.231	13	B	Density	17.1	0.94
Multilane	6	2		20	144.831	144.962	13	B	Density	17.1	0.18
Multilane	6	2		20	144.831	144.962	13	B	Density	17.1	1.57
Multilane	6	2		20	144.831	144.962	13	B	Density	17.1	0.34
Multilane	6	2		20	14.958	15.14	13	B	Density	17.1	0.25
Multilane	6	2		20	14.958	15.14	13	B	Density	17.1	2.18
Multilane	6	2		20	14.958	15.14	13	B	Density	17.1	0.47
Multilane	6	2		50	16.374	16.49	17	C	Density	24.0	0.31
Multilane	6	2		50	16.374	16.49	17	C	Density	24.0	0.13
Multilane	6	2		50	45.959	46.059	17	D	Density	32.7	0.25
Multilane	6	2		50	49.066	49.31	17	C	Density	24.0	0.65
Multilane	6	2		50	49.066	49.31	17	C	Density	24.0	0.28
Multilane	6	2		101	706.865	707.463	23	C	Density	21.9	1.51
Multilane	6	2		111	1.04	1.048	25	B	Density	17.7	0.01
Multilane	6	2		111	1.048	2.076	25	C	Density	19.5	1.03
Multilane	6	2		111	2.076	2.56	25	C	Density	19.0	0.51
Multilane	6	2		111	2.076	2.56	25	C	Density	19.0	0.48
Multilane	6	2		111	11.7	11.708	25	C	Density	19.0	0.01
Multilane	6	2		111	11.7	11.708	25	C	Density	19.0	0.01
Multilane	6	2		33	89.04	89.491	29	A	Density	5.5	1.75

Table 8. Selected highway performance monitoring system rural two-lane sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Rural two lane	29	3	3	59	90.64	96.586	21	A	ATS	66.0	28.53
Rural two lane	29	3	3	59	96.586	99.204	21	A	ATS	66.0	12.56
Rural two lane	29	3	3	59	99.204	101.211	21	A	ATS	66.0	9.63
Rural two lane	29	3	4	53	3.078	9.02	23	A	ATS	59.0	18.99
Rural two lane	29	3	3	54	88.448	93.976	29	A	ATS	66.0	17.67
Rural two lane	29	3	3	54	93.976	97.224	29	A	ATS	64.0	15.58
Rural two lane	29	3	3	54	104.956	107.78	29	A	ATS	67.0	9.84
Rural two lane	29	3	4	72	157.529	161.565	31	A	ATS	61.0	12.90
Rural two lane	29	3	3	24	85.633	87.797	33	A	ATS	61.0	3.88
Rural two lane	29	3	4	21	147.476	148.761	35	A	ATS	61.0	2.31
Rural two lane	29	3	4	291	40.983	43.001	37	B	ATS	54.0	9.68
Rural two lane	29	3	3	54	40.832	44.162	39	A	ATS	67.0	5.97
Rural two lane	29	3	3	24	107.134	109.726	41	A	ATS	67.0	8.28

Table 8. Selected highway performance monitoring system rural two-lane sections with level of service and service measures attached (continuation).

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Rural two lane	29	3	3	60	65.175	66.136	43	A	ATS	63.0	3.35
Rural two lane	29	3	3	61	0	2.413	45	A	ATS	62.0	7.71
Rural two lane	29	3	4	92	22.623	26.498	47	B	ATS	55.0	12.38
Rural two lane	29	3	4	8	4.782	14.947	55	A	ATS	61.0	18.24
Rural two lane	29	3	4	8	19.762	22.989	55	A	ATS	59.0	10.31
Rural two lane	29	3	4	8	23.454	33.377	55	A	ATS	61.0	31.71
Rural two lane	29	3	3	65	213.933	215.239	59	A	ATS	66.0	4.17
Rural two lane	29	3	4	6	47.655	51.941	61	A	ATS	66.0	13.70

Table 9. Selected highway performance monitoring system signalized sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Signalized	5	3	4	22	2.56	3.2	131	C	ATS	25.6	4.88
Signalized	5	3	4	22	3.2	3.58	131	A	ATS	35.7	2.90
Signalized	5	3	4	22	8.91	10.64	131	A	ATS	45.9	10.63
Signalized	5	3	3	71	3.91	4.92	131	A	ATS	41.2	7.70
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	3	71	12.47	13.34	133	A	ATS	44.3	3.62
Signalized	8	3	10		1.009	1.989	1	B	ATS	39.0	7.14
Signalized	8	3	10		0	0.48	1	D	ATS	18.0	3.50
Signalized	8	3	10		1.06	2.08	1	A	ATS	43.6	7.43
Signalized	8	3	10		2.08	4.19	1	B	ATS	39.2	6.30
Signalized	8	3	4	2	3.039	4.401	1	B	ATS	43.5	9.92
Signalized	8	3	10		2.32	3.38	1	A	ATS	42.5	16.90
Signalized	8	3	4	44	0.435	1.807	1	F	ATS	13.8	10.00
Signalized	8	3	4	44	0.435	1.807	1	F	ATS	13.8	10.00
Signalized	8	3	3	160	229.351	230.428	3	C	ATS	36.7	7.62
Signalized	8	3	10		7.82	8.83	5	B	ATS	32.9	16.11
Signalized	8	3	10		0	1.11	5	D	ATS	22.5	17.70
Signalized	8	3	10		2.1	3.1	5	B	ATS	32.2	15.95

Table 10. Selected highway performance monitoring system stop-controlled sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Stop Control	1	5	1	1046	0.12	0.83	33	C	Delay	16.0	1.22
Stop Control	1	5	1	1386	0.294	1.12	33	C	Delay	16.0	1.41
Stop Control	1	5	6	30	5.335	7.2	35	B	Delay	10.2	75.01
Stop Control	1	5	6	85	1.368	6.63	37	B	Delay	10.3	211.63
Stop Control	1	5	6	101	0	1.55	39	C	Delay	16.0	9.61
Stop Control	1	5	6	687	0.07	0.71	39	C	Delay	15.9	3.97
Stop Control	1	5	6	19	0	1.52	39	C	Delay	16.1	9.42
Stop Control	1	5	6	36	7.41	8.17	43	C	Delay	17.3	15.85
Stop Control	1	5	6	11	1.84	6.67	45	B	Delay	10.3	194.25
Stop Control	1	5	6	50	1.534	3.38	45	C	Delay	17.9	38.50
Stop Control	1	5	6	375	0.104	0.69	45	C	Delay	16.3	0.96
Stop Control	1	5	6	377	0	0.31	45	C	Delay	15.7	0.51
Stop Control	1	5	6	23	4.5	7.24	51	C	Delay	17.2	10.80
Stop Control	1	5	6	1	10.858	17	53	B	Delay	10.3	247.02

Table 10. Selected highway performance monitoring system stop-controlled sections with level of service and service measures attached (continuation).

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Stop Control	1	5	6	49	1.132	1.46	53	D	Delay	25.8	20.19
Stop Control	1	5	6	5039	0.9	1.5	53	C	Delay	20.1	12.51
Stop Control	1	5	6	15	0	1.43	55	C	Delay	20.2	9.01
Stop Control	1	5	6	185	0	1.86	55	C	Delay	18.2	11.72
Stop Control	1	5	6	185	1.869	2.65	55	C	Delay	18.6	4.92
Stop Control	1	5	1	419	4.238	4.97	55	C	Delay	18.7	4.61
Stop Control	1	5	1	810	0	0.88	55	C	Delay	16.3	1.20

Table 11. Level of service ranges by highway type.

	Freeway	**Multilane**	**Rural Two Lane**	**Stop Controlled**
Service Measure	**Density**	**Density**	**Average Travel Speed (ATS)**	**Delay**
Level of Service A	<= 11	<= 11	> 55	<= 10
Level of Service B	> 11-18	> 11-18	> 50-55	> 10-15
Level of Service C	> 18-26	> 18-26	> 45-50	> 15-25
Level of Service D	> 26-35	> 26-35	> 40-45	> 25-35
Level of Service E	> 35-45	> 35-45	<= 40	> 35-50
Level of Service F	> 45 or where demand > capacity	> 45 or where demand > capacity	Demand > capacity	> 50

Notes: Density is measured as passenger cars per mile, per lane. ATS is measured as miles per hour. Delay is measured in seconds per vehicle.

Table 12. Level of service ranges for signalized highways.

Base-Free Flow Speed	**Average Travel Speed**					
	Level of Service A	**Level of Service B**	**Level of Service C**	**Level of Service D**	**Level of Service E**	**Level of Service F**
>= 55	> 44	> 37	> 28	> 22	> 17	<= 17
50	> 40	> 34	> 25	> 20	> 15	<= 15
45	> 36	> 30	> 23	> 18	> 14	<= 14
40	> 32	> 27	> 20	> 16	> 12	<= 12
35	> 28	> 23	> 18	> 14	> 11	<= 11
30	> 24	> 20	> 15	> 12	> 9	<= 9
<= 25	>20	> 17	> 13	> 10	> 8	<= 8

APPENDIX A. GENERALIZED SERVICE VOLUME TABLES

The service volumes in the tables are the maximum values that can be maintained and still be within the Level of Service (LOS) range. For example in the first row of the freeway table, if the actual volume is less than or equal to 46,100, then it is LOS B. Therefore, the service volumes in the tables are the **maximum** volumes that can be achieved for that LOS category.

For roadways that are dual carriageways, AADT should be divided by two before entering the tables.

Table 13. Freeway generalized service volume table.

Area Type	Number Lanes	Truck Percent	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
Rural						
	4	0	46,100	62,000	74,800	84,700
		10	43,900	59,000	71,200	80,700
		20	41,900	56,300	68,000	77,000
		30	40,100	53,900	65,000	73,700
	6	0	69,200	93,000	112,200	127,100
		10	65,900	88,500	106,900	121,100
		20	62,900	84,500	102,000	115,600
		30	60,100	80,800	97,600	110,500
	8	0	92,200	124,000	149,600	169,500
		10	87,800	118,100	142,500	161,400
		20	83,800	112,700	136,000	154,100
		30	80,200	107,800	130,100	147,400
	10	0	115,300	155,000	187,100	211,900
		10	109,800	147,600	178,100	201,800
		20	104,800	140,900	170,000	192,600
		30	100,300	134,800	162,600	184,200
	12	0	138,400	186,000	224,500	254,300
		10	131,800	177,100	213,800	242,200
		20	125,800	169,100	204,100	231,200
		30	120,300	161,700	195,200	221,100

Table 13. Freeway generalized service volume table (continuation).

Area Type	Number Lanes	Truck Percent	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
Urban						
	4	0	43,700	60,100	73,100	83,000
		10	41,600	57,200	69,600	79,100
		20	39,700	54,600	66,400	75,500
		30	38,000	52,200	63,600	72,200
	6	0	65,600	90,100	109,700	124,600
		10	62,500	85,800	104,400	118,600
		20	59,600	81,900	99,700	113,200
		30	57,000	78,300	95,400	108,300
	8	0	87,500	120,200	146,200	166,100
		10	83,300	114,400	139,300	158,200
		20	79,500	109,200	132,900	151,000
		30	76,100	104,500	127,200	144,400
	10	0	109,400	150,200	182,800	207,600
		10	104,200	143,100	174,100	197,700
		20	99,400	136,600	166,200	188,700
		30	95,100	130,600	159,000	180,500
	12	0	131,300	180,300	219,400	249,200
		10	125,000	171,700	208,900	237,300
		20	119,300	163,900	199,400	226,500
		30	114,100	156,700	190,800	216,700

Table 14. Multilane highway generalized service volume table.

Area Type	Number Lanes	Truck Percent	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
Rural						
	4	0	42,000	57,300	69,600	80,000
		10	39,900	54,600	66,300	76,100
		20	38,100	52,100	63,300	72,700
		30	36,500	49,900	60,600	69,500
	6	0	63,000	86,000	104,500	120,000
		10	59,900	81,900	99,500	114,200
		20	57,200	78,200	95,000	109,000
		30	54,700	74,800	90,900	104,300
	8	0	84,000	114,700	139,300	160,000
		10	79,900	109,300	132,700	152,300
		20	76,300	104,300	126,700	145,400
		30	73,000	99,800	121,200	139,100
	10	0	105,000	143,400	174,200	200,000
		10	99,900	136,600	165,900	190,400
		20	95,400	130,400	158,300	181,800
		30	91,300	124,700	151,500	173,900
Urban						
	4	0	34,500	49,300	61,400	71,600
		10	32,800	47,000	58,400	68,200
		20	31,300	44,800	55,800	65,100
		30	30,000	42,900	53,300	62,300
	6	0	51,700	74,000	92,100	107,500
		10	49,200	70,500	87,700	102,300
		20	47,000	67,300	83,700	97,700
		30	45,000	64,400	80,000	93,400
	8	0	69,000	98,700	122,800	143,300
		10	65,700	94,000	116,900	136,500
		20	62,700	89,700	111,600	130,300
		30	60,000	85,800	106,700	124,600
	10	0	86,200	123,400	153,500	179,100
		10	82,100	117,500	146,200	170,600
		20	78,400	112,200	139,500	162,800
		30	75,000	107,300	133,400	155,700

Table 15. Signalized highway generalized service volume table.

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
2	40	35	12,800	14,900	16,400	18,700
		40	12,600	14,400	15,900	17,700
		45	12,000	14,200	15,500	17,400
		50	11,800	13,800	15,200	16,700
		55	12,300	14,100	15,400	16,900
		60	12,700	14,300	15,500	17,100
	45	35	14,600	16,900	18,500	21,100
		40	14,400	16,300	18,000	20,000
		45	13,900	16,100	17,600	19,700
		50	13,600	15,700	17,200	18,900
		55	14,200	16,000	17,400	19,100
		60	14,600	16,200	17,600	19,300
	50	35	16,500	18,900	20,700	23,600
		40	16,300	18,300	20,100	22,300
		45	15,700	18,100	19,600	22,000
		50	15,500	17,700	19,200	21,100
		55	16,100	17,900	19,500	21,400
		60	16,400	18,100	19,600	21,500
	55	35	18,400	20,900	22,900	26,000
		40	18,100	20,300	22,200	24,700
		45	17,600	20,000	21,700	24,300
		50	17,400	19,600	21,300	23,400
		55	17,900	19,900	21,500	23,600
		60	18,300	20,100	21,700	23,800
	60	35	20,300	22,900	25,100	28,500
		40	20,000	22,200	24,400	27,000
		45	19,500	22,000	23,800	26,600
		50	19,300	21,500	23,300	25,600
		55	19,800	21,800	23,600	25,800
		60	20,200	22,100	23,800	26,100

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
2	65	35	22,200	25,000	27,300	31,000
		40	21,900	24,200	26,500	29,400
		45	21,400	24,000	25,900	28,900
		50	21,200	23,500	25,400	27,800
		55	21,700	23,800	25,700	28,100
		60	22,100	24,000	25,900	28,300
	70	35	24,100	27,000	29,500	33,500
		40	23,800	26,200	28,700	31,700
		45	23,300	26,000	28,000	31,200
		50	23,100	25,400	27,500	30,100
		55	23,600	25,800	27,800	30,400
		60	24,000	26,000	28,000	30,600
	75	35	26,000	29,100	31,700	36,000
		40	25,700	28,200	30,800	34,100
		45	25,200	28,000	30,100	33,600
		50	25,000	27,400	29,600	32,300
		55	25,500	27,700	29,900	32,700
		60	25,900	28,000	30,100	32,900
	80	35	27,900	31,100	33,900	38,500
		40	27,600	30,300	33,000	36,500
		45	27,100	30,000	32,300	35,900
		50	26,900	29,400	31,700	34,600
		55	27,400	29,700	32,000	35,000
		60	27,800	30,000	32,300	35,200
4	40	35	27,400	30,600	33,300	37,800
		40	27,100	29,700	32,400	35,900
		45	26,500	29,400	31,700	35,300
		50	26,200	28,800	31,100	34,000
		55	26,800	29,200	31,400	34,300
		60	27,300	29,500	31,700	34,600

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
4	45	35	31,100	34,500	37,600	42,700
		40	30,700	33,600	36,600	40,500
		45	30,100	33,300	35,800	39,900
		50	29,800	32,600	35,100	38,400
		55	30,500	33,000	35,500	38,800
		60	30,900	33,400	35,800	39,100
	50	35	34,700	38,500	41,900	47,600
		40	34,400	37,500	40,800	45,100
		45	33,700	37,100	39,900	44,400
		50	33,500	36,400	39,200	42,800
		55	34,100	36,900	39,600	43,200
		60	34,600	37,200	39,900	43,600
	55	35	38,400	42,600	46,300	52,500
		40	38,100	41,400	45,100	49,800
		45	37,400	41,000	44,100	49,000
		50	37,100	40,200	43,200	47,200
		55	37,800	40,700	43,700	47,700
		60	38,300	41,100	44,100	48,100
	60	35	42,100	46,600	50,700	57,400
		40	41,800	45,400	49,300	54,400
		45	41,100	44,900	48,200	53,600
		50	40,800	44,100	47,300	51,700
		55	41,500	44,600	47,800	52,200
		60	42,000	45,000	48,300	52,600
	65	35	45,900	50,700	55,100	62,300
		40	45,500	49,300	53,600	59,200
		45	44,800	48,900	52,400	58,300
		50	44,500	48,000	51,500	56,200
		55	45,200	48,500	52,000	56,700
		60	45,700	49,000	52,400	57,100

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
4	70	35	49,600	54,700	59,500	67,300
		40	49,200	53,300	57,900	63,900
		45	48,500	52,800	56,600	62,900
		50	48,200	51,900	55,600	60,700
		55	48,900	52,400	56,200	61,200
		60	49,500	52,900	56,700	61,700
	75	35	53,400	58,800	63,900	72,300
		40	53,000	57,300	62,200	68,600
		45	52,200	56,800	60,900	67,600
		50	51,900	55,800	59,800	65,200
		55	52,700	56,400	60,400	65,800
		60	53,200	56,900	60,900	66,300
	80	35	57,200	63,000	68,400	77,300
		40	56,800	61,300	66,600	73,400
		45	56,000	60,800	65,100	72,300
		50	55,700	59,700	64,000	69,700
		55	56,400	60,400	64,600	70,400
		60	57,000	60,900	65,200	70,900
6	40	35	41,700	46,100	50,200	56,900
		40	41,300	44,900	48,800	53,900
		45	40,600	44,400	47,700	53,100
		50	40,300	43,600	46,800	51,200
		55	41,000	44,100	47,300	51,700
		60	41,500	44,600	47,800	52,100
	45	35	47,100	52,000	56,600	64,100
		40	46,700	50,700	55,100	60,800
		45	46,000	50,200	53,900	59,900
		50	45,700	49,300	52,900	57,700
		55	46,400	49,800	53,400	58,300
		60	47,000	50,300	53,900	58,800

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
6	50	35	52,600	58,000	63,100	71,500
		40	52,200	56,500	61,400	67,800
		45	51,400	56,000	60,100	66,800
		50	51,100	55,000	59,000	64,400
		55	51,800	55,600	59,600	65,000
		60	52,400	56,100	60,100	65,500
	55	35	58,100	64,100	69,600	78,800
		40	57,700	62,400	67,800	74,800
		45	56,800	61,800	66,300	73,700
		50	56,500	60,700	65,100	71,000
		55	57,300	61,400	65,700	71,700
		60	57,900	62,000	66,300	72,200
	60	35	63,700	70,100	76,200	86,200
		40	63,200	68,300	74,100	81,800
		45	62,300	67,700	72,500	80,600
		50	62,000	66,500	71,200	77,700
		55	62,800	67,200	71,900	78,400
		60	63,500	67,800	72,600	79,000
	65	35	69,300	76,200	82,700	93,600
		40	68,800	74,200	80,600	88,900
		45	67,800	73,600	78,800	87,500
		50	67,400	72,200	77,400	84,400
		55	68,300	73,100	78,200	85,200
		60	69,000	73,700	78,900	85,900
	70	35	74,900	82,300	89,400	101,100
		40	74,300	80,200	87,000	95,900
		45	73,300	79,500	85,100	94,500
		50	72,900	78,100	83,600	91,100
		55	73,900	78,900	84,500	92,000
		60	74,700	79,700	85,200	92,700

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
6	75	35	80,500	88,500	96,000	108,600
		40	80,000	86,200	93,500	103,100
		45	78,900	85,500	91,500	101,500
		50	78,500	83,900	89,900	97,900
		55	79,500	84,900	90,800	98,800
		60	80,300	85,700	91,600	99,600
	80	35	86,200	94,700	102,700	116,100
		40	85,600	92,300	100,000	110,200
		45	84,500	91,400	97,900	108,600
		50	84,100	89,800	96,100	104,700
		55	85,100	90,800	97,100	105,700
		60	86,000	91,700	97,900	106,500
8	40	35	55,800	61,600	67,000	75,900
		40	55,400	60,000	65,200	72,000
		45	54,500	59,400	63,700	70,900
		50	54,200	58,300	62,600	68,300
		55	55,000	59,000	63,200	69,000
		60	55,700	59,600	63,800	69,500
	45	35	63,100	69,500	75,600	85,600
		40	62,600	67,700	73,500	81,200
		45	61,700	67,100	71,900	80,000
		50	61,300	65,900	70,600	77,100
		55	62,200	66,600	71,300	77,800
		60	62,900	67,200	72,000	78,400
	50	35	70,400	77,500	84,200	95,300
		40	69,900	75,500	82,000	90,500
		45	68,900	74,800	80,200	89,100
		50	68,500	73,500	78,700	85,900
		55	69,400	74,300	79,500	86,700
		60	70,200	75,000	80,200	87,400

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
8	55	35	77,700	85,500	92,900	105,100
		40	77,200	83,300	90,400	99,800
		45	76,100	82,600	88,500	98,300
		50	75,700	81,100	86,900	94,700
		55	76,700	82,000	87,800	95,600
		60	77,500	82,700	88,500	96,400
	60	35	85,100	93,600	101,600	115,000
		40	84,500	91,200	99,000	109,100
		45	83,300	90,400	96,800	107,500
		50	82,900	88,800	95,100	103,600
		55	84,000	89,700	96,000	104,600
		60	84,900	90,600	96,900	105,400
	65	35	92,600	101,700	110,400	124,900
		40	91,900	99,100	107,500	118,500
		45	90,700	98,200	105,200	116,800
		50	90,200	96,500	103,300	112,600
		55	91,400	97,500	104,400	113,600
		60	92,300	98,400	105,200	114,500
	70	35	100,100	109,900	119,200	134,800
		40	99,300	107,100	116,100	128,000
		45	98,000	106,100	113,600	126,100
		50	97,600	104,200	111,600	121,600
		55	98,800	105,400	112,700	122,700
		60	99,800	106,400	113,700	123,700
	75	35	107,600	118,100	128,100	144,800
		40	106,800	115,100	124,800	137,500
		45	105,400	114,100	122,100	135,500
		50	104,900	112,100	119,900	130,600
		55	106,200	113,300	121,100	131,900
		60	107,300	114,300	122,200	132,900
	80	35	115,200	126,300	137,000	–
		40	114,400	123,100	133,500	297,000
		45	112,900	122,100	130,600	144,900
		50	112,300	119,900	128,300	139,700
		55	113,700	121,200	129,600	141,000
		60	114,800	122,300	130,700	142,100

Table 16. Stop sign-controlled highways generalized service volume table.

Land Use	Functional System	Level of Service			
		B Service Volume	**C Service Volume**	**D Service Volume**	**E Service Volume**
Rural	Princ. Arterial	7,600	11,100	12,400	13,600
	Minor Arterial	6,800	10,200	11,500	12,600
	Collector	5,900	9,300	10,600	11,700
Urban	Princ. Arterial	5,200	8,500	9,800	10,900
	Minor Arterial	1,900	5,200	6,400	7,400
	Collector		2,800	4,000	4,800

Table 17. Rural two-lane highways generalized service volume table.

Speed Limit	Terrain	Truck Pct.	Level of Service		
			B Service Volume	**C Service Volume**	**D Service Volume**
45	Flat	0	3,600	8,700	13,900
		2	3,500	8,700	13,900
		4	3,500	8,700	13,900
		6	3,500	8,700	13,900
		8	3,400	8,600	13,900
		10	3,400	8,600	13,900
	Rolling	0	3,600	8,700	13,900
		2	3,500	8,600	13,900
		4	3,400	8,500	13,900
		6	3,300	8,400	13,900
		8	3,300	8,200	13,900
		10	3,200	8,100	13,900
	Mountainous	0	3,600	8,700	13,900
		2	3,200	7,700	12,300
		4	2,800	7,000	11,100
		6	2,600	6,300	10,100
		8	2,400	5,800	9,300
		10	2,200	5,400	8,500
50	Flat	0	8,700	13,900	19,000
		2	8,700	13,900	19,000
		4	8,700	13,900	19,000

Table 17. Rural two-lane highways generalized service volume table (continuation).

Speed Limit	Terrain	Truck Pct.	Level of Service		
			B Service Volume	**C Service Volume**	**D Service Volume**
50	Flat	6	8,700	13,900	19,000
		8	8,600	13,900	19,000
		10	8,600	13,900	19,000
	Rolling	0	8,700	13,900	19,000
		2	8,600	13,900	19,000
		4	8,500	13,900	19,000
		6	8,400	13,900	19,000
		8	8,200	13,900	19,000
		10	8,100	13,900	19,000
	Mountainous	0	8,700	13,900	19,000
		2	7,700	12,300	16,900
		4	7,000	11,100	15,200
		6	6,300	10,100	13,900
		8	5,800	9,300	12,700
		10	5,400	8,500	11,700
55	Flat	0	13,900	19,000	24,200
		2	13,900	19,000	24,200
		4	13,900	19,000	24,200
		6	13,900	19,000	24,200
		8	13,900	19,000	24,200
		10	13,900	19,000	24,200
	Rolling	0	13,900	19,000	24,200
		2	13,900	19,000	24,200
		4	13,900	19,000	24,200
		6	13,900	19,000	24,200
		8	13,900	19,000	24,200
		10	13,900	19,000	24,200
	Mountainous	0	13,900	19,000	24,200
		2	12,300	16,900	21,500
		4	11,100	15,200	19,400
		6	10,100	13,900	17,600
		8	9,300	12,700	16,100
		10	8,500	11,700	14,900

Table 17. Rural two-lane highways generalized service volume table (continuation).

Speed Limit	Terrain	Truck Pct.	Level of Service		
			B Service Volume	C Service Volume	D Service Volume
60	Flat	0	19,000	24,200	29,300
		2	19,000	24,200	29,300
		4	19,000	24,200	29,300
		6	19,000	24,200	29,300
		8	19,000	24,200	29,300
		10	19,000	24,200	29,300
	Rolling	0	19,000	24,200	29,300
		2	19,000	24,200	29,300
		4	19,000	24,200	29,300
		6	19,000	24,200	29,300
		8	19,000	24,200	29,300
		10	19,000	24,200	29,300
	Mountainous	0	19,000	24,200	29,300
		2	16,900	21,500	26,100
		4	15,200	19,400	23,500
		6	13,900	17,600	21,400
		8	12,700	16,100	19,600
		10	11,700	14,900	18,100
65	Flat	0	24,200	29,300	34,500
		2	24,200	29,300	34,500
		4	24,200	29,300	34,500
		6	24,200	29,300	34,500
		8	24,200	29,300	34,500
		10	24,200	29,300	34,500
	Rolling	0	24,200	29,300	34,500
		2	24,200	29,300	34,500
		4	24,200	29,300	34,500
		6	24,200	29,300	34,500
		8	24,200	29,300	34,500
		10	24,200	29,300	34,500
	Mountainous	0	24,200	29,300	34,500
		2	21,500	26,100	30,700
		4	19,400	23,500	27,600
		6	17,600	21,400	25,100
		8	16,100	19,600	23,000
		10	14,900	18,100	21,300

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Attachment IIC-2
Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System

Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System

October 2017

U.S. Department of Transportation
Federal Highway Administration

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16. Abstract

The Federal Highway Administration's Highway Performance Monitoring System (HPMS) provides information on the extent, condition, performance, use, and operating characteristics of the Nation's highways. Each year State Transportation Agencies must submit HPMS data to the FHWA. The Sample Panel portion of HPMS provides detailed statistical data on a randomly selected sample of roadway sections on the State's public road system. One data item submitted for sample panels is capacity (Sample Panel Data Item 69). The HPMS Field Manual guidance for capacity is as follows: "The capacity of a roadway facility is the maximum reasonable hourly rate at which vehicles can be expected to transverse a point or a uniform section of lane or roadway during a given time period under prevailing road-way, traffic, and control conditions." Reasonable expectancy is that the stated capacity can be achieved repeatedly. The Highway Capacity Manual (HCM) provides procedures, formulas, graphics, and tables in assessing roadway capacity. This item should be estimated based on procedures consistent with the HCM.

The results of the project are the development of:
1. Capacity computation methods that use HPMS data items to the extent possible, and can be used to validate HPMS Sample Panel Item 69; and
2. Simplified Methodologies to Create Generalized Level of Service (LOS) Lookup Tables. Both of these results use the most recent HCM methodologies. Specifically, it was found that the procedures in National Cooperative Research Program Report 825 ("Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual") could be easily adapted to the types of data present in HPMS.

17. Key Words	18. Distribution Statement
Highway Capacity Manual; level of service; generalized service volumes; HPMS data	No restrictions

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CHAPTER 1. INTRODUCTION

The Federal Highway Administration's (FHWA) Highway Performance Monitoring System (HPMS) provides information on the extent, condition, performance, use, and operating characteristics of the Nation's highways. Each year State Transportation Agencies (STA) must submit HPMS data to the FHWA. Certain data items, including length, lane-miles, and travel are required for all public roads that are eligible for Federal-aid highway funds. The data items reported for all public roads are known as full extent data items. In addition to full extent data items, there are data items that are reported on a partial extent basis, which are known as sample panel data items. The sample panel provides more detailed statistical data on a randomly selected sample of roadway sections in the State's public road system. One data item submitted for sample panels is capacity (Sample Panel Data Item 69). The HPMS Field Manual guidance for capacity is as follows: "The capacity of a roadway facility is the maximum reasonable hourly rate at which vehicles can be expected to transverse a point or a uniform section of lane or roadway during a given time period under prevailing roadway, traffic, and control conditions. Reasonable expectancy is that the stated capacity can be achieved repeatedly. The *Highway Capacity Manual (HCM)* provides procedures, formulas, graphics, and tables in assessing roadway capacity. This item should be estimated based on procedures consistent with the HCM. All urban and rural capacity for freeways and other multilane facilities is for the peak direction. If a rural facility has two or three lanes with one-way operation, it is considered to be a multilane facility for determining capacity. The capacity for rural facilities with two or three lanes and two-way operation is for both directions."

The objectives of the project are to develop:

1. Capacity computation methods that: 1) use HPMS data items to the extent possible, and 2) can be used to validate HPMS Sample Panel Item 69.
2. Simplified methodologies to create generalized level of service (LOS) lookup tables.
3. These two objectives were covered by tasks 2 and 3 and are presented as separate sections below (figure 1).

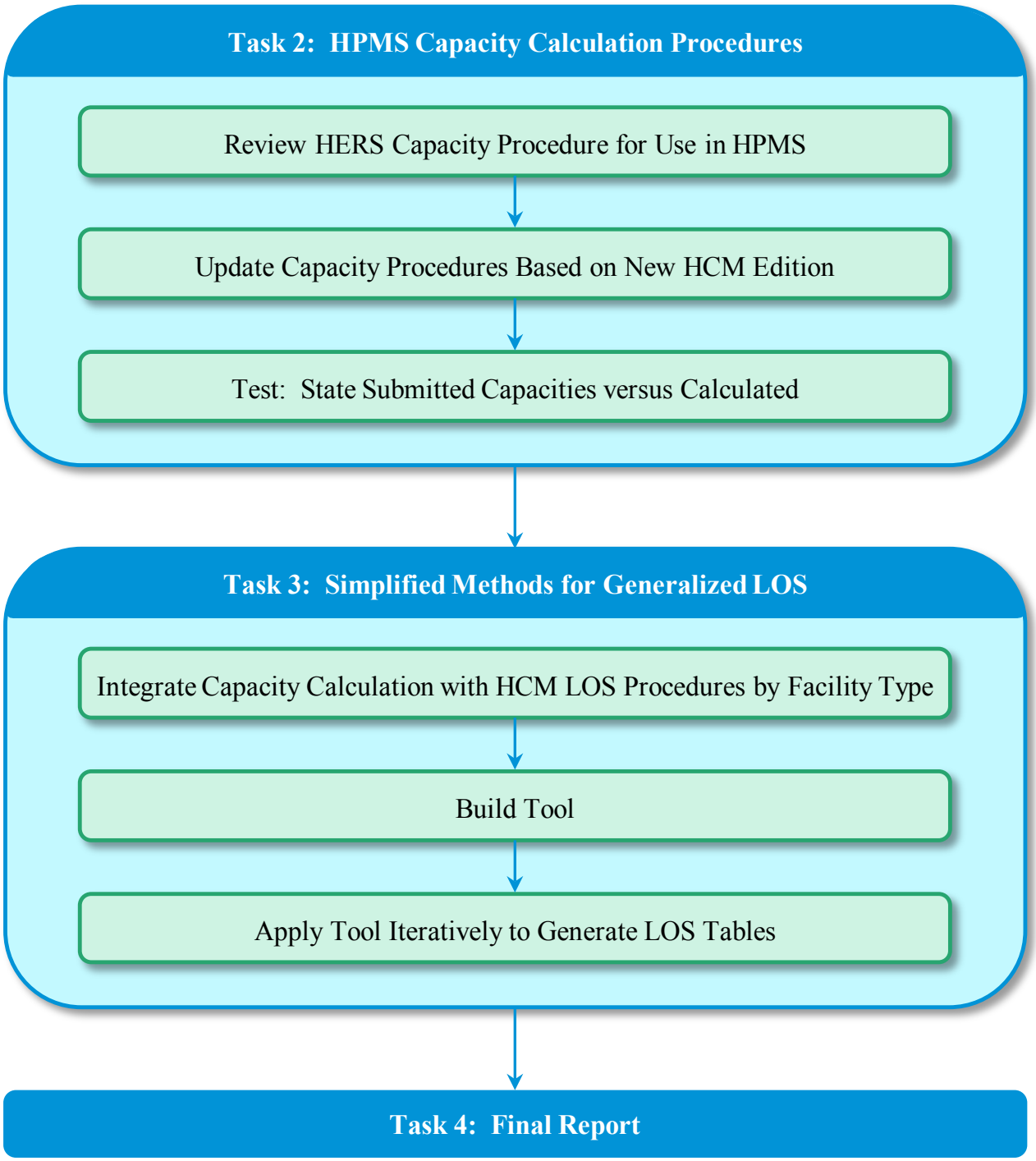


Figure 1. Flow chart. Overview of major task activities.

CHAPTER 2. DEVELOPMENT OF CAPACITY COMPUTATION METHODS

REVIEW HIGHWAY ECONOMIC REQUIREMENTS SYSTEM CAPACITY PROCEDURES FOR USE IN HIGHWAY PERFORMANCE MONITORING SYSTEM

The Highway Economic Requirements System (HERS) capacity procedures, completed in 2014, adapted the Highway Capacity Manual (HCM) 2010 capacity calculation methods.[1] It utilized Highway Performance Monitoring System (HPMS) data items to the maximum extent but also had to make many assumptions about default values. The HPMS data items that were used are shown in table 1. HCM capacity input data that had to set to default values are as follows:

- **Freeways—**ramp density, peak-hour factor, and driver population factor.
- **Multilane highways—**driveway density, peak-hour factor, and driver population factor.
- **Signals—**lane group assignments (based on presence of right- and left-turning lanes), grade, number of parking maneuvers per hour, bus blockage, area type, lane utilization, left- and right-turn lanes.
- **Rural two-lane highways—**driveway density and peak-hour factor.
- **Stop signs—**conflicting flow rates, base critical gap, follow-up times, and assignment of turning movements to lanes.

The project team compared the HERS procedures with National Cooperative Highway Research Program (NCHRP) Project 07-22, Planning and Preliminary Engineering Applications Guide to the HCM. The report has recently been published as NCHRP Report 825.[2] Its midlevel analysis methods for capacity are very similar to the HERS procedures which preceded it. Where the two methods differ, we developed a test procedure using 2014 HPMS data to compare the capacity values obtained with each method. The results of the comparison are as follows.

Table 1. Highway performance monitoring system data items used in the highway economic requirements system capacity calculation procedures.

	Facility Type				
HPMS Data Item	**Freeways**	**Multilane**	**Signals**	**Rural Two Lane**	**Stop Sign**
Lane Width	●	●	●	●	–
Right Shoulder Width	●	●	–	●	–
Left Shoulder Width	–	●	–	–	–
Through Lanes	●	●	–	–	●
Peak Lanes	–	–	–	–	●
% SU Trucks	●	●	●	●	●

[1] Task 6 Technical Memo: Procedures for Estimating Highway Capacity, May 2014.

[2] Dowling, Richard et al., *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual*, NCHRP Report 825, 2016, http://www.trb.org/NCHRP/Blurbs/174958.aspx.

Table 1. Highway performance monitoring system data items used in the highway economic requirements system capacity calculation procedures (continuation).

HPMS Data Item	Facility Type				
	Freeways	**Multilane**	**Signals**	**Rural Two Lane**	**Stop Sign**
% Comb. Trucks	●	●	●	●	●
Median Type	–	–	–	–	–
No. Other Intersections	–	●	–	●	–
Right-Turn Lanes	–	–	●	–	●
Left-Turn Lanes	–	–	●	–	●
K-factor	–	–	●	●	●
D-factor	–	–	●	●	●
Percent Green Lime	–	–	●	–	–
Terrain	●	●	–	●	–
Functional Class	–	–	–	–	●
Speed Limit[a]	–	–	–	●	–

[a] Speed limit is generally used in the computation of service measures but except for rural two-lane highways is not used in capacity calculation.

Freeways

The HERS capacity procedure is very similar to that of NCHRP 825. The HERS procedure follows the HCM procedure verbatim, with adjustments for lane width, lateral clearance, interchange density, heavy trucks, and the peak-hour factor. The NCHRP method excludes the peak-hour factor. However, their formulations for the final capacity value are slightly different. When applied to 2014 Sample Panel data (21,940 freeway sections), HERS-developed capacity values are five percent lower than those of NCHRP 825. We consider this difference negligible, ***so we recommend the NCHRP 825 method for capacity and (Level of Service) LOS calculations.***

$$Capacity = \frac{\left(2{,}200 + 10 \times (\min(70, FFS) - 50)\right)}{1 + \%HV/100} \times Lanes$$

Where: FFS = free flow speed
%HV = percent of heavy vehicles (decimal), with heavy vehicles consisting of trucks with more than four tires, buses, and recreational vehicles Multilane Highways

Figure 2. Equation. Capacity calculation for freeway capacity.

$$FFS = 75.4 - f_{LW} - f_{RLC}$$

Where: f_{LW} = adjustment for lane width (HPMS data item 34)
f_{RLC} = adjustment for right side lateral clearance (HPMS data item 38)
Lanes = HPMS data item 10

Figure 3. Equation. Calculation or free flow speed for freeways.

The HERS method follows the HCM faithfully. NCHRP 825 recommends using the HCM method, so the two methods are the same. ***Therefore, the HCM method (which also is the HERS method) is recommended for capacity and LOS calculations.***

Multilane Highways

The HERS method follows the HCM faithfully. NCHRP 825 recommends using the HCM method, so the two methods are the same. ***Therefore, the HCM method (which is also the HERS method) is recommended for capacity and LOS calculations.***

$$Capacity = BaseCapacity \times f_{HV} \times Lanes$$

Where: $BaseCapacity = 1{,}000 + 20 \times FFS; for\ FFS \leq 60; 2{,}200\ otherwise$

f_{HV} = adjustment for heavy vehicles

$$f_{HV} = \frac{1}{(1 + PT \times (ET - 1))}$$

PT = HPMS data item 23 + HPMS data item 25
ET = 1.5 if HPMS data item 2 indicates a forma urban area; otherwise:
= 1.5 if HPMS data item 44 = 1
= 2.5 if HPMS data item 44 = 2
= 4.5 if HPMS data item 44 = 3
FFS = HPMS data item 14 + 5
Lanes = HPMS data item 10

Figure 4. Equation. Calculation of capacity for multilane highways.

Signalized Highways

Different philosophies are taken between the HERS method and NCHRP 825 method. In the HERS method, the capacity of the entire approach is calculated. This done because in HERS' speed estimation, turning movement volumes are not available in HPMS and the volume on the entire segment is used. In the NCHRP 825 method, only the through movement is used. (It offers a solution if only total volume is available: if exclusive left-turn and right lanes exist, deduct 10 percent for each.) To be comparable, we used the HERS method to analyze just the through

movement. In the HERS method, saturation flow rate is adjusted downward for lane width, heavy vehicles, parking, and the peak-hour factor. In the NCHRP 825 method, saturation flow rate is unadjusted. As a result, when applied to the Sample Panel data (26,504 signalized sections), the HERS method produces capacities that are 14 percent lower than NCHRP 825. The main problem with the HERS method is that the turning lane and their volume assignments are based on many assumptions. ***Because of its simplicity in dealing with turning movements, we recommend the NCHRP 825 method for capacity and LOS calculations.***

$$Capacity = \frac{g}{C} \times Lanes \times 1{,}900$$

Where: g/C = HPMS data item 30
Lanes = HPMS data item 10

Figure 5. Equation. Calculation of capacity for signalized highways.

Two-Lane Highways with No Traffic Control

Completely different approaches are taken by the two methods. The HERS method assumes that no traffic control is present while the NCHRP 825 method includes delay at intersections if they are present. The HERS procedure calculates two-way capacity while the NCHRP method uses one-way capacity and assigns a fixed value, either 1,450 or 1,490 vehicles per hour, but capacity is not used in the calculation of LOS—it is only used to create a v/c ratio for screening. Because of this difference, no tests were made. The HERS method is quite complex, accounting for grades, heavy vehicles, peak-hour factor, and percent no passing zones. The NCHRP 825 approach is simpler for capacity, but the calculation of speed and associated LOS basically follows the same method as for the capacity calculation in HERS. This is because capacity is "backcalculated" in the HERS method so that the HERS speed equations, which are based on the AADT-to-capacity ratio, can be used. In the NCHRP 825 method, capacity is largely irrelevant for two-lane highway LOS as it is based on average travel speed or percent of time following. ***Because it is more closely tied to HCM methods for the calculation of average travel speed (the basis for LOS), we recommend the NCHRP 825 method for capacity (one-way) and LOS calculations. That is, the one-way capacity is set at 1,490 vehicles per hour.***

Stop-Controlled Highways

Very different capacity calculations are used in the HCM 2010 depending on whether an intersection has two-way stop control or all-way stop control. Unfortunately, it is impossible to distinguish the two conditions with HPMS data. Both HERS and NCHRP 825 procedures are complex and highly dependent on turning movements on all the approaches. The HERS procedure is based on the HCM 2000 procedure for two-way stop-controlled intersections. It is data intensive and makes many assumptions about turning movements based on the presence of turning lanes. In contrast, the NCHRP 825 procedure uses the highly simplified adaptation of the HCM procedure for all-way stop control and a more complex procedure for two-way stop control which is based on the update to the HCM 2010. For this reason, we did not run any comparisons between the two methods. ***Because, the two-way stop control procedures in NCHRP 825 is***

based on the recently updated version of the HCM 2010, we recommend that the NCHRP 825 procedure be used for capacity and LOS calculations. In doing so, it is assumed that all stop control is two-way.

Capacity = 1,200 vehicles/hour; where HPMS data item 10 = 1

= 1,500 vehicles/hour otherwise

Figure 6. Equation. Calculation of capacity for stop-controlled highways.

UPDATE CAPACITY PROCEDURES BASED ON NEW HIGHWAY CAPACITY MANUAL EDITION

The Major Update to the HCM 2010 has been released. We reviewed the new procedures against the HERS capacity procedures and found no changes in the way capacity is calculated except for two-way stop-controlled intersections. The NCHRP 825 method is consistent with the new HCM as the researchers had access to the draft chapters. Therefore, the recommendations made above are not changed.

CHAPTER 3. BACKGROUND DEVELOP SIMPLIFIED METHODOLOGIES TO CREATE GENERALIZED LEVEL OF SERVICE (LOS) LOOKUP TABLES

BACKGROUND

This report documents the work performed on Task 3: Develop Simplified Methodologies to Create Generalized Level of Service (LOS) Lookup Tables. At the kickoff meeting it was decided that a stand-alone tool would be built that can interface directly with Highway Performance Monitoring System (HPMS) data. Based on the task 2 assessment, the **National Cooperative Highway Research Program** (NCHRP) Report 825 version of the Highway Capacity Manual (HCM) procedures for calculating LOS has been programmed into this tool.[3] The advantage is that all relevant HPMS data elements could be used. Also, updating would be much easier—all that is required is to change the procedure rather than regenerate the massive lookup table that otherwise would have been created. In addition to the LOS designation for an HPMS section, the actual value of the service measure on which LOS is based will also be reported. It also was decided that generalized service volume tables for each facility would be produced, accounting for all of the nondefault factors that are covered by the NCHRP 825 methodology.

The types of facilities that are included in the analysis are as follows. These follow the facility types covered by the HCM:

- Freeways.
- Multilane highways.
- Rural two-lane highways.
- Signalized highways.
- Stop-controlled highways.

HPMS sections can be grouped into these categories based on their data elements. A hierarchy is used to make these assignments:

- If functional system is one or two, and full access control exists, then the section is a freeway.
- If stop signs exist, then the section is stop controlled.
- If signals exist, then the section is signalized.
- If through lanes are greater than or equal to four, the section is multilane.
- If through lanes are equal to two or three and the urban code indicates rural, the section is rural two lane.

However, a significant number of HPMS Sample Panel sections (about 30,000) cannot be classified using the above scheme. These tend to be two-, three-lane urban highways with no traffic control device on the actual section. Level of Service was not calculated for these

[3] Dowling, Richard et al., *Planning and Preliminary Engineering Applications Guide to the Highway Capacity Manual*, NCHRP Report 825, 2016, http://www.trb.org/NCHRP/Blurbs/174958.aspx.

sections. One option for these sections is to treat them as signalized highways with 100 percent green time, but this results in a vast majority in LOS A, which is most likely misleading. Therefore, Level of Service was not calculated for these sections.

DEFAULT VALUES

For freeways and multilane highways, the NCHRP 825 method is followed directly and all of the required data elements are present in the HPMS Sample Panel. For signalized highways, the only data element not present in HPMS is cycle length. The following cycle lengths are assumed:

- **Principal arterials—**120 seconds.
- **Minor arterials—**90 seconds.
- **Collectors—**60 seconds.

For rural two-lane highways, LOS is based on average travel speed (ATS). A greatly simplified method was used for stop-controlled highways because so much of the required data on turning movements and cross-street volumes do not exist in HPMS:

- It is assumed that the section is two-way stop controlled.
- Conflicting flow rates are based on the values in table 2.

Table 2. Conflicting flow rates for two-way stop-controlled highways—vehicles per hour.

Land Use	Functional System		
	Principal Arterial	**Minor Arterial**	**Collector**
Rural	100	150	200
Urban	250	500	750

Preliminary analysis of the 2014 HPMS Sample Panel revealed that many data items used to undertake the LOS calculations were missing. As a result, the project team developed default values for the required data items. These were calculated as the median value for records where the data items were present (table 3).

RESULTS

Tables 4 and 5 present the results of applying the HCM-based LOS calculation procedures to the 2014 HPMS Sample Panel data. Tables 6 through 10 show the individual HPMS sections with LOS and service measure attached for each highway type; a separate spreadsheet contains the entire dataset. Tables 11 and 12 provide the LOS ranges for each highway type from the HCM.

Generalized service volume tables are provided in the appendix.

Table 3. Default values for level of service calculation.

HPMS Data Item	Freeways		Multilane			Rural Two Lane
	Urban	**Rural**	**Urban**	**Rural**	**Signalized**	
LANE_WIDTH	12	12	12	12	11	12
SHOULDER_WIDTH_R	10	10	10	10		5
AADT_SINGLE_UNIT	=AADT*0.034	=AADT*0.043	=AADT*0.038	=AADT*0.043		=AADT*0.051
AADT_COMBINATION	=AADT*0.060	=AADT*0.193	=AADT*0.035	=AADT*0.082		=AADT*0.048
K_FACTOR	10	9	10	10	10	11
D_FACTOR	55	55	59	57	57	57
MEDIAN_TYPE			3	2		
SPEED_LIMIT			55	65	40	55
PCT_GREEN_TIME					50	
SIGNAL_TYPE					2	
TERRAIN_TYPE	1	2	1	2		2

Table 4. Level of service for 2014 highway performance monitoring system sample panel—rural sections.

Area Type	Highway Type	Level of Service	No. Sections	Mileage	% of Mileage
Rural	Freeway	A	3,561	18,209	56.3%
Rural	Freeway	B	2,148	8,711	26.9%
Rural	Freeway	C	687	3,402	10.5%
Rural	Freeway	D	270	1,407	4.4%
Rural	Freeway	E	78	343	1.1%
Rural	Freeway	F	88	265	0.8%
Rural	**Freeway**	**A-F Total**	**6,832**	**32,336**	**100.0%**
Rural	Multilane	A	2,624	30,015	89.7%
Rural	Multilane	B	478	2,647	7.9%
Rural	Multilane	C	131	616	1.8%
Rural	Multilane	D	43	91	0.3%
Rural	Multilane	E	13	42	0.1%
Rural	Multilane	F	12	47	0.1%
Rural	**Multilane**	**A-F Total**	**3,301**	**33,459**	**100.0%**
Rural	Rural Two Lane	A	9,559	374,043	77.9%
Rural	Rural Two Lane	B	1,679	33,692	7.0%
Rural	Rural Two Lane	C	1,323	28,683	6.0%
Rural	Rural Two Lane	D	888	18,033	3.8%
Rural	Rural Two Lane	E	1,808	23,353	4.9%
Rural	Rural Two Lane	F	182	2,333	0.5%
Rural	**Rural Two Lane**	**A-F Total**	**15,439**	**480,137**	**100.0%**
Rural	Signalized	A	442	6,921	87.7%
Rural	Signalized	B	101	566	7.2%
Rural	Signalized	C	81	277	3.5%
Rural	Signalized	D	23	30	0.4%
Rural	Signalized	E	15	24	0.3%
Rural	Signalized	F	40	76	1.0%
Rural	**Signalized**	**A-F Total**	**702**	**7,894**	**100.0%**
Rural	Stop Controlled	A	100	1,334	1.0%
Rural	Stop Controlled	B	2,022	127,671	97.6%
Rural	Stop Controlled	C	62	1,359	1.0%
Rural	Stop Controlled	D	10	138	0.1%
Rural	Stop Controlled	E	6	177	0.1%
Rural	Stop Controlled	F	15	74	0.1%
Rural	**Stop Controlled**	**A-F Total**	**2,215**	**130,754**	**100.0%**

Note: Mileage is the expanded mileage—section length times the HPMS expansion factor.

Table 5. Level of service for 2014 highway performance monitoring system sample panel—urban sections.

Area Type	Highway Type	Level of Service	No. Sections	Mileage	% of Mileage
Urban	Freeway	A	3,507	6,338	21.7%
Urban	Freeway	B	3,631	6,465	22.2%
Urban	Freeway	C	3,170	6,445	22.1%
Urban	Freeway	D	2,130	4,397	15.1%
Urban	Freeway	E	975	2,107	7.2%
Urban	Freeway	F	1,695	3,414	11.7%
Urban	**Freeway**	**A-F Total**	**15,108**	**29,166**	**100.0%**
Urban	Multilane	A	5,774	18,605	56.9%
Urban	Multilane	B	2,875	8,616	26.4%
Urban	Multilane	C	1,393	3,632	11.1%
Urban	Multilane	D	508	1,264	3.9%
Urban	Multilane	E	195	304	0.9%
Urban	Multilane	F	147	273	0.8%
Urban	**Multilane**	**A-F Total**	**10,892**	**32,695**	**100.0%**
Urban	Signalized	A	8,759	57,615	56.3%
Urban	Signalized	B	5,495	20,887	20.4%
Urban	Signalized	C	4,558	11,602	11.3%
Urban	Signalized	D	2,061	4,083	4.0%
Urban	Signalized	E	1,336	2,525	2.5%
Urban	Signalized	F	2,918	5,571	5.4%
Urban	**Signalized**	**A-F Total**	**25,127**	**102,284**	**100.0%**
Urban	Stop Controlled	B	1,643	3,358	5.5%
Urban	Stop Controlled	C	7,525	34,253	55.6%
Urban	Stop Controlled	D	1,234	8,657	14.1%
Urban	Stop Controlled	E	559	3,682	6.0%
Urban	Stop Controlled	F	1,839	11,611	18.9%
Urban	**Stop Controlled**	**A-F Total**	**12,800**	**61,560**	**100.0%**

Table 6. Selected highway performance monitoring system freeway sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Freeway	1	1	2	65	182.47	183.53	1	C	Density	21.8	3.61
Freeway	1	1	2	10	29.07	29.073	3	E	Density	44.4	0.00
Freeway	1	1	2	10	29.073	30.258	3	F	Density	51.1	1.26
Freeway	1	1	2	10	30.258	32.77	3	F	Density	58.1	2.68
Freeway	1	1	2	10	32.77	34.5	3	F	Density	58.1	1.84
Freeway	1	1	2	10	34.5	34.98	3	F	Density	58.1	0.51
Freeway	1	1	2	10	34.984	35.181	3	F	Density	49.8	0.20
Freeway	1	1	2	10	35.181	38.775	3	E	Density	38.6	3.60
Freeway	1	1	2	10	38.775	41.3	3	C	Density	18.5	2.53
Freeway	1	1	2	10	41.3	44.31	3	C	Density	18.5	3.01
Freeway	1	1	2	10	44.32	44.89	3	B	Density	13.8	0.57
Freeway	1	1	2	10	44.89	44.899	3	B	Density	13.8	0.01
Freeway	1	1	2	10	58.56	66.29	3	C	Density	19.9	36.99
Freeway	1	1	2	65	32.21	34.07	3	C	Density	21.4	8.90
Freeway	1	1	2	65	34.092	37.77	3	A	Density	9.8	4.70
Freeway	1	1	2	65	37.77	37.88	3	A	Density	7.8	0.14
Freeway	1	1	2	65	107.5	111.81	13	B	Density	12.5	20.62
Freeway	1	1	2	65	120.25	123.87	13	B	Density	13.6	17.32
Freeway	1	1	2	65	126.09	126.44	13	B	Density	13.3	0.52
Freeway	1	1	2	65	128.12	129.66	13	B	Density	12.7	2.29
Freeway	1	1	2	65	130.2	131.11	13	B	Density	15.1	1.36
Freeway	1	1	2	65	131.81	133.93	13	B	Density	15.5	10.14
Freeway	1	1	2	65	135.21	139.6	13	B	Density	15.5	21.01

Table 7. Selected highway performance monitoring system multilane sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Multilane	6	2		20	14.869	15.231	13	B	Density	17.1	4.34
Multilane	6	2		20	14.869	15.231	13	B	Density	17.1	0.94
Multilane	6	2		20	144.831	144.962	13	B	Density	17.1	0.18
Multilane	6	2		20	144.831	144.962	13	B	Density	17.1	1.57
Multilane	6	2		20	144.831	144.962	13	B	Density	17.1	0.34
Multilane	6	2		20	14.958	15.14	13	B	Density	17.1	0.25
Multilane	6	2		20	14.958	15.14	13	B	Density	17.1	2.18
Multilane	6	2		20	14.958	15.14	13	B	Density	17.1	0.47
Multilane	6	2		50	16.374	16.49	17	C	Density	24.0	0.31
Multilane	6	2		50	16.374	16.49	17	C	Density	24.0	0.13
Multilane	6	2		50	45.959	46.059	17	D	Density	32.7	0.25
Multilane	6	2		50	49.066	49.31	17	C	Density	24.0	0.65
Multilane	6	2		50	49.066	49.31	17	C	Density	24.0	0.28
Multilane	6	2		101	706.865	707.463	23	C	Density	21.9	1.51
Multilane	6	2		111	1.04	1.048	25	B	Density	17.7	0.01
Multilane	6	2		111	1.048	2.076	25	C	Density	19.5	1.03
Multilane	6	2		111	2.076	2.56	25	C	Density	19.0	0.51
Multilane	6	2		111	2.076	2.56	25	C	Density	19.0	0.48
Multilane	6	2		111	11.7	11.708	25	C	Density	19.0	0.01
Multilane	6	2		111	11.7	11.708	25	C	Density	19.0	0.01
Multilane	6	2		33	89.04	89.491	29	A	Density	5.5	1.75

Table 8. Selected highway performance monitoring system rural two-lane sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Rural two lane	29	3	3	59	90.64	96.586	21	A	ATS	66.0	28.53
Rural two lane	29	3	3	59	96.586	99.204	21	A	ATS	66.0	12.56
Rural two lane	29	3	3	59	99.204	101.211	21	A	ATS	66.0	9.63
Rural two lane	29	3	4	53	3.078	9.02	23	A	ATS	59.0	18.99
Rural two lane	29	3	3	54	88.448	93.976	29	A	ATS	66.0	17.67
Rural two lane	29	3	3	54	93.976	97.224	29	A	ATS	64.0	15.58
Rural two lane	29	3	3	54	104.956	107.78	29	A	ATS	67.0	9.84
Rural two lane	29	3	4	72	157.529	161.565	31	A	ATS	61.0	12.90
Rural two lane	29	3	3	24	85.633	87.797	33	A	ATS	61.0	3.88
Rural two lane	29	3	4	21	147.476	148.761	35	A	ATS	61.0	2.31
Rural two lane	29	3	4	291	40.983	43.001	37	B	ATS	54.0	9.68
Rural two lane	29	3	3	54	40.832	44.162	39	A	ATS	67.0	5.97
Rural two lane	29	3	3	24	107.134	109.726	41	A	ATS	67.0	8.28

Table 8. Selected highway performance monitoring system rural two-lane sections with level of service and service measures attached (continuation).

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Rural two lane	29	3	3	60	65.175	66.136	43	A	ATS	63.0	3.35
Rural two lane	29	3	3	61	0	2.413	45	A	ATS	62.0	7.71
Rural two lane	29	3	4	92	22.623	26.498	47	B	ATS	55.0	12.38
Rural two lane	29	3	4	8	4.782	14.947	55	A	ATS	61.0	18.24
Rural two lane	29	3	4	8	19.762	22.989	55	A	ATS	59.0	10.31
Rural two lane	29	3	4	8	23.454	33.377	55	A	ATS	61.0	31.71
Rural two lane	29	3	3	65	213.933	215.239	59	A	ATS	66.0	4.17
Rural two lane	29	3	4	6	47.655	51.941	61	A	ATS	66.0	13.70

Table 9. Selected highway performance monitoring system signalized sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Signalized	5	3	4	22	2.56	3.2	131	C	ATS	25.6	4.88
Signalized	5	3	4	22	3.2	3.58	131	A	ATS	35.7	2.90
Signalized	5	3	4	22	8.91	10.64	131	A	ATS	45.9	10.63
Signalized	5	3	3	71	3.91	4.92	131	A	ATS	41.2	7.70
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	6		0	1.88	131	A	ATS	36.7	11.55
Signalized	5	3	3	71	12.47	13.34	133	A	ATS	44.3	3.62
Signalized	8	3	10		1.009	1.989	1	B	ATS	39.0	7.14
Signalized	8	3	10		0	0.48	1	D	ATS	18.0	3.50
Signalized	8	3	10		1.06	2.08	1	A	ATS	43.6	7.43
Signalized	8	3	10		2.08	4.19	1	B	ATS	39.2	6.30
Signalized	8	3	4	2	3.039	4.401	1	B	ATS	43.5	9.92
Signalized	8	3	10		2.32	3.38	1	A	ATS	42.5	16.90
Signalized	8	3	4	44	0.435	1.807	1	F	ATS	13.8	10.00
Signalized	8	3	4	44	0.435	1.807	1	F	ATS	13.8	10.00
Signalized	8	3	3	160	229.351	230.428	3	C	ATS	36.7	7.62
Signalized	8	3	10		7.82	8.83	5	B	ATS	32.9	16.11
Signalized	8	3	10		0	1.11	5	D	ATS	22.5	17.70
Signalized	8	3	10		2.1	3.1	5	B	ATS	32.2	15.95

Table 10. Selected highway performance monitoring system stop-controlled sections with level of service and service measures attached.

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Stop Control	1	5	1	1046	0.12	0.83	33	C	Delay	16.0	1.22
Stop Control	1	5	1	1386	0.294	1.12	33	C	Delay	16.0	1.41
Stop Control	1	5	6	30	5.335	7.2	35	B	Delay	10.2	75.01
Stop Control	1	5	6	85	1.368	6.63	37	B	Delay	10.3	211.63
Stop Control	1	5	6	101	0	1.55	39	C	Delay	16.0	9.61
Stop Control	1	5	6	687	0.07	0.71	39	C	Delay	15.9	3.97
Stop Control	1	5	6	19	0	1.52	39	C	Delay	16.1	9.42
Stop Control	1	5	6	36	7.41	8.17	43	C	Delay	17.3	15.85
Stop Control	1	5	6	11	1.84	6.67	45	B	Delay	10.3	194.25
Stop Control	1	5	6	50	1.534	3.38	45	C	Delay	17.9	38.50
Stop Control	1	5	6	375	0.104	0.69	45	C	Delay	16.3	0.96
Stop Control	1	5	6	377	0	0.31	45	C	Delay	15.7	0.51
Stop Control	1	5	6	23	4.5	7.24	51	C	Delay	17.2	10.80
Stop Control	1	5	6	1	10.858	17	53	B	Delay	10.3	247.02

Table 10. Selected highway performance monitoring system stop-controlled sections with level of service and service measures attached (continuation).

Highway Type	State Code	Functional System	Route Signing	Route Number	Begin Point	End Point	County Code	Level of Service	Service Measure	Service Measure Value	Expanded Mileage
Stop Control	1	5	6	49	1.132	1.46	53	D	Delay	25.8	20.19
Stop Control	1	5	6	5039	0.9	1.5	53	C	Delay	20.1	12.51
Stop Control	1	5	6	15	0	1.43	55	C	Delay	20.2	9.01
Stop Control	1	5	6	185	0	1.86	55	C	Delay	18.2	11.72
Stop Control	1	5	6	185	1.869	2.65	55	C	Delay	18.6	4.92
Stop Control	1	5	1	419	4.238	4.97	55	C	Delay	18.7	4.61
Stop Control	1	5	1	810	0	0.88	55	C	Delay	16.3	1.20

Table 11. Level of service ranges by highway type.

	Freeway	**Multilane**	**Rural Two Lane**	**Stop Controlled**
Service Measure	**Density**	**Density**	**Average Travel Speed (ATS)**	**Delay**
Level of Service A	<= 11	<= 11	> 55	<= 10
Level of Service B	> 11-18	> 11-18	> 50-55	> 10-15
Level of Service C	> 18-26	> 18-26	> 45-50	> 15-25
Level of Service D	> 26-35	> 26-35	> 40-45	> 25-35
Level of Service E	> 35-45	> 35-45	<= 40	> 35-50
Level of Service F	> 45 or where demand > capacity	> 45 or where demand > capacity	Demand > capacity	> 50

Notes: Density is measured as passenger cars per mile, per lane. ATS is measured as miles per hour. Delay is measured in seconds per vehicle.

Table 12. Level of service ranges for signalized highways.

Base-Free Flow Speed	**Average Travel Speed**					
	Level of Service A	**Level of Service B**	**Level of Service C**	**Level of Service D**	**Level of Service E**	**Level of Service F**
>= 55	> 44	> 37	> 28	> 22	> 17	<= 17
50	> 40	> 34	> 25	> 20	> 15	<= 15
45	> 36	> 30	> 23	> 18	> 14	<= 14
40	> 32	> 27	> 20	> 16	> 12	<= 12
35	> 28	> 23	> 18	> 14	> 11	<= 11
30	> 24	> 20	> 15	> 12	> 9	<= 9
<= 25	>20	> 17	> 13	> 10	> 8	<= 8

APPENDIX A. GENERALIZED SERVICE VOLUME TABLES

The service volumes in the tables are the maximum values that can be maintained and still be within the Level of Service (LOS) range. For example in the first row of the freeway table, if the actual volume is less than or equal to 46,100, then it is LOS B. Therefore, the service volumes in the tables are the **maximum** volumes that can be achieved for that LOS category.

For roadways that are dual carriageways, AADT should be divided by two before entering the tables.

Table 13. Freeway generalized service volume table.

Area Type	Number Lanes	Truck Percent	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
Rural						
	4	0	46,100	62,000	74,800	84,700
		10	43,900	59,000	71,200	80,700
		20	41,900	56,300	68,000	77,000
		30	40,100	53,900	65,000	73,700
	6	0	69,200	93,000	112,200	127,100
		10	65,900	88,500	106,900	121,100
		20	62,900	84,500	102,000	115,600
		30	60,100	80,800	97,600	110,500
	8	0	92,200	124,000	149,600	169,500
		10	87,800	118,100	142,500	161,400
		20	83,800	112,700	136,000	154,100
		30	80,200	107,800	130,100	147,400
	10	0	115,300	155,000	187,100	211,900
		10	109,800	147,600	178,100	201,800
		20	104,800	140,900	170,000	192,600
		30	100,300	134,800	162,600	184,200
	12	0	138,400	186,000	224,500	254,300
		10	131,800	177,100	213,800	242,200
		20	125,800	169,100	204,100	231,200
		30	120,300	161,700	195,200	221,100

Table 13. Freeway generalized service volume table (continuation).

Area Type	Number Lanes	Truck Percent	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
Urban						
	4	0	43,700	60,100	73,100	83,000
		10	41,600	57,200	69,600	79,100
		20	39,700	54,600	66,400	75,500
		30	38,000	52,200	63,600	72,200
	6	0	65,600	90,100	109,700	124,600
		10	62,500	85,800	104,400	118,600
		20	59,600	81,900	99,700	113,200
		30	57,000	78,300	95,400	108,300
	8	0	87,500	120,200	146,200	166,100
		10	83,300	114,400	139,300	158,200
		20	79,500	109,200	132,900	151,000
		30	76,100	104,500	127,200	144,400
	10	0	109,400	150,200	182,800	207,600
		10	104,200	143,100	174,100	197,700
		20	99,400	136,600	166,200	188,700
		30	95,100	130,600	159,000	180,500
	12	0	131,300	180,300	219,400	249,200
		10	125,000	171,700	208,900	237,300
		20	119,300	163,900	199,400	226,500
		30	114,100	156,700	190,800	216,700

Table 14. Multilane highway generalized service volume table.

Area Type	Number Lanes	Truck Percent	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
Rural						
	4	0	42,000	57,300	69,600	80,000
		10	39,900	54,600	66,300	76,100
		20	38,100	52,100	63,300	72,700
		30	36,500	49,900	60,600	69,500
	6	0	63,000	86,000	104,500	120,000
		10	59,900	81,900	99,500	114,200
		20	57,200	78,200	95,000	109,000
		30	54,700	74,800	90,900	104,300
	8	0	84,000	114,700	139,300	160,000
		10	79,900	109,300	132,700	152,300
		20	76,300	104,300	126,700	145,400
		30	73,000	99,800	121,200	139,100
	10	0	105,000	143,400	174,200	200,000
		10	99,900	136,600	165,900	190,400
		20	95,400	130,400	158,300	181,800
		30	91,300	124,700	151,500	173,900
Urban						
	4	0	34,500	49,300	61,400	71,600
		10	32,800	47,000	58,400	68,200
		20	31,300	44,800	55,800	65,100
		30	30,000	42,900	53,300	62,300
	6	0	51,700	74,000	92,100	107,500
		10	49,200	70,500	87,700	102,300
		20	47,000	67,300	83,700	97,700
		30	45,000	64,400	80,000	93,400
	8	0	69,000	98,700	122,800	143,300
		10	65,700	94,000	116,900	136,500
		20	62,700	89,700	111,600	130,300
		30	60,000	85,800	106,700	124,600
	10	0	86,200	123,400	153,500	179,100
		10	82,100	117,500	146,200	170,600
		20	78,400	112,200	139,500	162,800
		30	75,000	107,300	133,400	155,700

Table 15. Signalized highway generalized service volume table.

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
2	40	35	12,800	14,900	16,400	18,700
		40	12,600	14,400	15,900	17,700
		45	12,000	14,200	15,500	17,400
		50	11,800	13,800	15,200	16,700
		55	12,300	14,100	15,400	16,900
		60	12,700	14,300	15,500	17,100
	45	35	14,600	16,900	18,500	21,100
		40	14,400	16,300	18,000	20,000
		45	13,900	16,100	17,600	19,700
		50	13,600	15,700	17,200	18,900
		55	14,200	16,000	17,400	19,100
		60	14,600	16,200	17,600	19,300
	50	35	16,500	18,900	20,700	23,600
		40	16,300	18,300	20,100	22,300
		45	15,700	18,100	19,600	22,000
		50	15,500	17,700	19,200	21,100
		55	16,100	17,900	19,500	21,400
		60	16,400	18,100	19,600	21,500
	55	35	18,400	20,900	22,900	26,000
		40	18,100	20,300	22,200	24,700
		45	17,600	20,000	21,700	24,300
		50	17,400	19,600	21,300	23,400
		55	17,900	19,900	21,500	23,600
		60	18,300	20,100	21,700	23,800
	60	35	20,300	22,900	25,100	28,500
		40	20,000	22,200	24,400	27,000
		45	19,500	22,000	23,800	26,600
		50	19,300	21,500	23,300	25,600
		55	19,800	21,800	23,600	25,800
		60	20,200	22,100	23,800	26,100

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
2	65	35	22,200	25,000	27,300	31,000
		40	21,900	24,200	26,500	29,400
		45	21,400	24,000	25,900	28,900
		50	21,200	23,500	25,400	27,800
		55	21,700	23,800	25,700	28,100
		60	22,100	24,000	25,900	28,300
	70	35	24,100	27,000	29,500	33,500
		40	23,800	26,200	28,700	31,700
		45	23,300	26,000	28,000	31,200
		50	23,100	25,400	27,500	30,100
		55	23,600	25,800	27,800	30,400
		60	24,000	26,000	28,000	30,600
	75	35	26,000	29,100	31,700	36,000
		40	25,700	28,200	30,800	34,100
		45	25,200	28,000	30,100	33,600
		50	25,000	27,400	29,600	32,300
		55	25,500	27,700	29,900	32,700
		60	25,900	28,000	30,100	32,900
	80	35	27,900	31,100	33,900	38,500
		40	27,600	30,300	33,000	36,500
		45	27,100	30,000	32,300	35,900
		50	26,900	29,400	31,700	34,600
		55	27,400	29,700	32,000	35,000
		60	27,800	30,000	32,300	35,200
4	40	35	27,400	30,600	33,300	37,800
		40	27,100	29,700	32,400	35,900
		45	26,500	29,400	31,700	35,300
		50	26,200	28,800	31,100	34,000
		55	26,800	29,200	31,400	34,300
		60	27,300	29,500	31,700	34,600

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
4	45	35	31,100	34,500	37,600	42,700
		40	30,700	33,600	36,600	40,500
		45	30,100	33,300	35,800	39,900
		50	29,800	32,600	35,100	38,400
		55	30,500	33,000	35,500	38,800
		60	30,900	33,400	35,800	39,100
	50	35	34,700	38,500	41,900	47,600
		40	34,400	37,500	40,800	45,100
		45	33,700	37,100	39,900	44,400
		50	33,500	36,400	39,200	42,800
		55	34,100	36,900	39,600	43,200
		60	34,600	37,200	39,900	43,600
	55	35	38,400	42,600	46,300	52,500
		40	38,100	41,400	45,100	49,800
		45	37,400	41,000	44,100	49,000
		50	37,100	40,200	43,200	47,200
		55	37,800	40,700	43,700	47,700
		60	38,300	41,100	44,100	48,100
	60	35	42,100	46,600	50,700	57,400
		40	41,800	45,400	49,300	54,400
		45	41,100	44,900	48,200	53,600
		50	40,800	44,100	47,300	51,700
		55	41,500	44,600	47,800	52,200
		60	42,000	45,000	48,300	52,600
	65	35	45,900	50,700	55,100	62,300
		40	45,500	49,300	53,600	59,200
		45	44,800	48,900	52,400	58,300
		50	44,500	48,000	51,500	56,200
		55	45,200	48,500	52,000	56,700
		60	45,700	49,000	52,400	57,100

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
4	70	35	49,600	54,700	59,500	67,300
		40	49,200	53,300	57,900	63,900
		45	48,500	52,800	56,600	62,900
		50	48,200	51,900	55,600	60,700
		55	48,900	52,400	56,200	61,200
		60	49,500	52,900	56,700	61,700
	75	35	53,400	58,800	63,900	72,300
		40	53,000	57,300	62,200	68,600
		45	52,200	56,800	60,900	67,600
		50	51,900	55,800	59,800	65,200
		55	52,700	56,400	60,400	65,800
		60	53,200	56,900	60,900	66,300
	80	35	57,200	63,000	68,400	77,300
		40	56,800	61,300	66,600	73,400
		45	56,000	60,800	65,100	72,300
		50	55,700	59,700	64,000	69,700
		55	56,400	60,400	64,600	70,400
		60	57,000	60,900	65,200	70,900
6	40	35	41,700	46,100	50,200	56,900
		40	41,300	44,900	48,800	53,900
		45	40,600	44,400	47,700	53,100
		50	40,300	43,600	46,800	51,200
		55	41,000	44,100	47,300	51,700
		60	41,500	44,600	47,800	52,100
	45	35	47,100	52,000	56,600	64,100
		40	46,700	50,700	55,100	60,800
		45	46,000	50,200	53,900	59,900
		50	45,700	49,300	52,900	57,700
		55	46,400	49,800	53,400	58,300
		60	47,000	50,300	53,900	58,800

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
6	50	35	52,600	58,000	63,100	71,500
		40	52,200	56,500	61,400	67,800
		45	51,400	56,000	60,100	66,800
		50	51,100	55,000	59,000	64,400
		55	51,800	55,600	59,600	65,000
		60	52,400	56,100	60,100	65,500
	55	35	58,100	64,100	69,600	78,800
		40	57,700	62,400	67,800	74,800
		45	56,800	61,800	66,300	73,700
		50	56,500	60,700	65,100	71,000
		55	57,300	61,400	65,700	71,700
		60	57,900	62,000	66,300	72,200
	60	35	63,700	70,100	76,200	86,200
		40	63,200	68,300	74,100	81,800
		45	62,300	67,700	72,500	80,600
		50	62,000	66,500	71,200	77,700
		55	62,800	67,200	71,900	78,400
		60	63,500	67,800	72,600	79,000
	65	35	69,300	76,200	82,700	93,600
		40	68,800	74,200	80,600	88,900
		45	67,800	73,600	78,800	87,500
		50	67,400	72,200	77,400	84,400
		55	68,300	73,100	78,200	85,200
		60	69,000	73,700	78,900	85,900
	70	35	74,900	82,300	89,400	101,100
		40	74,300	80,200	87,000	95,900
		45	73,300	79,500	85,100	94,500
		50	72,900	78,100	83,600	91,100
		55	73,900	78,900	84,500	92,000
		60	74,700	79,700	85,200	92,700

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
6	75	35	80,500	88,500	96,000	108,600
		40	80,000	86,200	93,500	103,100
		45	78,900	85,500	91,500	101,500
		50	78,500	83,900	89,900	97,900
		55	79,500	84,900	90,800	98,800
		60	80,300	85,700	91,600	99,600
	80	35	86,200	94,700	102,700	116,100
		40	85,600	92,300	100,000	110,200
		45	84,500	91,400	97,900	108,600
		50	84,100	89,800	96,100	104,700
		55	85,100	90,800	97,100	105,700
		60	86,000	91,700	97,900	106,500
8	40	35	55,800	61,600	67,000	75,900
		40	55,400	60,000	65,200	72,000
		45	54,500	59,400	63,700	70,900
		50	54,200	58,300	62,600	68,300
		55	55,000	59,000	63,200	69,000
		60	55,700	59,600	63,800	69,500
	45	35	63,100	69,500	75,600	85,600
		40	62,600	67,700	73,500	81,200
		45	61,700	67,100	71,900	80,000
		50	61,300	65,900	70,600	77,100
		55	62,200	66,600	71,300	77,800
		60	62,900	67,200	72,000	78,400
	50	35	70,400	77,500	84,200	95,300
		40	69,900	75,500	82,000	90,500
		45	68,900	74,800	80,200	89,100
		50	68,500	73,500	78,700	85,900
		55	69,400	74,300	79,500	86,700
		60	70,200	75,000	80,200	87,400

Table 15. Signalized highway generalized service volume table (continuation).

Number Lanes	% Green Time	Speed Limit	Level of Service			
			B Service Volume	C Service Volume	D Service Volume	E Service Volume
8	55	35	77,700	85,500	92,900	105,100
		40	77,200	83,300	90,400	99,800
		45	76,100	82,600	88,500	98,300
		50	75,700	81,100	86,900	94,700
		55	76,700	82,000	87,800	95,600
		60	77,500	82,700	88,500	96,400
	60	35	85,100	93,600	101,600	115,000
		40	84,500	91,200	99,000	109,100
		45	83,300	90,400	96,800	107,500
		50	82,900	88,800	95,100	103,600
		55	84,000	89,700	96,000	104,600
		60	84,900	90,600	96,900	105,400
	65	35	92,600	101,700	110,400	124,900
		40	91,900	99,100	107,500	118,500
		45	90,700	98,200	105,200	116,800
		50	90,200	96,500	103,300	112,600
		55	91,400	97,500	104,400	113,600
		60	92,300	98,400	105,200	114,500
	70	35	100,100	109,900	119,200	134,800
		40	99,300	107,100	116,100	128,000
		45	98,000	106,100	113,600	126,100
		50	97,600	104,200	111,600	121,600
		55	98,800	105,400	112,700	122,700
		60	99,800	106,400	113,700	123,700
	75	35	107,600	118,100	128,100	144,800
		40	106,800	115,100	124,800	137,500
		45	105,400	114,100	122,100	135,500
		50	104,900	112,100	119,900	130,600
		55	106,200	113,300	121,100	131,900
		60	107,300	114,300	122,200	132,900
	80	35	115,200	126,300	137,000	–
		40	114,400	123,100	133,500	297,000
		45	112,900	122,100	130,600	144,900
		50	112,300	119,900	128,300	139,700
		55	113,700	121,200	129,600	141,000
		60	114,800	122,300	130,700	142,100

Table 16. Stop sign-controlled highways generalized service volume table.

Land Use	Functional System	Level of Service			
		B Service Volume	**C Service Volume**	**D Service Volume**	**E Service Volume**
Rural	Princ. Arterial	7,600	11,100	12,400	13,600
	Minor Arterial	6,800	10,200	11,500	12,600
	Collector	5,900	9,300	10,600	11,700
Urban	Princ. Arterial	5,200	8,500	9,800	10,900
	Minor Arterial	1,900	5,200	6,400	7,400
	Collector		2,800	4,000	4,800

Table 17. Rural two-lane highways generalized service volume table.

Speed Limit	Terrain	Truck Pct.	Level of Service		
			B Service Volume	**C Service Volume**	**D Service Volume**
45	Flat	0	3,600	8,700	13,900
		2	3,500	8,700	13,900
		4	3,500	8,700	13,900
		6	3,500	8,700	13,900
		8	3,400	8,600	13,900
		10	3,400	8,600	13,900
	Rolling	0	3,600	8,700	13,900
		2	3,500	8,600	13,900
		4	3,400	8,500	13,900
		6	3,300	8,400	13,900
		8	3,300	8,200	13,900
		10	3,200	8,100	13,900
	Mountainous	0	3,600	8,700	13,900
		2	3,200	7,700	12,300
		4	2,800	7,000	11,100
		6	2,600	6,300	10,100
		8	2,400	5,800	9,300
		10	2,200	5,400	8,500
50	Flat	0	8,700	13,900	19,000
		2	8,700	13,900	19,000
		4	8,700	13,900	19,000

Table 17. Rural two-lane highways generalized service volume table (continuation).

Speed Limit	Terrain	Truck Pct.	Level of Service		
			B Service Volume	**C Service Volume**	**D Service Volume**
50	Flat	6	8,700	13,900	19,000
		8	8,600	13,900	19,000
		10	8,600	13,900	19,000
	Rolling	0	8,700	13,900	19,000
		2	8,600	13,900	19,000
		4	8,500	13,900	19,000
		6	8,400	13,900	19,000
		8	8,200	13,900	19,000
		10	8,100	13,900	19,000
	Mountainous	0	8,700	13,900	19,000
		2	7,700	12,300	16,900
		4	7,000	11,100	15,200
		6	6,300	10,100	13,900
		8	5,800	9,300	12,700
		10	5,400	8,500	11,700
55	Flat	0	13,900	19,000	24,200
		2	13,900	19,000	24,200
		4	13,900	19,000	24,200
		6	13,900	19,000	24,200
		8	13,900	19,000	24,200
		10	13,900	19,000	24,200
	Rolling	0	13,900	19,000	24,200
		2	13,900	19,000	24,200
		4	13,900	19,000	24,200
		6	13,900	19,000	24,200
		8	13,900	19,000	24,200
		10	13,900	19,000	24,200
	Mountainous	0	13,900	19,000	24,200
		2	12,300	16,900	21,500
		4	11,100	15,200	19,400
		6	10,100	13,900	17,600
		8	9,300	12,700	16,100
		10	8,500	11,700	14,900

Table 17. Rural two-lane highways generalized service volume table (continuation).

Speed Limit	Terrain	Truck Pct.	Level of Service		
			B Service Volume	C Service Volume	D Service Volume
60	Flat	0	19,000	24,200	29,300
		2	19,000	24,200	29,300
		4	19,000	24,200	29,300
		6	19,000	24,200	29,300
		8	19,000	24,200	29,300
		10	19,000	24,200	29,300
	Rolling	0	19,000	24,200	29,300
		2	19,000	24,200	29,300
		4	19,000	24,200	29,300
		6	19,000	24,200	29,300
		8	19,000	24,200	29,300
		10	19,000	24,200	29,300
	Mountainous	0	19,000	24,200	29,300
		2	16,900	21,500	26,100
		4	15,200	19,400	23,500
		6	13,900	17,600	21,400
		8	12,700	16,100	19,600
		10	11,700	14,900	18,100
65	Flat	0	24,200	29,300	34,500
		2	24,200	29,300	34,500
		4	24,200	29,300	34,500
		6	24,200	29,300	34,500
		8	24,200	29,300	34,500
		10	24,200	29,300	34,500
	Rolling	0	24,200	29,300	34,500
		2	24,200	29,300	34,500
		4	24,200	29,300	34,500
		6	24,200	29,300	34,500
		8	24,200	29,300	34,500
		10	24,200	29,300	34,500
	Mountainous	0	24,200	29,300	34,500
		2	21,500	26,100	30,700
		4	19,400	23,500	27,600
		6	17,600	21,400	25,100
		8	16,100	19,600	23,000
		10	14,900	18,100	21,300

Federal Highway Administration
Office of Policy and Governmental Affairs
1200 New Jersey Avenue, SE
Washington, DC 20590

https://www.fhwa.dot.gov/policy/

October 2017
PL-18-003

This material is based upon work supported by the FHWA
under contract number DTFH61-13-D-00014.

Attachment IID
Wetlands

ATTACHMENT IID-1

Attachment IID-1
Wetland and Waterbody Delineation Report

GOLDER

REPORT

Summary of Findings Report

Wetland and Waterbody Delineation
BVR Waste and Recycling - College Station Facility
Type V Registration Application

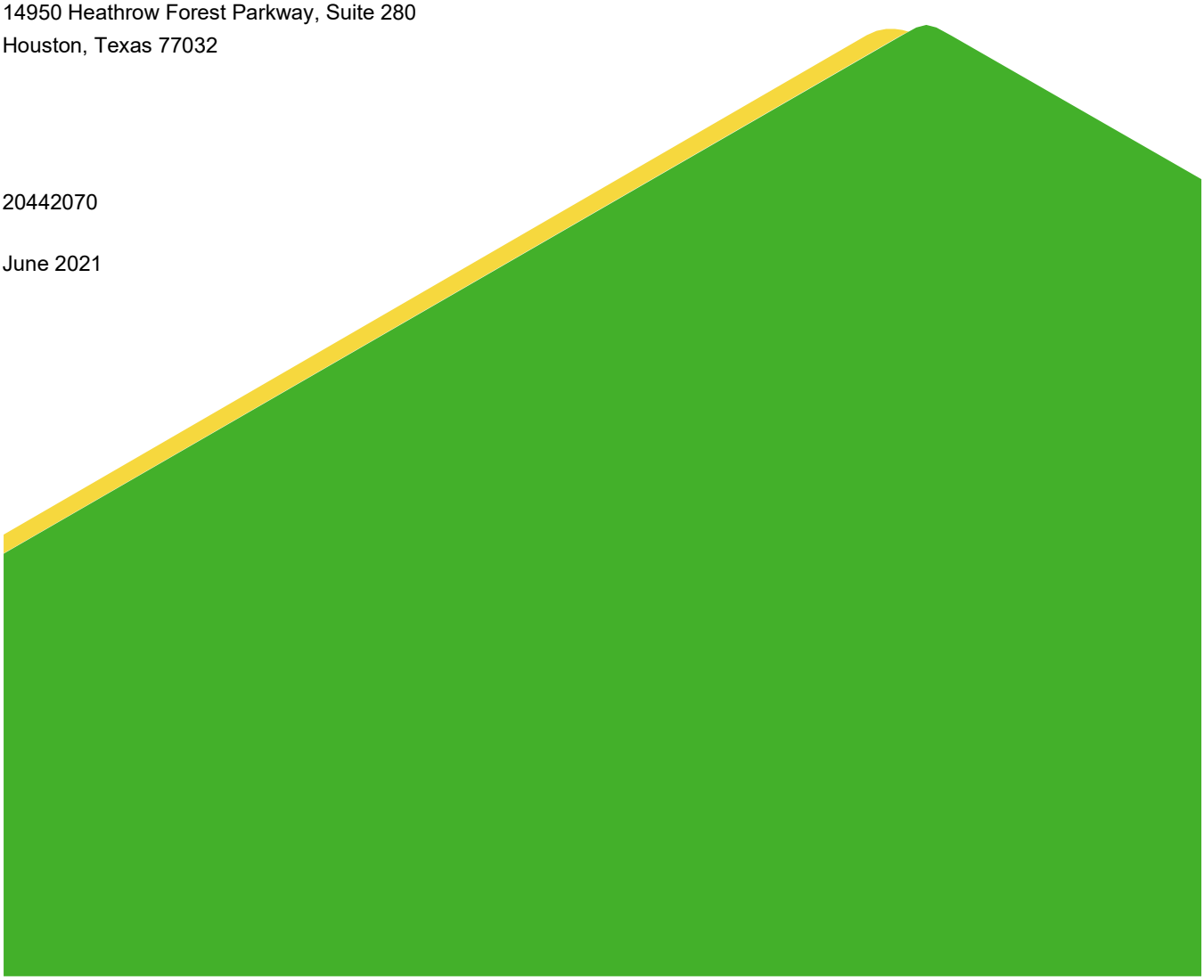
Submitted to:

BVR Waste and Recycling

Submitted by:

Golder Associates

14950 Heathrow Forest Parkway, Suite 280
Houston, Texas 77032



20442070

June 2021

Table of Contents

1.0 INTRODUCTION

Golder Associates Inc. (Golder) has prepared this Summary of Findings Report on behalf of BVR Waste and Recycling (BVR) Type V Registration Application (Project). The College Station Facility, a municipal solid waste processing facility is approximately 9.7 acres and located in Brazos County, Texas. Golder performed a wetland and waterbody delineation for the Project to ensure compliance with all federal regulations and to assist with the evaluation of impact that may result from continued operations and additional construction within the Project area.

2.0 METHODOLOGY

Golder performed an environmental resources analysis of the entire Project footprint. A Project Survey Area was created to identify all protected resources that may be impacted by the Project. The environmental resources analysis consisted of two components: (1) an initial desktop review of the Survey Area and (2) a pedestrian field survey conducted within the Survey Area to observe and record existing conditions. A summary of the methods is presented in the following sections. Mapping exhibits showing the Survey Area is provided in Appendix A.

2.1 Initial Desktop Review

Prior to conducting field surveys, Golder reviewed publicly available information to gain an understanding of the various features in the Survey Area, including layout, land cover, habitat types, and current and historic land use. These features were assessed as a preliminary determination of the presence of existing or potentially occurring agency regulated or protected environmental resources within the Survey Area. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- USGS National Hydrography Dataset (NHD);
- National Wetlands Inventory (NWI) dataset;
- Natural Resources Conservation Service (NRCS) soil survey database; and
- Federal Emergency Management Agency (FEMA) floodplain maps.

2.2 Field Surveys

The environmental resources surveys consisted of the identification of all Waters of the United States (WOUS) including wetlands, waterbodies, and ponds. All environmental resources identified within the Survey Area were delineated using a handheld sub-meter Global Positioning System (GPS). Photographs of the resources identified within the Survey Area are provided in Appendix B.

2.2.1 Wetlands

Wetland and waterbody surveys consisted of a pedestrian survey conducted in the field within the Survey Area to observe and record existing site conditions. Golder biologists followed the USACE standard procedures to evaluate WOUS, including wetlands and waterbodies subject to regulation under the Clean Water Act, otherwise known as jurisdictional WOUS. Procedures followed were in accordance with the guidance established in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987); the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region, Version 2.0 (USACE, 2010); and the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). The USACE guidance

documents state that, with certain exemptions, an area must have adequate hydrology, a predominance of hydrophytic vegetation, and the presence of hydric soil indicators to be considered a wetland.

The predominant land cover, habitat types, and potential aquatic resources within the Survey Area were evaluated and documented. At each sample location, Golder performed an assessment of vegetation, soil type/ characteristics, and surface/ subsurface hydrology to determine the presence or absence of wetland indicators. Data collected at each sample location is presented on the USACE Routine Wetland Determination Data Forms provided in Appendix C. Photographs depicting typical site conditions during the field surveys are included in Appendix B.

Vegetation was identified by morphological indicators such as flowers, leaves, culms, stalks, ligules, bark, buds, stems, nodes, and fruit. The wetland indicator status for vegetation noted during the evaluations were obtained from the USACE National Wetland Plant List. Soil was evaluated by digging test pits up to 16 inches deep. Soil conditions were evaluated using criteria established by the NRCS Keys to Soil Taxonomy (Soil Survey Staff, 2015) and Field Indicators of Hydric Soils in the United States (USDA NRCS, 2016). Soil colors were evaluated using a Munsell® Color Chart. Hydrology was evaluated through direct observation of standing water and/ or saturated soil, and indirectly through observation of primary and secondary visual indicators of hydrology, as indicated in the Regional Supplement.

2.2.2 Waterbodies

Waterbody surveys were conducted within the Survey Area to identify areas that displayed an ordinary high-water mark (OHWM). An OHWM is indicated as physical characteristics defined by the USACE as a “clear, natural line impressed on the bank, shelving, changes in the character soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” Some areas that may not have an OHWM are also included as waterbodies, such as manmade ponds, lakes, and other bodies of open water.

3.0 FIELD SURVEY RESULTS

3.1 Wetlands

No wetlands were identified by Golder biologists within the Survey Area.

3.2 Vegetation

Sparse vegetation was observed throughout the site due to current daily operational activities of the BVR facility. At the locations where vegetation was observed, characteristic vegetation included: Bermuda grass (*Cynodon dactylon*), groundseltree (*Baccharis halimifolia*), and white clover (*Trifolium campestre*).

3.3 Soils

Restrictive layers were encountered near the soil surface throughout the Survey Area. Locations where the soil could be examined showed signs of mixed soil layers because of heavy equipment traffic. Review of the NRCS Soil Survey data showed a total of three soil series are located within the Survey Area, which are displayed below in Table 1.

Table 1: NRCS Soils Located within the Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	NRCS Drainage Rating	NRCS Hydric Rating
Silawa fine sandy loam, 2 to 5 percent slopes	SmC	Well Drained	Not Hydric
Silawa fine sandy loam, 5 to 8 percent slopes	SmD	Well Drained	Not Hydric
Robco-Tanglewood complex, 1 to 5 percent slopes	RoB	Moderately Well Drained	Not Hydric

3.4 Hydrology

The Survey Area is located within one Environmental Protection Agency (EPA) Hydrologic Unit Code (HUC) 8 watershed, Lower Brazos-Little Brazos (12070101). Primary hydrologic indicators observed within the Survey Area include standing water and algal mat. No secondary hydrologic indicators were observed within the Survey Area. Review of the aerial imagery show that the surrounding area contains many pockets of standing water, which appear to have been created during the prior land use of the site as a gravel and sand pit.

3.5 Waterbodies

No waterbodies were identified by Golder biologists within the Survey Area.

3.6 Historical Land Use and Modifications

The site has historically been used as a sand and gravel pit, as evidenced by aerial imagery. The northern portion of the Survey Area is at a much lower elevation as a result of its past land use, which allows the low-lying areas to hold water year-round. Standing water is present throughout this area because crushed concrete has been used as inert general fill to build access roads used by industrial equipment.

4.0 CLEAN WATER ACT SECTION 404 DISCUSSION

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into WOUS, including wetlands, streams, and ponds. Any activity that may result in the discharge or dredge or fill material is subject to permitting, pending the level of impacts that result from the proposed action. The Golder biologist did not identify any wetlands or waterbodies within the Survey Area.

5.0 CONCLUSION

Golder's environmental resource analysis of the Project Survey determined that no wetlands or waterbodies are present within the Survey Area. Should the Project's registration area be expanded in the future, Golder recommends additional review and surveys to determine the presence of WOUS, due to the presence of standing water in the areas adjacent to the Survey Area. This report is intended for planning purposes and has not been submitted to the USACE for concurrence.

Golder's evaluation was performed in general accordance with accepted procedures in conducting habitat and aquatic resource evaluations. Golder makes no representation for a period of time over which this evaluation will

remain valid. Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluations within the study area due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made. The opinions of Golder's professional consulting team have not been reviewed or concurred with by regulatory agencies, including the USACE, for compliance with state and Federal regulations.

6.0 REFERENCES

Environmental Protection Agency. 2020. The Navigable Waters Protection Rule: Definition of “Waters of the United States”. Available at: https://www.epa.gov/sites/production/files/2020-02/documents/final_wotus_step_2_final_public_webcast_13_feb_2020_508c_0.pdf. Accessed May 2021.

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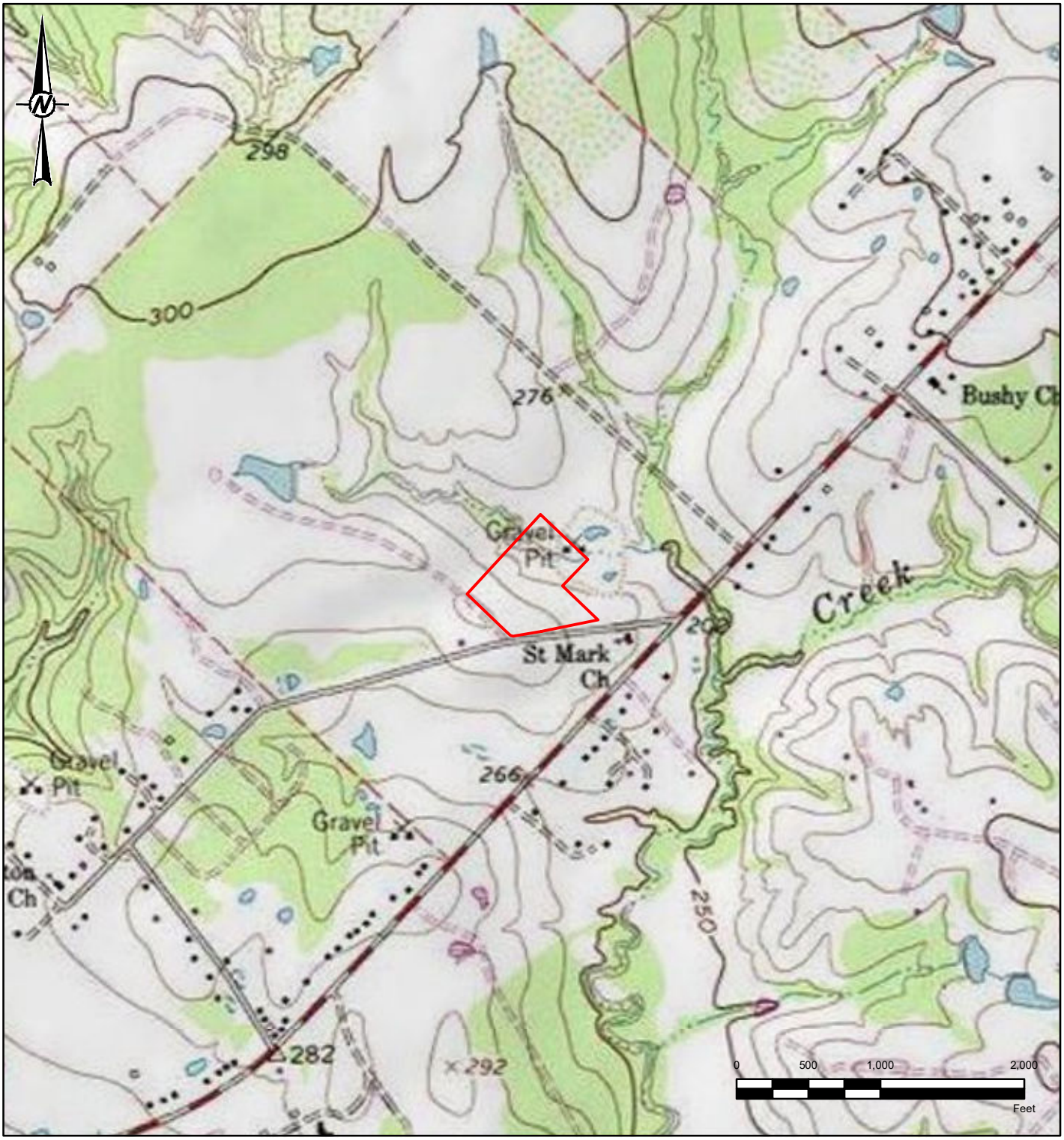
Signature Page

Kyle Brewer
Staff Biologist

Ashley Thompson
Senior Biologist



LEGEND

Survey Area

REFERENCE(S)
1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
PROJECT OVERVIEW MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A001	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\08 PROJECTS\20442070\A General\GIS\Support\02 PRODUCTION\MXD\20442070 A001 Project Overview.mxd

LEGEND

SURVEY AREA

0 75 150 300

FEET

CLIENT

BRAZOS VALLEY RECYCLING

PROJECT

BVR TYPE V REGISTRATION PROJECT

TITLE

WETLAND MAP

REFERENCE(S)

1. PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A002	0	**2B**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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LEGEND

- SOIL STATIONS
- SURVEY

REFERENCE(S)

1. SOIL STATIONS, PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
WETLAND AND SOIL STATIONS MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
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1 in

0

LEGEND
- SOIL STATIONS
- SURVEY AREA

NATIONAL WETLANDS INVENTORY DATA
- RIVERINE

NRCS SOILS
- CHC: CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
- DUC: DUTEK LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES
- ROB: ROBCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
- SMC: SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- SMD: SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
- TAA: TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- UH: UHLAND LOAM, FREQUENTLY FLOODED

REFERENCE(S)
1. PONDS, SOIL STATIONS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020-21
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
DESKTOP ANALYSIS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A004	0	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 5 **Feature:** UP002_NW **Date:** January 29, 2021 **Comments:** Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.	
Photograph Number: 6 **Feature:** UP002 **Date:** January 29, 2021 **Comments:** Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.	

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 9

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing northeast. Crushed concrete covers the ground surface in this area.

Photograph Number: 10

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing southwest. Crushed concrete covers the ground surface in this area.

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 11

Feature: UP005_N

Date: January 29, 2021

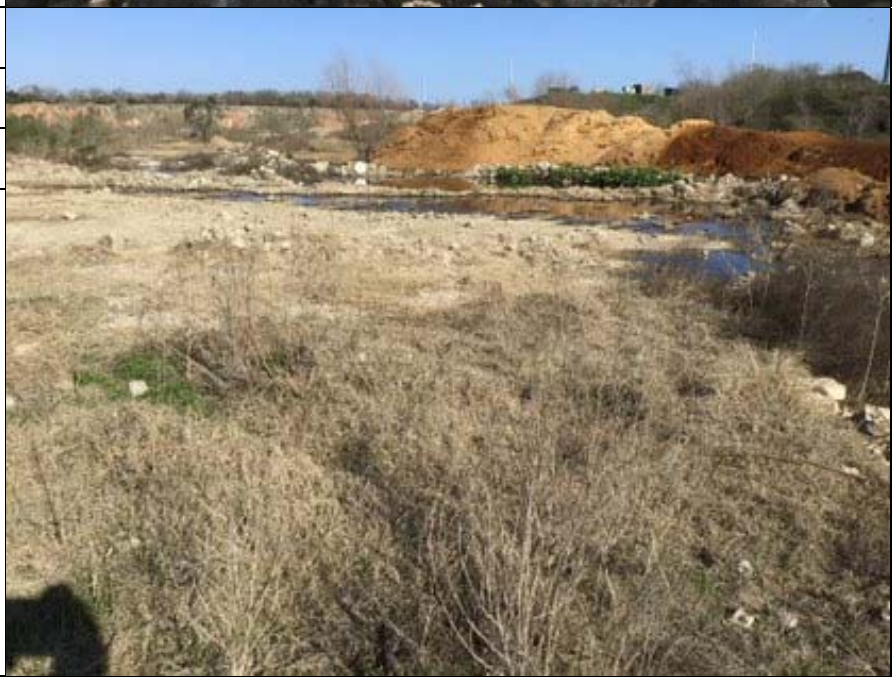
Comments: Photo of upland facing north. Crushed concrete covers the ground surface in this area.

Photograph Number: 12

Feature: UP005_S

Date: January 29, 2021

Comments: Photo of upland facing south. Crushed concrete covers the ground surface in this area.



Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 13

Feature: UP006

Date: January 29, 2021

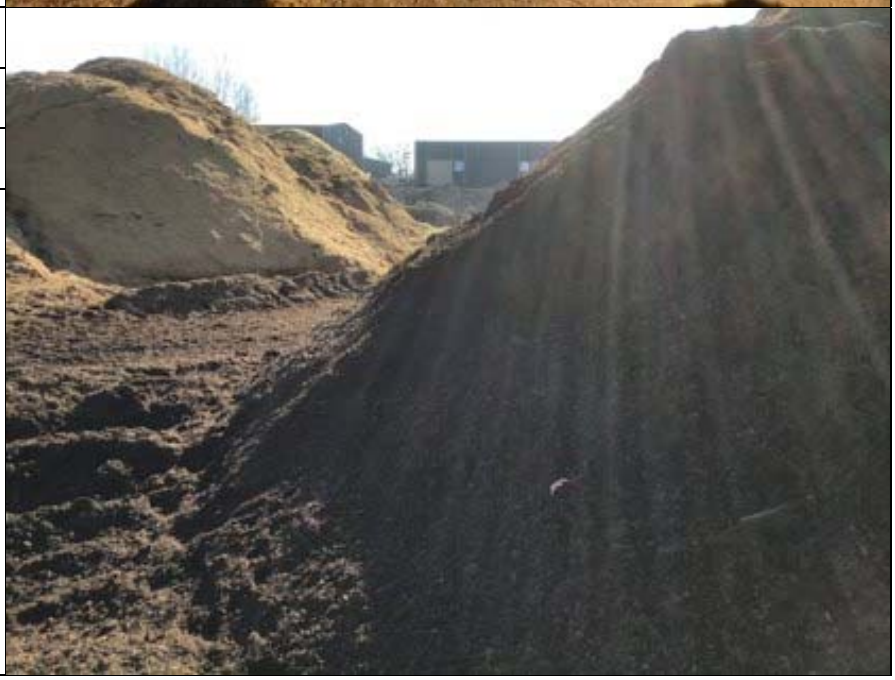
Comments: Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.

Photograph Number: 14

Feature: UP006

Date: January 29, 2021

Comments: Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.



WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP002

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572930 **Long.:** -96.404681 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: -?-

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is heavily disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is heavily disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP004**

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.573178 **Long.:** -96.405508 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	54.5%	FACU
2. Baccharis halimifolia	15	☑	27.3%	FAC
3. Trifolium campestre	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	55	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	55	(A)	215	(B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Area is disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/2	100					Sandy Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP005**

Investigator(s): Kyle Brewer **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572648 **Long.:** -96.405224 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	75.0%	FACU
2. Trifolium campestre	10	☑	25.0%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	40	(A)	170	(B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP006

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572495 **Long.:** -96.404430 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region:

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR	3/2	100					Sandy Clay Loam	Mixed soils

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

golder.com

ATTACHMENT IID-2

Attachment IID-2
United States Army Corps of Engineers Correspondence

September 19, 2024

Mr. Brandon Mobley
Chief, Regulatory Division
U.S. Army Corps of Engineers (USACE)
Fort Worth District
819 Taylor Street
Fort Worth, TX 76102

Re: Section 404 Jurisdictional Determination
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

Dear Mr. Mobley:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, Brazos County, Texas. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**. The Soils Map is provided as **Figure II-12**. **Figures II-13** displays the FEMA Flood Insurance Rate Map.

Attachment 1 is a project summary and site location maps. **Attachment 2** is a copy of the Wetland and Waterbody Delineation Report prepared by Golder, dated June 2021. The conclusion of the environmental resource analysis determined no wetlands or waterbodies within the Facility area.

In order to comply with the current Texas Administrative Code 30 TAC §330.61(m)(2), we are requesting a letter from USACE indicating that the proposed Facility is in compliance with the restrictions placed on wetlands development. By submission of this letter, we are officially demonstrating coordination with USACE as required by the TAC.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – Wetland and Waterbody Delineation Report

4759.0001H000

ATTACHMENT 1

Attachment 1
Project Summary

1. Introduction

Brannon Industrial Group, LLC (“BIG”) is preparing a Registration Application (RA) to be submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division for an operation of the BVR Waste and Recycling Transfer Station (“Facility” or “Site”), a Type V Transfer Station. The Facility is located with the extraterritorial jurisdiction of City of College Station, Brazos County, Texas.

BVR Waste and Recycling Transfer Station occupies 4.419 acres of a 10-acre tract owned by BIG. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

2. Facility Location

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

The Facility is located on the property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

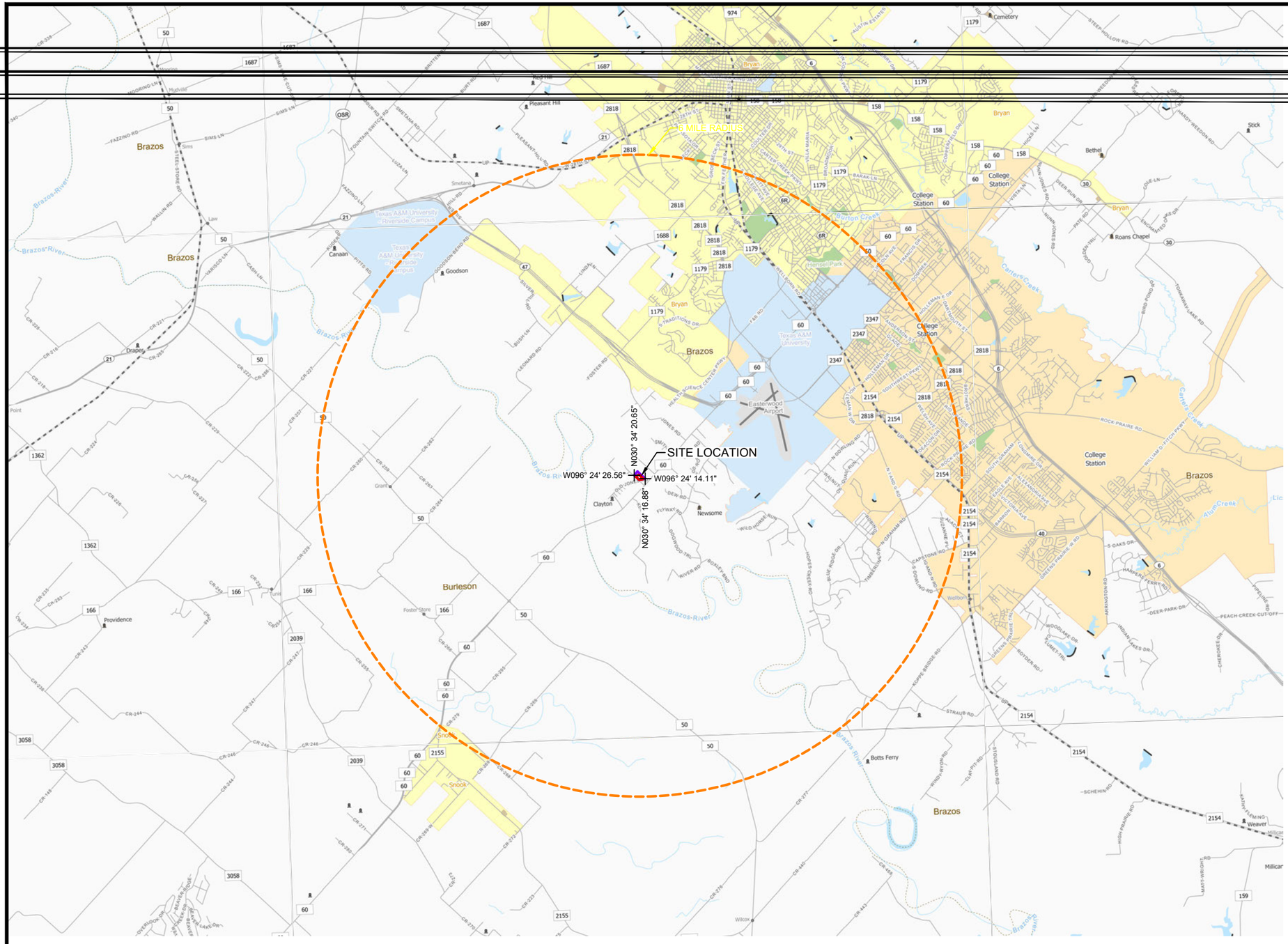
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
84551
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

N

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

2 MILES 0 2 MILES

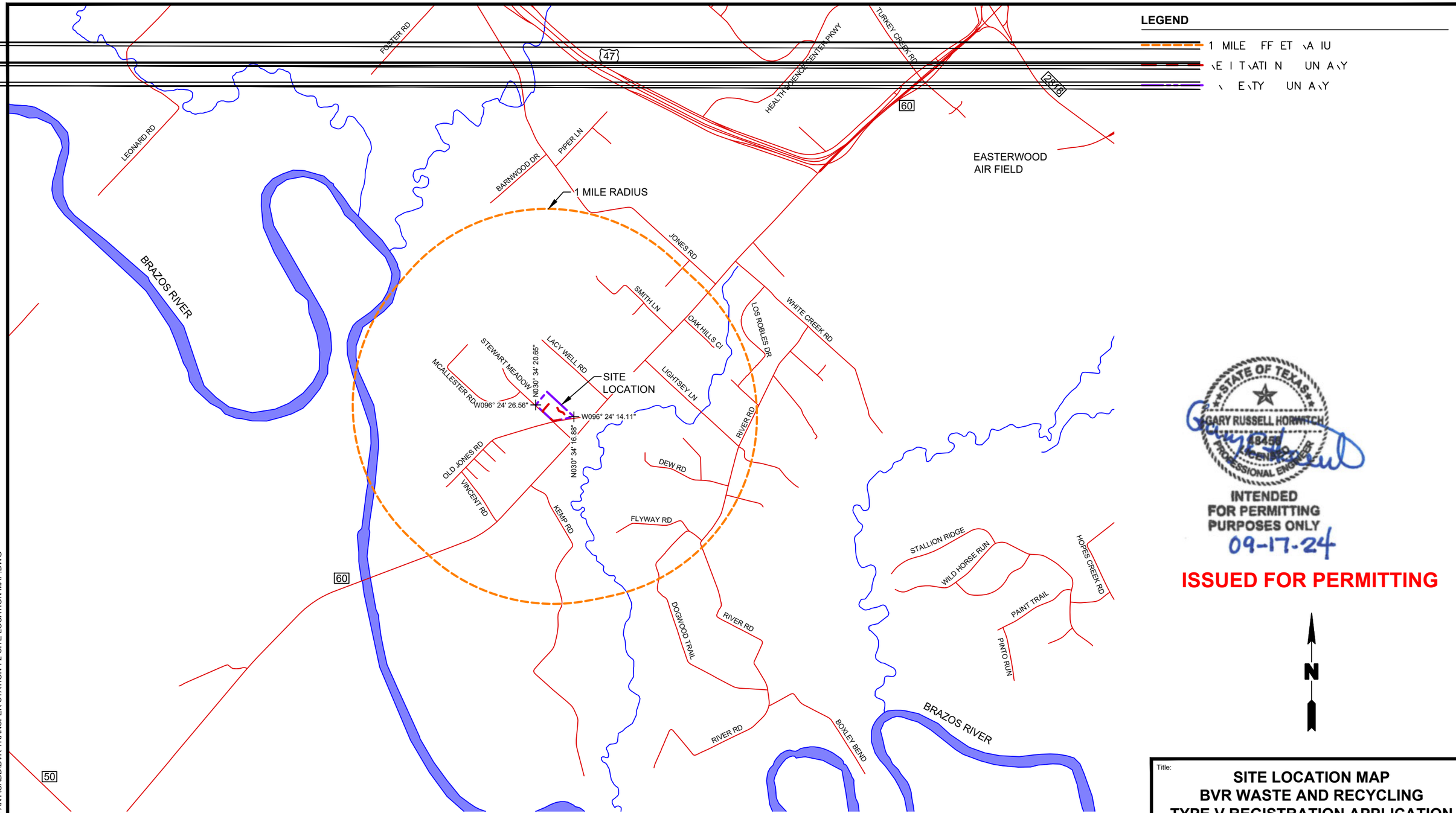
Title:
GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

STATE OF TEXAS
GARY RUSSELL HORWITCH
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

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STATE OF TEXAS
GARY RUSSELL HORWITCH
84561
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

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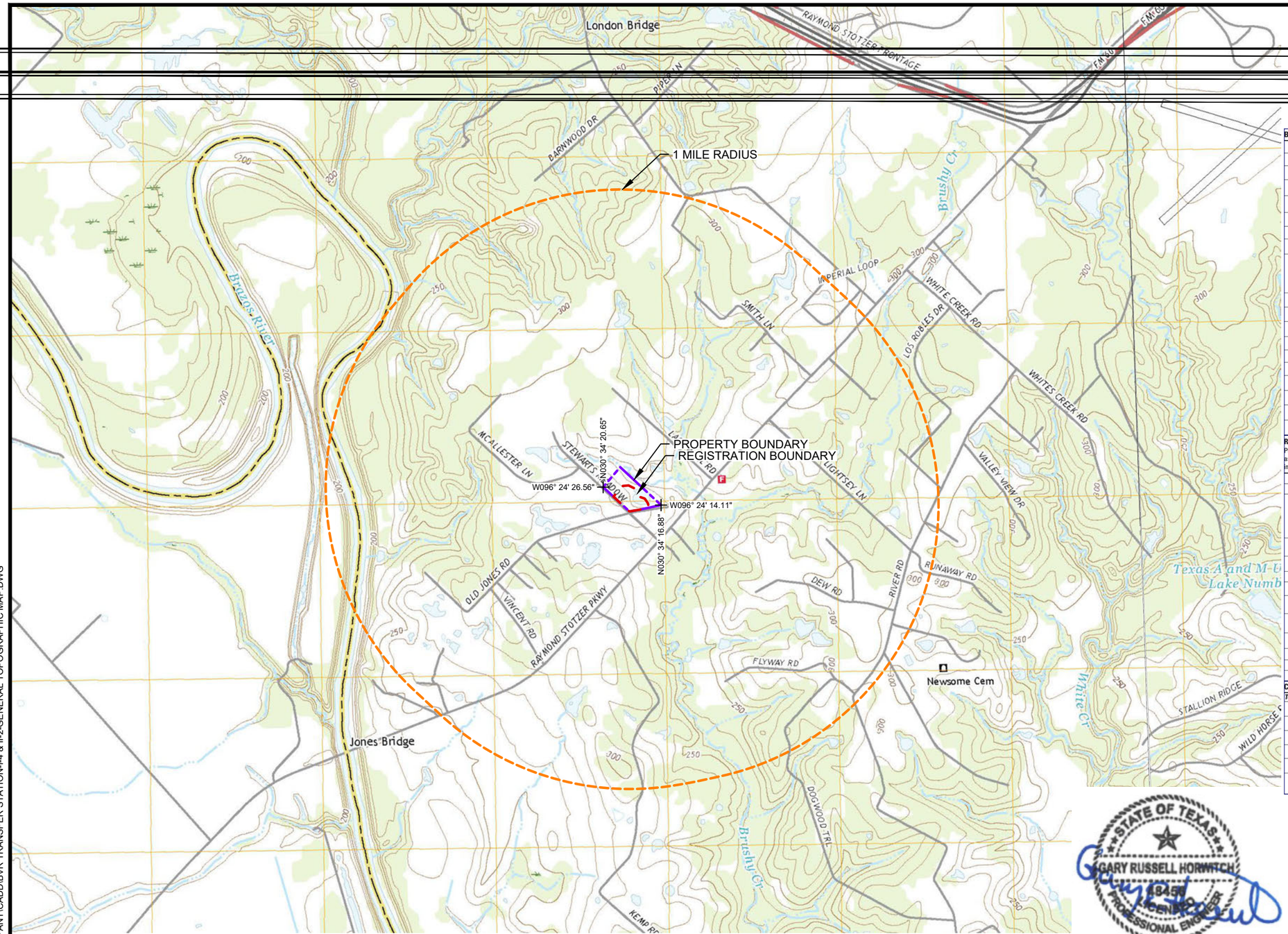

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ○ 9134 BM 277)
- Third-order or better elevation, recoverable mark, no tablet (5628)
- With number and elevation (67 ⊡ 4567)

Horizontal control

- Third-order or better, permanent mark (Neace Neace)
- With third-order or better elevation (BM 62 Pike BM393)
- With checked spot elevation (1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84458
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	I-4
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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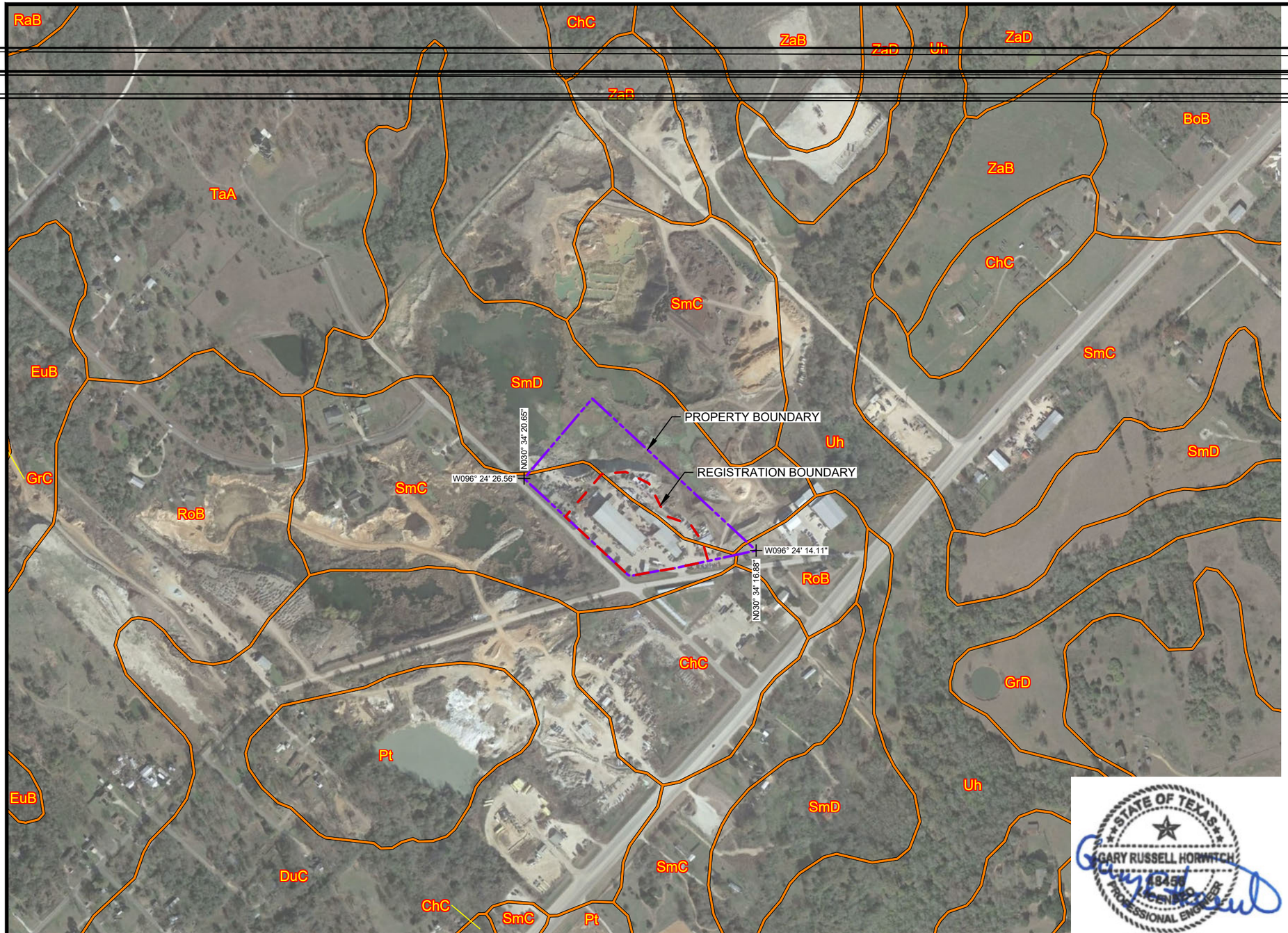

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SOIL TYPES

SYMBOL	MAP UNIT NAME
BoA	BOONVILLE FINE SANDY LOAM, 0 TO 1 PERCENT SLOPES
BoB	BOOBVILLE FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
ChC	CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
ChD	CHAZOS LOAMY FINE SAND, 5 TO 8 PERCENT SLOPES
DuC	DUTEK LOAMY FIND SAND, 3 TO 8 PERCENT SLOPES
EuB	EUFAULA LOAMY FINE SAND, 1 TO 3 PERCENT SLOPES
GrC	GREDGE FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
GrD	GREDGE FINE SANDLY LOAM, 5 TO 8 PERCENT SLOPES
HbA	HIGHBANK SILT LOAM, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
PaC	PADINA LOAMY FIND SAND, 1 TO 5 PERCENT SLOPES
Pt	PITS
RaB	RADER FINE SANDY LOAM, 1 TO 3 PERCENT SLOPES
RoB	ROCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
Rr	ROETEX CLAY, FREQUENTLY FLOODED, FREQUENTLY PONDED
ShA	SHIPS CLAY, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
ShC	SHIPS CLAY, 1 TO 5 PERCENT SLOPES, RARELY FLOODED
SmC	SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
SmD	SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
TaA	TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
Uh	UHLAND LOAM, FREQUENTLY FLOODED
W	WATER
WeA	WESWOOD SILT LOAM, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
WeC	WESWOOD SILT LOAM, 1 TO 5 PERCENT SLOPES, RARELY FLOODED
WwA	WESWOOD SILTY CLAY LOAM, 0 TO 1 PERCENT SLOPES, RARELY FLOODED
Wy	WESWOOD-YAHOLA COMPLEX, FREQUENTLY FLOODED
YaB	YAHOLA FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES, RARELY FLOODED
ZaB	ZACK FINE SANDY LOAM, 1 TO 5 PERCENT SLOPES
ZaD	ZACK FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
ZaE3	ZACK FINE SANDY LOAM, 8 TO 25 PERCENT SLOPES SEVERLY ERODED
ZuB	ZULCH FIND SANDY LOAM, 1 TO 3 PERCENT SLOPES

REFERENCE

BASE MAP TAKEN FROM GOOGLE EARTH PRO, DATED DECEMBER 29, 2019.

SOIL DATA TAKEN FROM UNITED STATES DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICES. NATIONAL SOIL SURVEY HANDBOOK. (HTTPS://WEBSOILSURVEY.SC.EGOV.USDA.GOV/) BRAZOS COUNTY AND BURLESON COUNTY, TEXAS SURVEY AREA: VERSION 19, DATED JUNE 11, 2020.

N

500' 0 500'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84594
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

SOIL MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	II-12
File: BVR TRANSFER STATION-II-12-SOIL MAP.DWG		

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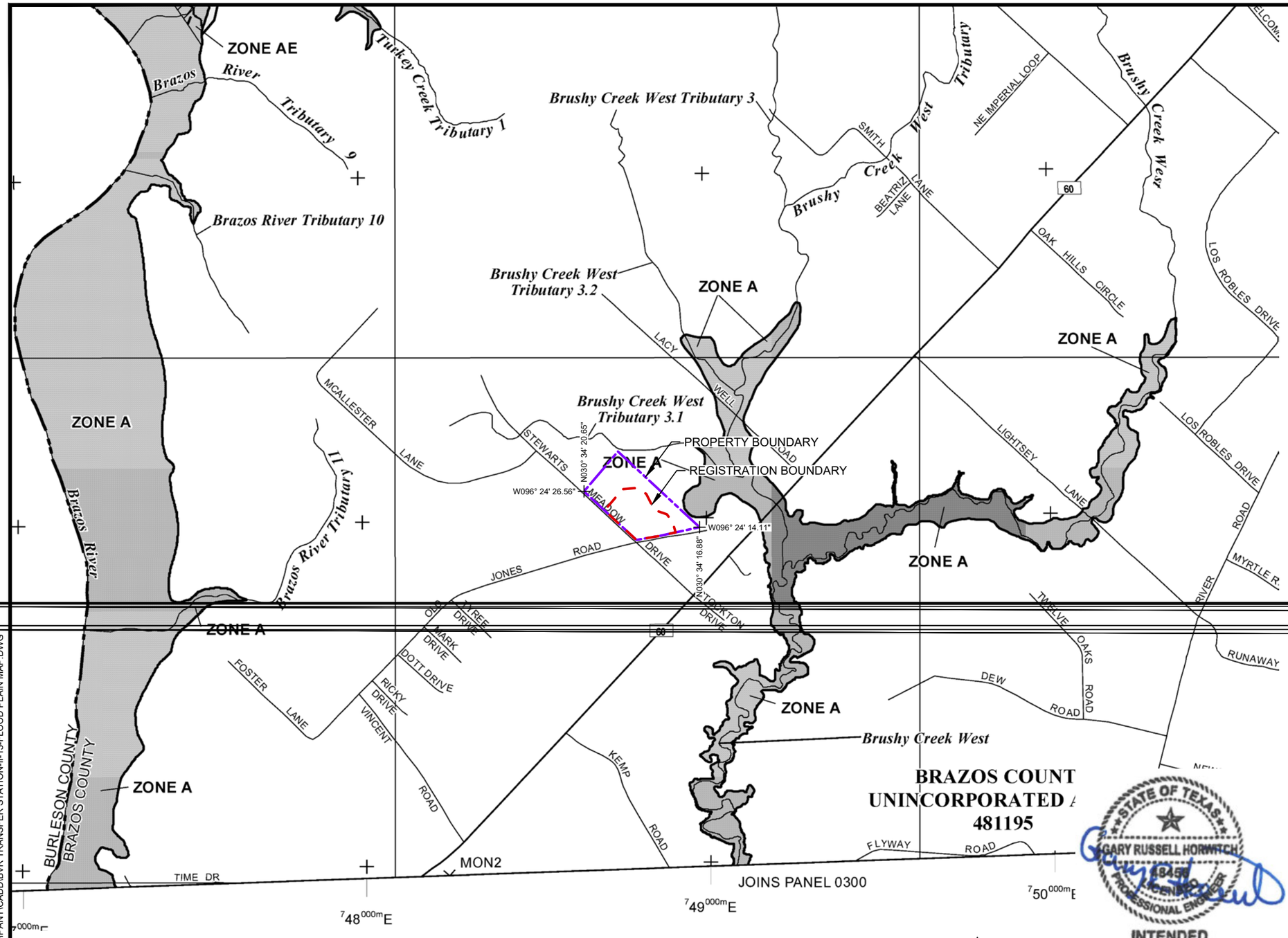


NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0285E

FIRM

FLOOD INSURANCE RATE MAP

BRAZOS COUNTY, TEXAS AND INCORPORATED AREAS

PANEL 285 OF 475

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BRAZOS COUNTY	481195	0285	E
BRYAN, CITY OF	480082	0285	E
COLLEGE STATION, CITY OF	480083	0285	E

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER 48041C0285E

MAP REVISED MAY 16, 2012

Federal Emergency Management Agency

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- Culvert
- Bridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 3100000 FT — 5000-foot ticks: Texas State Plane Central Zone (FIPS Zone 4203), Lambert Conformal Conic projection
- 1000-meter Universal Transverse Mercator grid values, zone 14
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
July 2, 1992

LEGEND

- EXTRATERRITORIAL JURISDICTION
- CITY LIMITS

REFERENCE(S)

1. FLOOD INSURANCE RATE MAP TAKEN FROM FEMA FLOOD MAP SERVICE CENTER, DELIVERED IN PDF, <HTTP://MSC.FEMA.GOV/PORTAL> (ACCESSED APRIL 2023).

N

1000' 0 1000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84511
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

FLOOD PLAIN MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-13
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-13-FLOOD PLAIN MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-13-FLOOD PLAIN MAP.DWG

ATTACHMENT 2

Attachment 2
Wetland and Waterbody Delineation Report

GOLDER

REPORT

Summary of Findings Report

Wetland and Waterbody Delineation
BVR Waste and Recycling - College Station Facility
Type V Registration Application

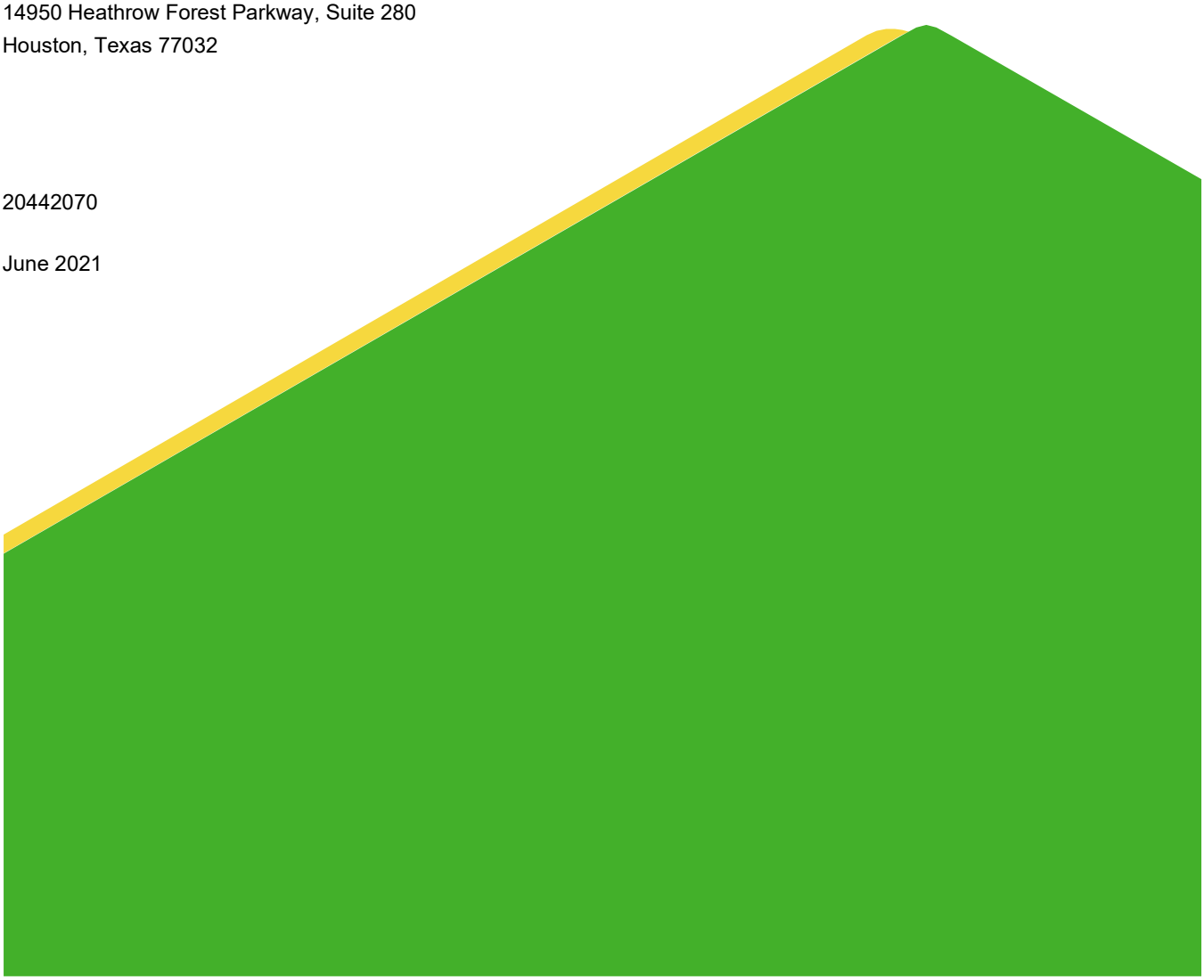
Submitted to:

BVR Waste and Recycling

Submitted by:

Golder Associates

14950 Heathrow Forest Parkway, Suite 280
Houston, Texas 77032



20442070

June 2021

Table of Contents

1.0 INTRODUCTION

Golder Associates Inc. (Golder) has prepared this Summary of Findings Report on behalf of BVR Waste and Recycling (BVR) Type V Registration Application (Project). The College Station Facility, a municipal solid waste processing facility is approximately 9.7 acres and located in Brazos County, Texas. Golder performed a wetland and waterbody delineation for the Project to ensure compliance with all federal regulations and to assist with the evaluation of impact that may result from continued operations and additional construction within the Project area.

2.0 METHODOLOGY

Golder performed an environmental resources analysis of the entire Project footprint. A Project Survey Area was created to identify all protected resources that may be impacted by the Project. The environmental resources analysis consisted of two components: (1) an initial desktop review of the Survey Area and (2) a pedestrian field survey conducted within the Survey Area to observe and record existing conditions. A summary of the methods is presented in the following sections. Mapping exhibits showing the Survey Area is provided in Appendix A.

2.1 Initial Desktop Review

Prior to conducting field surveys, Golder reviewed publicly available information to gain an understanding of the various features in the Survey Area, including layout, land cover, habitat types, and current and historic land use. These features were assessed as a preliminary determination of the presence of existing or potentially occurring agency regulated or protected environmental resources within the Survey Area. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- USGS National Hydrography Dataset (NHD);
- National Wetlands Inventory (NWI) dataset;
- Natural Resources Conservation Service (NRCS) soil survey database; and
- Federal Emergency Management Agency (FEMA) floodplain maps.

2.2 Field Surveys

The environmental resources surveys consisted of the identification of all Waters of the United States (WOUS) including wetlands, waterbodies, and ponds. All environmental resources identified within the Survey Area were delineated using a handheld sub-meter Global Positioning System (GPS). Photographs of the resources identified within the Survey Area are provided in Appendix B.

2.2.1 Wetlands

Wetland and waterbody surveys consisted of a pedestrian survey conducted in the field within the Survey Area to observe and record existing site conditions. Golder biologists followed the USACE standard procedures to evaluate WOUS, including wetlands and waterbodies subject to regulation under the Clean Water Act, otherwise known as jurisdictional WOUS. Procedures followed were in accordance with the guidance established in the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987); the Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Great Plains Region, Version 2.0 (USACE, 2010); and the USACE Jurisdictional Determination Form Instructional Guidebook (USACE, 2007). The USACE guidance

documents state that, with certain exemptions, an area must have adequate hydrology, a predominance of hydrophytic vegetation, and the presence of hydric soil indicators to be considered a wetland.

The predominant land cover, habitat types, and potential aquatic resources within the Survey Area were evaluated and documented. At each sample location, Golder performed an assessment of vegetation, soil type/ characteristics, and surface/ subsurface hydrology to determine the presence or absence of wetland indicators. Data collected at each sample location is presented on the USACE Routine Wetland Determination Data Forms provided in Appendix C. Photographs depicting typical site conditions during the field surveys are included in Appendix B.

Vegetation was identified by morphological indicators such as flowers, leaves, culms, stalks, ligules, bark, buds, stems, nodes, and fruit. The wetland indicator status for vegetation noted during the evaluations were obtained from the USACE National Wetland Plant List. Soil was evaluated by digging test pits up to 16 inches deep. Soil conditions were evaluated using criteria established by the NRCS Keys to Soil Taxonomy (Soil Survey Staff, 2015) and Field Indicators of Hydric Soils in the United States (USDA NRCS, 2016). Soil colors were evaluated using a Munsell® Color Chart. Hydrology was evaluated through direct observation of standing water and/ or saturated soil, and indirectly through observation of primary and secondary visual indicators of hydrology, as indicated in the Regional Supplement.

2.2.2 Waterbodies

Waterbody surveys were conducted within the Survey Area to identify areas that displayed an ordinary high-water mark (OHWM). An OHWM is indicated as physical characteristics defined by the USACE as a “clear, natural line impressed on the bank, shelving, changes in the character soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.” Some areas that may not have an OHWM are also included as waterbodies, such as manmade ponds, lakes, and other bodies of open water.

3.0 FIELD SURVEY RESULTS

3.1 Wetlands

No wetlands were identified by Golder biologists within the Survey Area.

3.2 Vegetation

Sparse vegetation was observed throughout the site due to current daily operational activities of the BVR facility. At the locations where vegetation was observed, characteristic vegetation included: Bermuda grass (*Cynodon dactylon*), groundseltree (*Baccharis halimifolia*), and white clover (*Trifolium campestre*).

3.3 Soils

Restrictive layers were encountered near the soil surface throughout the Survey Area. Locations where the soil could be examined showed signs of mixed soil layers because of heavy equipment traffic. Review of the NRCS Soil Survey data showed a total of three soil series are located within the Survey Area, which are displayed below in Table 1.

Table 1: NRCS Soils Located within the Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	NRCS Drainage Rating	NRCS Hydric Rating
Silawa fine sandy loam, 2 to 5 percent slopes	SmC	Well Drained	Not Hydric
Silawa fine sandy loam, 5 to 8 percent slopes	SmD	Well Drained	Not Hydric
Robco-Tanglewood complex, 1 to 5 percent slopes	RoB	Moderately Well Drained	Not Hydric

3.4 Hydrology

The Survey Area is located within one Environmental Protection Agency (EPA) Hydrologic Unit Code (HUC) 8 watershed, Lower Brazos-Little Brazos (12070101). Primary hydrologic indicators observed within the Survey Area include standing water and algal mat. No secondary hydrologic indicators were observed within the Survey Area. Review of the aerial imagery show that the surrounding area contains many pockets of standing water, which appear to have been created during the prior land use of the site as a gravel and sand pit.

3.5 Waterbodies

No waterbodies were identified by Golder biologists within the Survey Area.

3.6 Historical Land Use and Modifications

The site has historically been used as a sand and gravel pit, as evidenced by aerial imagery. The northern portion of the Survey Area is at a much lower elevation as a result of its past land use, which allows the low-lying areas to hold water year-round. Standing water is present throughout this area because crushed concrete has been used as inert general fill to build access roads used by industrial equipment.

4.0 CLEAN WATER ACT SECTION 404 DISCUSSION

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into WOUS, including wetlands, streams, and ponds. Any activity that may result in the discharge or dredge or fill material is subject to permitting, pending the level of impacts that result from the proposed action. The Golder biologist did not identify any wetlands or waterbodies within the Survey Area.

5.0 CONCLUSION

Golder's environmental resource analysis of the Project Survey determined that no wetlands or waterbodies are present within the Survey Area. Should the Project's registration area be expanded in the future, Golder recommends additional review and surveys to determine the presence of WOUS, due to the presence of standing water in the areas adjacent to the Survey Area. This report is intended for planning purposes and has not been submitted to the USACE for concurrence.

Golder's evaluation was performed in general accordance with accepted procedures in conducting habitat and aquatic resource evaluations. Golder makes no representation for a period of time over which this evaluation will

remain valid. Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluations within the study area due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made. The opinions of Golder's professional consulting team have not been reviewed or concurred with by regulatory agencies, including the USACE, for compliance with state and Federal regulations.

6.0 REFERENCES

Environmental Protection Agency. 2020. The Navigable Waters Protection Rule: Definition of “Waters of the United States”. Available at: https://www.epa.gov/sites/production/files/2020-02/documents/final_wotus_step_2_final_public_webcast_13_feb_2020_508c_0.pdf. Accessed May 2021.

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The Navigable Waters Protection Rule: Definition of “Waters of the United States”. 85 Fed. Reg. 22250. May 2020.

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U.S Army Corps of Engineers (USACE). 2016. SWG-Standard Operating Procedures; Recording and Submitting Jurisdictional Delineations Using Global Positioning Systems (GPS) and Geographic Information Systems (GIS) Tools and Technologies. USACE Galveston District Regulatory Branch.

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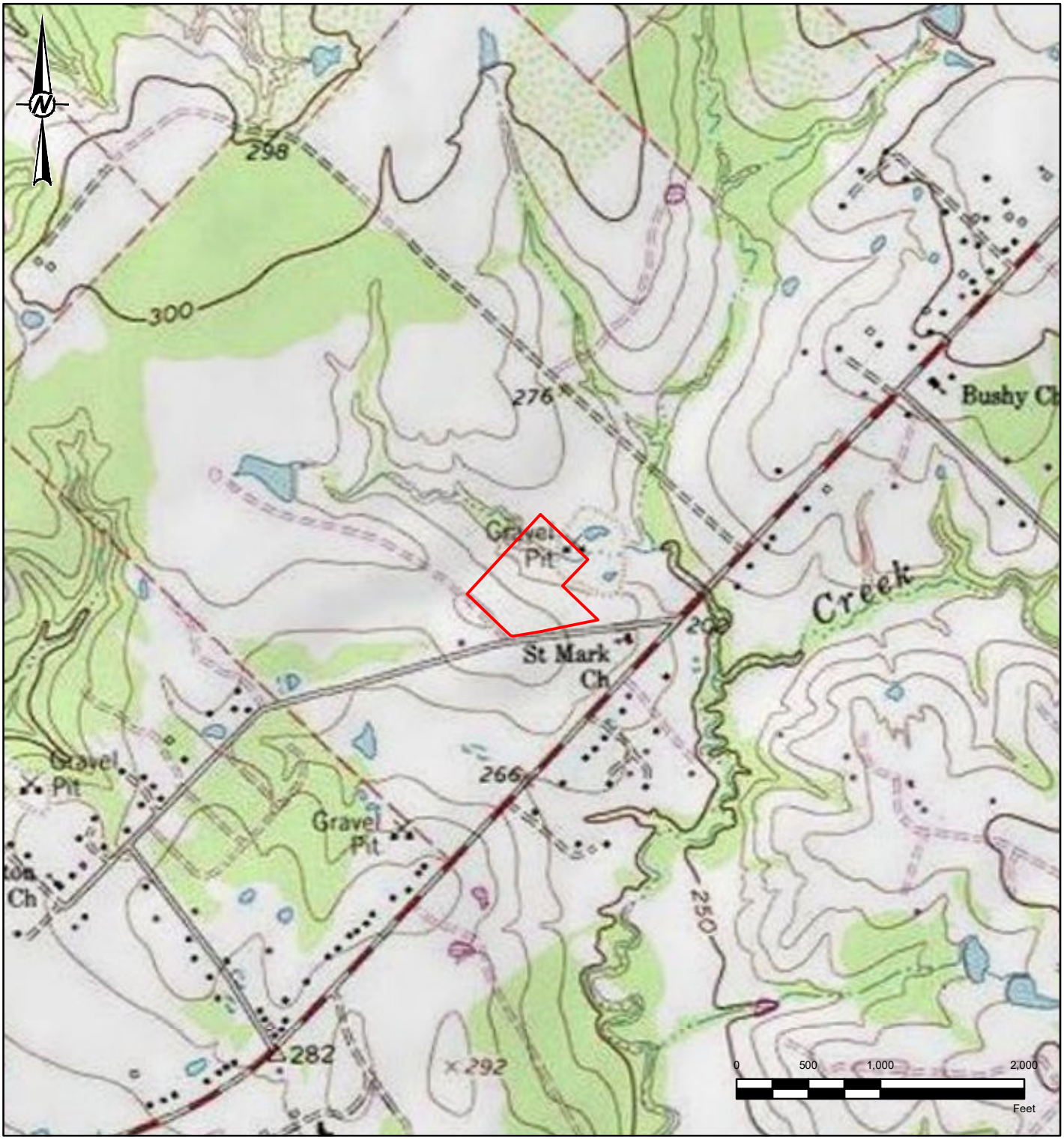
U.S. Geological Survey (USGS). 7.5 Minute Quadrangle Topographic Maps. 1980. Chances Store, Texas.

USGS. 2020. Water Resources of the United States: Hydrologic Unit Maps. Available at: https://water.usgs.gov/GIS/huc.html. Accessed March 2021.

Signature Page

Kyle Brewer
Staff Biologist

Ashley Thompson
Senior Biologist



LEGEND

Survey Area

REFERENCE(S)
1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
PROJECT OVERVIEW MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A001	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\08 PROJECTS\20442070\A General\GIS\Support\02 PRODUCTION\MXD\20442070 A001 Project Overview.mxd

LEGEND

SURVEY AREA

0 75 150 300

FEET

CLIENT

BRAZOS VALLEY RECYCLING

PROJECT

BVR TYPE V REGISTRATION PROJECT

TITLE

WETLAND MAP

REFERENCE(S)

1. PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A002	0	**2B**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

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LEGEND

- SOIL STATIONS
- SURVEY

REFERENCE(S)

1. SOIL STATIONS, PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
WETLAND AND SOIL STATIONS MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A003	0	**2B**

PATH: G:\Projects\Brazos Valley Recycling\09 PROJECTS\20442070\A General\GISSupport\02 PRODUCTION\MXD\20442070 A003 Wetland SoilStation Map.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

LEGEND
- SOIL STATIONS
- SURVEY AREA

NATIONAL WETLANDS INVENTORY DATA
- RIVERINE

NRCS SOILS
- CHC: CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
- DUC: DUTEK LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES
- ROB: ROBCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
- SMC: SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- SMD: SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
- TAA: TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- UH: UHLAND LOAM, FREQUENTLY FLOODED

REFERENCE(S)
1. PONDS, SOIL STATIONS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020-21
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
DESKTOP ANALYSIS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A004	0	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 5 **Feature:** UP002_NW **Date:** January 29, 2021 **Comments:** Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.	
Photograph Number: 6 **Feature:** UP002 **Date:** January 29, 2021 **Comments:** Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.	

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 9

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing northeast. Crushed concrete covers the ground surface in this area.

Photograph Number: 10

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing southwest. Crushed concrete covers the ground surface in this area.

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 11

Feature: UP005_N

Date: January 29, 2021

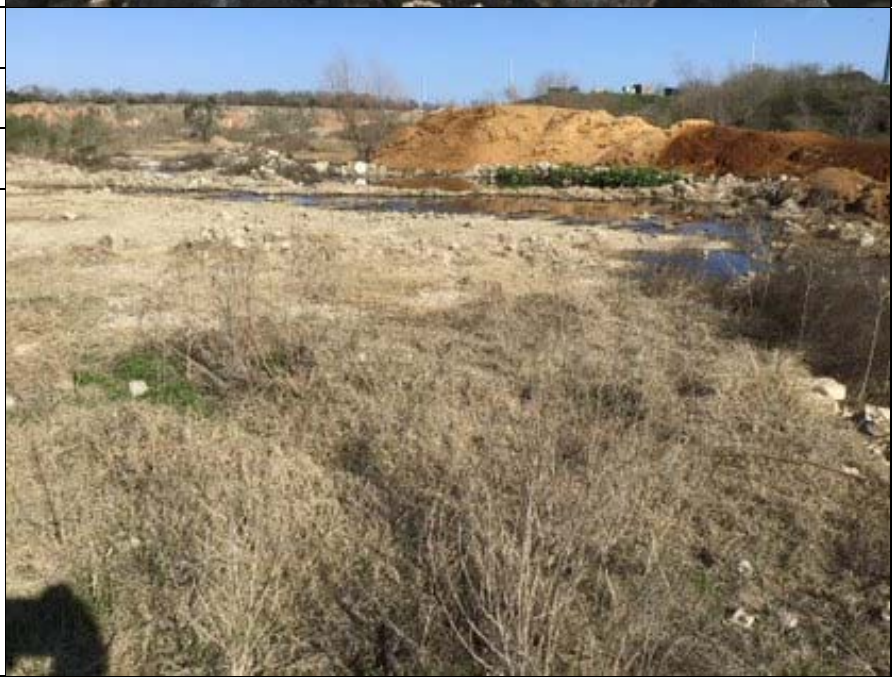
Comments: Photo of upland facing north. Crushed concrete covers the ground surface in this area.

Photograph Number: 12

Feature: UP005_S

Date: January 29, 2021

Comments: Photo of upland facing south. Crushed concrete covers the ground surface in this area.



Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 13

Feature: UP006

Date: January 29, 2021

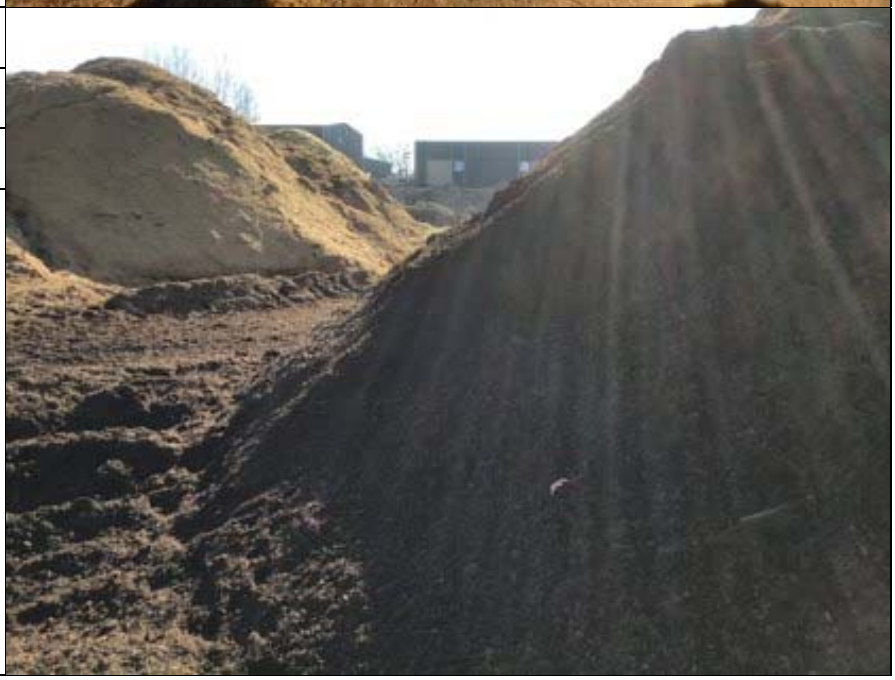
Comments: Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.

Photograph Number: 14

Feature: UP006

Date: January 29, 2021

Comments: Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.



WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP002

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572930 **Long.:** -96.404681 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: -?-

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is heavily disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is heavily disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP004**

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.573178 **Long.:** -96.405508 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	54.5%	FACU
2. Baccharis halimifolia	15	☑	27.3%	FAC
3. Trifolium campestre	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	55	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	55	(A)	215	(B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Area is disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/2	100					Sandy Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP005**

Investigator(s): Kyle Brewer **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572648 **Long.:** -96.405224 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	75.0%	FACU
2. Trifolium campestre	10	☑	25.0%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	40	(A)	170	(B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP006

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572495 **Long.:** -96.404430 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region:

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR	3/2	100					Sandy Clay Loam	Mixed soils

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

golder.com

Attachment IIE
Endangered or Threatened Species

Attachment IIE-1
Federally Protected Species Habit Assessment

GOLDER

REPORT

Federally Protected Species Habitat Assessment

BVR Waste and Recycling - College Station Facility

Type V Registration Application

Submitted to:

U.S. Fish and Wildlife Service

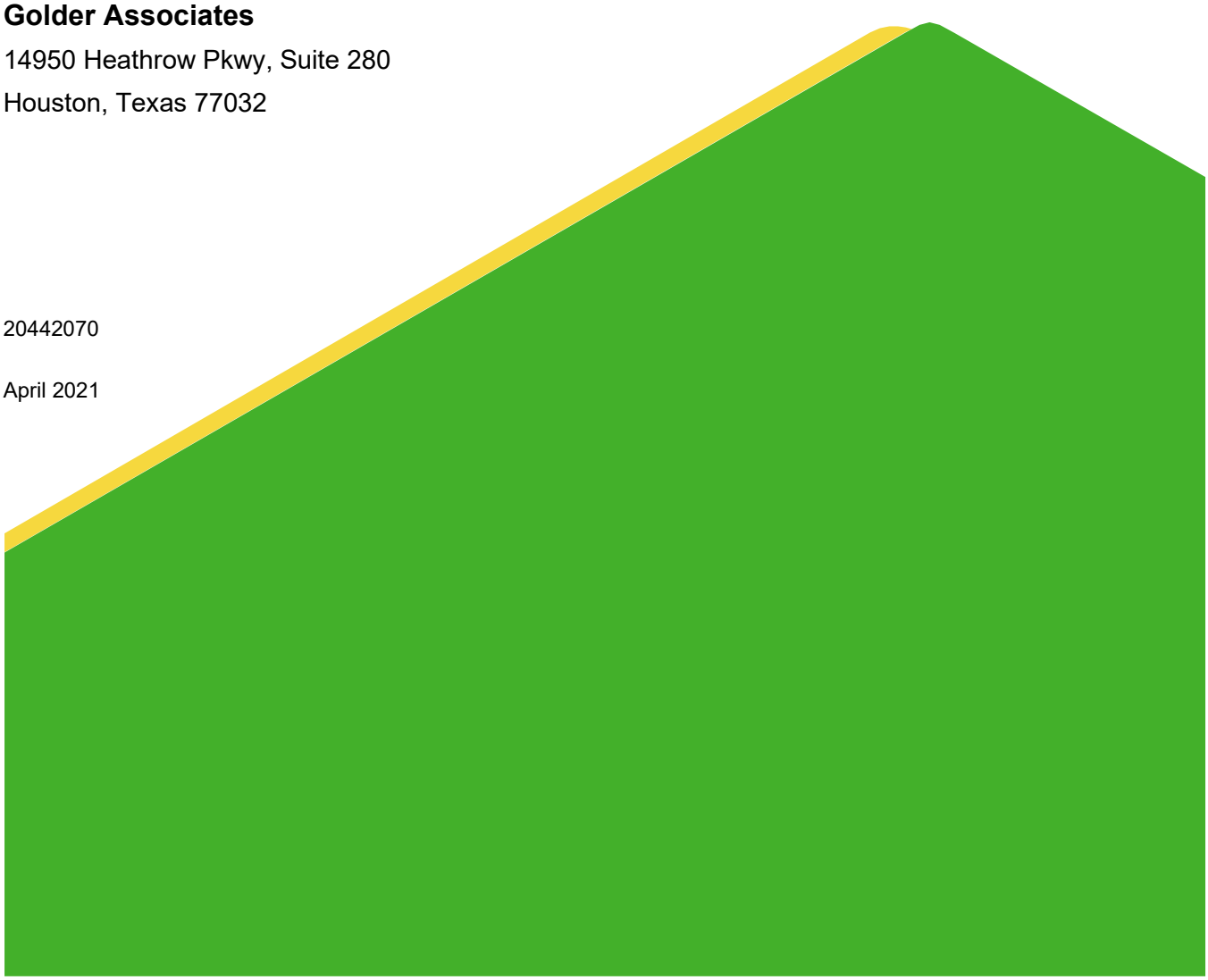
Texas Coastal Ecological Services Field Office
Houston Field Office
17629 El Camino Real #211
Houston, Texas 77058

Submitted by:

Golder Associates

14950 Heathrow Pkwy, Suite 280

Houston, Texas 77032



20442070

April 2021

Table of Contents

TABLES

APPENDICES

1.0 INTRODUCTION

Golder Associates Inc. (Golder) prepared this Federally Protected Species Habitat Assessment Report on behalf of BVR Waste and Recycling (BVR) for a Type V Registration Application (RA). The College Station Facility, a municipal solid waste processing facility (Project) is located in Brazos County, Texas. Golder performed an environmental resource analysis for the Project to determine the likelihood of impacts to federally listed threatened and endangered (T&E) species, avian species protected by the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) from continued operations and additional construction within the Project area.

2.0 METHODOLOGY

Golder performed an environmental resource analysis of the entire Project footprint. A Project Survey Area of approximately 9.7 acres was created to identify all resources that may be impacted by the Project. The environmental resource analysis consisted of two components: (1) an initial desktop review of the Survey Area and (2) a pedestrian field survey conducted within the Survey Area to observe and record exiting conditions. A summary of the methods is presented in the following sections. Mapping exhibits showing the Survey Area is provided in Appendix A.

2.1 Initial Desktop Review

Prior to conducting field surveys, Golder reviewed publicly available information to gain an understanding of the various features in the Survey Area, including layout, land cover, habitat types, and current and historic land use. These features were assessed as a preliminary determination of the presence of existing or potentially occurring agency regulated or protected environmental resources within the Survey Area. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- Natural Resources Conservation Service (NRCS) soil survey database; and
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consulting (IPaC) online mapping system.

2.1.1 USGS Topographic Survey Maps and Aerial Imagery

Golder reviewed the USGS 7.5 Quadrangle Topographic Map: Chances Store, Texas prior to conducting field surveys. The topographic maps showed the Project area as historically being used as a gravel pit. The headwaters to Brushy Creek, a tributary of the Brazos River, are located directly to the southeast of the Survey Area. Historic and current aerial photographs show the area surrounding the Project having been heavily disturbed from the gravel pit operations over many years. Standing water is shown on aerial imagery within and adjacent to the Survey Area as a result of the gravel mining operations.

2.1.2 NRCS Soils Data

Review of the NRCS Soil Survey data showed a total of three soil series are located within the Survey Area, which are displayed below in Table 1.

Table 1: NRCS Soils within the Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	NRCS Drainage Rating	NRCS Hydric Rating
Silawa fine sandy loam, 2 to 5 percent slopes	SmC	Well Drained	Not Hydric
Silawa fine sandy loam, 5 to 8 percent slopes	SmD	Well Drained	Not Hydric
Robco-Tanlewood complex, 1 to 5 percent slopes	RoB	Moderately Well Drained	Not Hydric

2.1.3 USFWS IPaC

The USFWS IPaC identified a total of five federally listed T&E species as potentially occurring within the Survey Area. Two of these species, the piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*) only require evaluation for wind energy related projects within their migratory route and are not discussed within this report. A habitat assessment was performed for the Project for the remaining three species.

2.2 Field Surveys

Golder conducted field surveys to evaluate if the Survey Area contained suitable habitat for federally listed T&E species. The field survey consisted of the identification of biological resources (federally listed threatened and endangered species occurrences, potentially suitable habitat, and any designated critical habitat). All environmental resources identified within the Survey Area were delineated using a handheld sub-meter Global Positioning System (GPS). Photographs of the resources identified within the Survey Area are provided in Appendix B.

3.0 FIELD SURVEY RESULTS

3.1 Vegetation

Sparse vegetation was observed throughout the site due to current daily operational activities of the BVR facility. At the locations where vegetation was observed, characteristic vegetation included: Bermuda grass (Cy*nodon dactylon*), baccharis (*Baccharis halimifolia*), and white clover (*Trifolium campestre*). Additional information regarding vegetation observed is included within the datasheets provided as Appendix C.

3.2 Historical Land Use and Modifications

The site has historically been used as a sand and gravel pit, as evidenced by aerial imagery. The northern portion of the Survey Area is at a much lower elevation as a result of its past land use, which allows the low-lying areas to hold water year-round. Standing water is present throughout this area because crushed concrete has been used as inert general fill to build access roads used by industrial equipment.

3.3 Federally Listed T&E Species

Golder performed a habitat evaluation for three of the five species identified by the USFWS IPaC, which is provided as Appendix D. Table 2 below lists the species, their federal status, habitat requirements, and effect determinations.

Table 2: Federally Listed Species for the Survey Area

Federal Species	Federal Status	Habitat Requirements	Effect Determination
Whooping Crane (*Grus americana*)	Endangered	This migratory bird species travels from its nesting grounds in Canada to its wintering habitat along the Texas coast. Habitat utilized by this species near the Project consists of stopover habitat during its migration. Stopover habitat consists of agriculture fields, emergent wetlands, and pastures. This species is not likely to utilize the Survey Area as stopover habitat due to the extensive disturbance and lack of vegetation that would allow for foraging.	*No Effect*
Texas Fawnsfoot (*Truncilla macrodon*)	Candidate	This species of clam is found in streams and rivers containing riffle pools. No streams or rivers are located within the Survey Area.	*No Effect*
Navasota Ladies-tresses (*Spiranthes parksii*)	Endangered	This plant species is found within openings of post oak woodlands containing sandy loam soils near drainages and seasonal streams. The Survey Area does not contain suitable habitat for this species.	*No Effect*

3.4 MBTA and BGEPA

No trees containing suitable nesting habitat for MBTA protected species were observed within the Survey Area. Additionally, no trees were observed within or adjacent to the Survey Area that would provide suitable nesting habitat for raptor species, bald eagles, or golden eagles. No impacts are anticipated to avian species from the Project.

4.0 CONCLUSION

Golder determined that construction of the Project will result in *no effect* to any Federally listed T&E species identified as potentially occurring within the Survey Area by the USFWS IPaC. No trees were observed within the Survey Area to provide suitable nesting habitat to MBTA protected species. Additionally, no suitable nesting trees

were observed adjacent to the Survey Area that would provide suitable nesting habitat to BGEPA protected species.

Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluation of wetlands at the Project due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made.

5.0 REFERENCES

Natural Resources Conservation Service (NRCS). 2012. Web Soil Survey – Harris County, Texas. Available at: http://websoilsurvey.nrcs.usda.gov.

Soil Survey Staff. 2016. Keys to Soil Taxonomy, 12th ed. USDA-Natural Resources Conservation Service, Washington, DC.

U.S. Geological Survey. 7.5 Minute Quadrangle Topographic Maps. 1980. Chances Store, Texas.

U.S. Fish and Wildlife Service. Environmental Conservation Online System. Navasota ladies-tresses (*Spiranthes parksii*). Available at: https://ecos.fws.gov/ecp/species/1570. Accessed March 2021.

U.S. Fish and Wildlife Service. Environmental Conservation Online System. Texas Fawnsfoot (*Truncilla macrodon*). Available at: https://ecos.fws.gov/ecp/species/8965. Accessed March 2021.

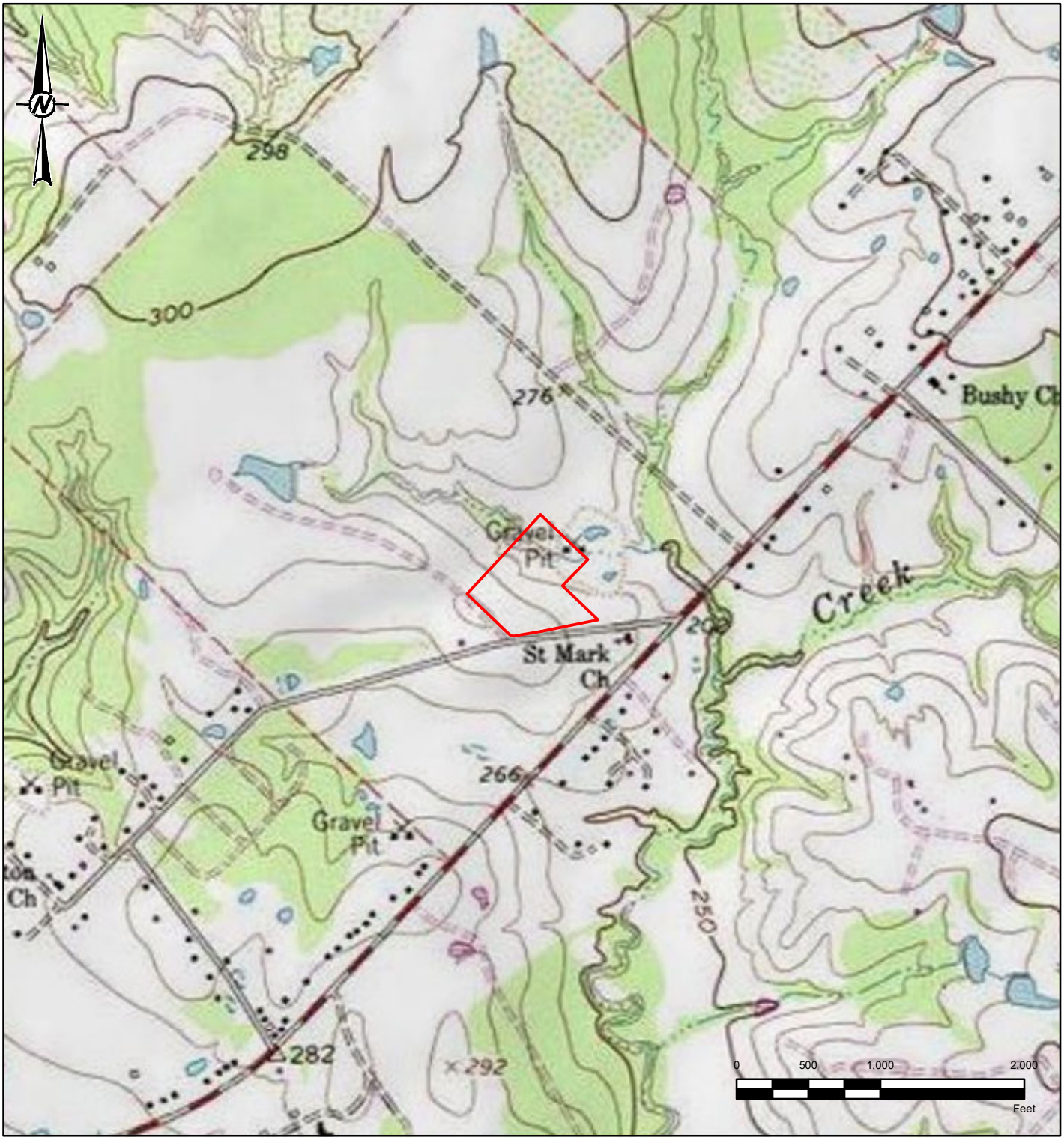
U.S. Fish and Wildlife Service. Environmental Conservation Online System. Whooping Crane (*Grus americana*). Available at: https://ecos.fws.gov/ecp/species/758. Accessed March 2021.

Signature Page

Kyle Brewer
Staff Biologist

Ashley Thompson
Project Biologist

https://golderassociates.sharepoint.com/sites/140057/project files/5 technical work/bio surveys/report/usfws/usfws t&e report.docx



LEGEND

Survey Area

REFERENCE(S)
1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
PROJECT OVERVIEW MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A001	0	1

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LEGEND

SURVEY AREA

0 75 150 300

FEET

CLIENT

BRAZOS VALLEY RECYCLING

PROJECT

BVR TYPE V REGISTRATION PROJECT

TITLE

WETLAND MAP

REFERENCE(S)

1. PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A002	0	**2B**

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LEGEND

- SOIL STATIONS
- SURVEY

REFERENCE(S)

1. SOIL STATIONS, PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
WETLAND AND SOIL STATIONS MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A003	0	**2B**

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

LEGEND
- SOIL STATIONS
- SURVEY AREA

NATIONAL WETLANDS INVENTORY DATA
- RIVERINE

NRCS SOILS
- CHC: CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
- DUC: DUTEK LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES
- ROB: ROBCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
- SMC: SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- SMD: SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
- TAA: TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- UH: UHLAND LOAM, FREQUENTLY FLOODED

REFERENCE(S)
1. PONDS, SOIL STATIONS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020-21
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
DESKTOP ANALYSIS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A004	0	3

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Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 5 **Feature:** UP002_NW **Date:** January 29, 2021 **Comments:** Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.	
Photograph Number: 6 **Feature:** UP002 **Date:** January 29, 2021 **Comments:** Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.	

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 9

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing northeast. Crushed concrete covers the ground surface in this area.

Photograph Number: 10

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing southwest. Crushed concrete covers the ground surface in this area.

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 11

Feature: UP005_N

Date: January 29, 2021

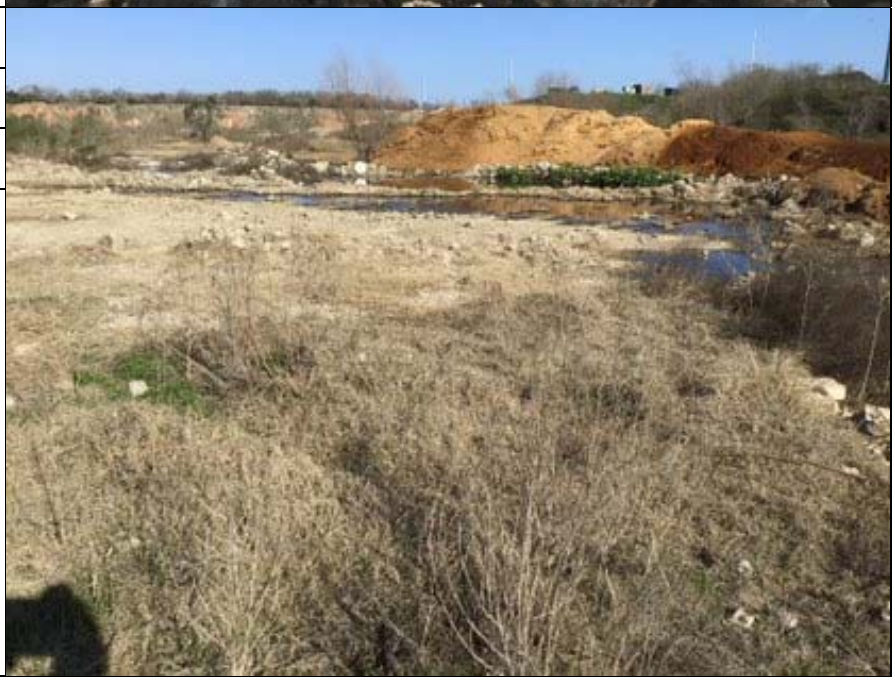
Comments: Photo of upland facing north. Crushed concrete covers the ground surface in this area.

Photograph Number: 12

Feature: UP005_S

Date: January 29, 2021

Comments: Photo of upland facing south. Crushed concrete covers the ground surface in this area.



Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 13

Feature: UP006

Date: January 29, 2021

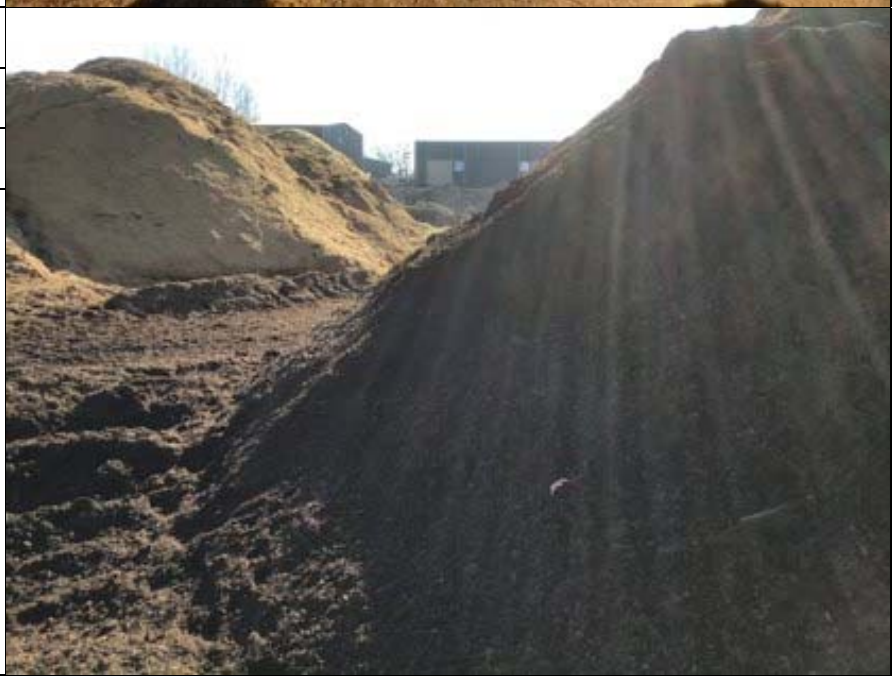
Comments: Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.

Photograph Number: 14

Feature: UP006

Date: January 29, 2021

Comments: Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.



WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP002

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572930 **Long.:** -96.404681 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: -?-

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is heavily disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is heavily disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP004**

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.573178 **Long.:** -96.405508 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	54.5%	FACU
2. Baccharis halimifolia	15	☑	27.3%	FAC
3. Trifolium campestre	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	55	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	55	(A)	215	(B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Area is disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/2	100					Sandy Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP005**

Investigator(s): Kyle Brewer **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572648 **Long.:** -96.405224 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	75.0%	FACU
2. Trifolium campestre	10	☑	25.0%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	40	(A)	170	(B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP006

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572495 **Long.:** -96.404430 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region:

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR	3/2	100					Sandy Clay Loam	Mixed soils

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
4444 Corona Drive, Suite 215
Corpus Christi, TX 78411
Phone: (281) 286-8282 Fax: (281) 488-5882
http://www.fws.gov/southwest/es/TexasCoastal/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To: March 03, 2021
Consultation Code: 02ETTX00-2021-SLI-1184
Event Code: 02ETTX00-2021-E-02704
Project Name: Brazos Valley Recycling

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, Tx, and Corpus Christi, Tx, have combined administratively to form the Texas Coastal Ecological Services Field Office. A map of the Texas Coastal Ecological Services Field Office area of responsibility can be found at: http://www.fws.gov/southwest/es/TexasCoastal/Map.html. All project related correspondence should be sent to the field office responsible for the area in which your project occurs. For projects located in southeast Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058. For projects located in southern Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; P.O. Box 81468; Corpus Christi, Texas 78468-1468. For projects located in six counties in southern Texas (Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata) please write: Santa Ana NWR, ATTN: Ecological Services Sub Office, 3325 Green Jay Road, Alamo, Texas 78516.

The enclosed species list identifies federally threatened, endangered, and proposed to be listed species; designated critical habitat; and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project.

New information from updated surveys, changes in the abundance and distribution of species, changes in habitat conditions, or other factors could change the list. 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. The Service recommends that verification be completed by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation for updates to species list and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Candidate species have no protection under the Act but are included for consideration because they could be listed prior to the completion of your project. The other species information should help you determine if suitable habitat for these listed species exists in any of the proposed project areas or if project activities may affect species on-site, off-site, and/or result in "take" of a federally listed species.

"Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. In addition to the direct take of an individual animal, habitat destruction or modification can be considered take, regardless of whether it has been formally designated as critical habitat, if the activity results in the death or injury of wildlife by removing essential habitat components or significantly alters essential behavior patterns, including breeding, feeding, or sheltering.

Section 7

Section 7 of the Act requires that all Federal agencies consult with the Service to ensure that actions authorized, funded or carried out by such agencies do not jeopardize the continued existence of any listed threatened or endangered species or adversely modify or destroy critical habitat of such species. It is the responsibility of the Federal action agency to determine if the proposed project may affect threatened or endangered species. If a "may affect" determination is made, the Federal agency shall initiate the section 7 consultation process by writing to the office that has responsibility for the area in which your project occurs.

Is not likely to adversely affect - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effects. The Federal agency or the designated non-Federal representative should seek written concurrence from the Service that adverse effects have been eliminated. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.

Is likely to adversely affect - adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires the Federal action agency to initiate formal section 7 consultation with this office.

No effect - the proposed action will not affect federally listed species or critical habitat (i.e., suitable habitat for the species occurring in the project county is not present in or adjacent to the action area). No further coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.

Regardless of your determination, the Service recommends that you maintain a complete record of the evaluation, including steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles.

Please be advised that while a Federal agency may designate a non-Federal representative to conduct informal consultations with the Service, assess project effects, or prepare a biological assessment, the Federal agency must notify the Service in writing of such a designation. The Federal agency shall also independently review and evaluate the scope and contents of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

The Service's Consultation Handbook is available online to assist you with further information on definitions, process, and fulfilling Act requirements for your projects at: http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Section 10

If there is no federal involvement and the proposed project is being funded or carried out by private interests and/or non-federal government agencies, and the project as proposed may affect listed species, a section 10(a)(1)(B) permit is recommended. The Habitat Conservation Planning Handbook is available at: http://www.fws.gov/endangered/esa-library/pdf/HCP_Handbook.pdf

Service Response

Please note that the Service strives to respond to requests for project review within 30 days of receipt, however, this time period is not mandated by regulation. Responses may be delayed due to workload and lack of staff. Failure to meet the 30-day timeframe does not constitute a concurrence from the Service that the proposed project will not have impacts to threatened and endangered species.

Proposed Species and/or Proposed Critical Habitat

While consultations are required when the proposed action may affect listed species, section 7(a)(4) was added to the ESA to provide a mechanism for identifying and resolving potential conflicts between a proposed action and proposed species or proposed critical habitat at an early planning stage. The action agency should seek conference from the Service to assist the action agency in determining effects and to advise the agency on ways to avoid or minimize adverse effect to proposed species or proposed critical habitat.

Candidate Species

Candidate species are species that are being considered for possible addition to the threatened and endangered species list. They currently have no legal protection under the ESA. If you find you have potential project impacts to these species the Service would like to provide technical assistance to help avoid or minimize adverse effects. Addressing potential impacts to these species at this stage could better provide for overall ecosystem healh in the local area and ay avert potential future listing.

Several species of freshwater mussels occur in Texas and four are candidates for listing under the ESA. The Service is also reviewing the status of six other species for potential listing under the ESA. One of the main contributors to mussel die offs is sedimentation, which smothers and suffocates mussels. To reduce sedimentation within rivers, streams, and tributaries crossed by a

project, the Service recommends that that you implement the best management practices found at: http://www.fws.gov/southwest/es/TexasCoastal/FreshwaterMussels.html.

Candidate Conservation Agreements (CCAs) or Candidate Conservation Agreements with Assurances (CCAAs) are voluntary agreements between the Service and public or private entities to implement conservation measures to address threats to candidate species. Implementing conservation efforts before species are listed increases the likelihood that simpler, flexible, and more cost-effective conservation options are available. A CCAA can provide participants with assurances that if they engage in conservation actions, they will not be required to implement additional conservation measures beyond those in the agreement. For additional information on CCAs/CCAAs please visit the Service's website at http://www.fws.gov/endangered/what-we-do/cca.html.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Many may nest in trees, brush areas or other suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals or eggs. If project activities must be conducted during this time, we recommend surveying for active nests prior to commencing work. A list of migratory birds may be viewed at http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtandx.html.

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the Act on August 9, 2007. Both the bald eagle and the goden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For more information on bald and golden eagle management guidlines, we recommend you review information provided at http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf.

The construction of overhead power lines creates threats of avian collision and electrocution. The Service recommends the installation of underground rather than overhead power lines whenever possible. For new overhead lines or retrofitting of old lines, we recommend that project developers implement, to the maximum extent practicable, the Avian Power Line Interaction Committee guidelines found at http://www.aplic.org/.

Meteorological and communication towers are estimated to kill millions of birds per year. We recommend following the guidance set forth in the Service Interim Guidelines for Recommendations on Communications Tower Siting, Constructions, Operation and Decommissioning, found online at: http://www.fws.gov/habitatconservation/communicationtowers.html, to minimize the threat of avian mortality at these towers. Monitoring at these towers would provide insight into the effectiveness of the minimization measures. We request the results of any wildlife mortality monitoring at towers associated with this project.

We request that you provide us with the final location and specifications of your proposed towers, as well as the recommendations implemented. A Tower Site Evaluation Form is also available via the above website; we recommend you complete this form and keep it in your files. If meteorological towers are to be constructed, please forward this completed form to our office.

More information concerning sections 7 and 10 of the Act, migratory birds, candidate species, and landowner tools can be found on our website at: http://www.fws.gov/southwest/es/TexasCoastal/ProjectReviews.html.

Wetlands and Wildlife Habitat

Wetlands and riparian zones provide valuable fish and wildlife habitat as well as contribute to flood control, water quality enhancement, and groundwater recharge. Wetland and riparian vegetation provides food and cover for wildlife, stabilizes banks and decreases soil erosion. These areas are inherently dynamic and very sensitive to changes caused by such activities as overgrazing, logging, major construction, or earth disturbance. Executive Order 11990 asserts that each agency shall provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial value of wetlands in carrying out the agency's responsibilities. Construction activities near riparian zones should be carefully designed to minimize impacts. If vegetation clearing is needed in these riparian areas, they should be re-vegetated with native wetland and riparian vegetation to prevent erosion or loss of habitat. We recommend minimizing the area of soil scarification and initiating incremental re-establishment of herbaceous vegetation at the proposed work sites. Denuded and/or disturbed areas should be re-vegetated with a mixture of native legumes and grasses. Species commonly used for soil stabilization are listed in the Texas Department of Agriculture's (TDA) Native Tree and Plant Directory, available from TDA at P.O. Box 12847, Austin, Texas 78711. The Service also urges taking precautions to ensure sediment loading does not occur to any receiving streams in the proposed project area. To prevent and/or minimize soil erosion and compaction associated with construction activities, avoid any unnecessary clearing of vegetation, and follow established rights-of-way whenever possible. All machinery and petroleum products should be stored outside the floodplain and/or wetland area during construction to prevent possible contamination of water and soils.

Wetlands and riparian areas are high priority fish and wildlife habitat, serving as important sources of food, cover, and shelter for numerous species of resident and migratory wildlife. Waterfowl and other migratory birds use wetlands and riparian corridors as stopover, feeding, and nesting areas. We strongly recommend that the selected project site not impact wetlands and riparian areas, and be located as far as practical from these areas. Migratory birds tend to concentrate in or near wetlands and riparian areas and use these areas as migratory flyways or corridors. After every effort has been made to avoid impacting wetlands, you anticipate unavoidable wetland impacts will occur; you should contact the appropriate U.S. Army Corps of Engineers office to determine if a permit is necessary prior to commencement of construction activities.

If your project will involve filling, dredging, or trenching of a wetland or riparian area it may require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (COE).

For permitting requirements please contact the U.S. Corps of Engineers, District Engineer, P.O. Box 1229, Galveston, Texas 77553-1229, (409) 766-3002.

Beneficial Landscaping

In accordance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping (42 C.F.R. 26961), where possible, any landscaping associated with project plans should be limited to seeding and replanting with native species. A mixture of grasses and forbs appropriate to address potential erosion problems and long-term cover should be planted when seed is reasonably available. Although Bermuda grass is listed in seed mixtures, this species and other introduced species should be avoided as much as possible. The Service also recommends the use of native trees, shrubs, and herbaceous species that are adaptable, drought tolerant and conserve water.

State Listed Species

The State of Texas protects certain species. Please contact the Texas Parks and Wildlife Department (Endangered Resources Branch), 4200 Smith School Road, Austin, Texas 78744 (telephone 512/389-8021) for information concerning fish, wildlife, and plants of State concern or visit their website at: http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_rare_species/listed_species/.

If we can be of further assistance, or if you have any questions about these comments, please contact 281/286-8282 if your project is in southeast Texas, or 361/994-9005, ext. 246, if your project is in southern Texas. Please refer to the Service consultation number listed above in any future correspondence regarding this project.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Texas Coastal Ecological Services Field Office
4444 Corona Drive, Suite 215
Corpus Christi, TX 78411
(281) 286-8282

Project Summary

Consultation Code: 02ETTX00-2021-SLI-1184
Event Code: 02ETTX00-2021-E-02704
Project Name: Brazos Valley Recycling
Project Type: Landfill
Project Description: The Project involves the expansion of the Brazos Valley Recycling facility to be used for landfill activities.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.5723995,-96.40560714658307,14z

Counties: Brazos County, Texas

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind related projects within migratory route. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind related projects within migratory route. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Clams

NAME	STATUS
Texas Fawnsfoot *Truncilla macrodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8965	Candidate

Flowering Plants

NAME	STATUS
Navasota Ladies-tresses *Spiranthes parksii*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1570

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

golder.com

Attachment IIE-2
State Listed Species Habitat Assessment

GOLDER

REPORT

State Listed Species Habitat Assessment

BVR Waste and Recycling - College Station Facility

Type V Registration Application

Submitted to:

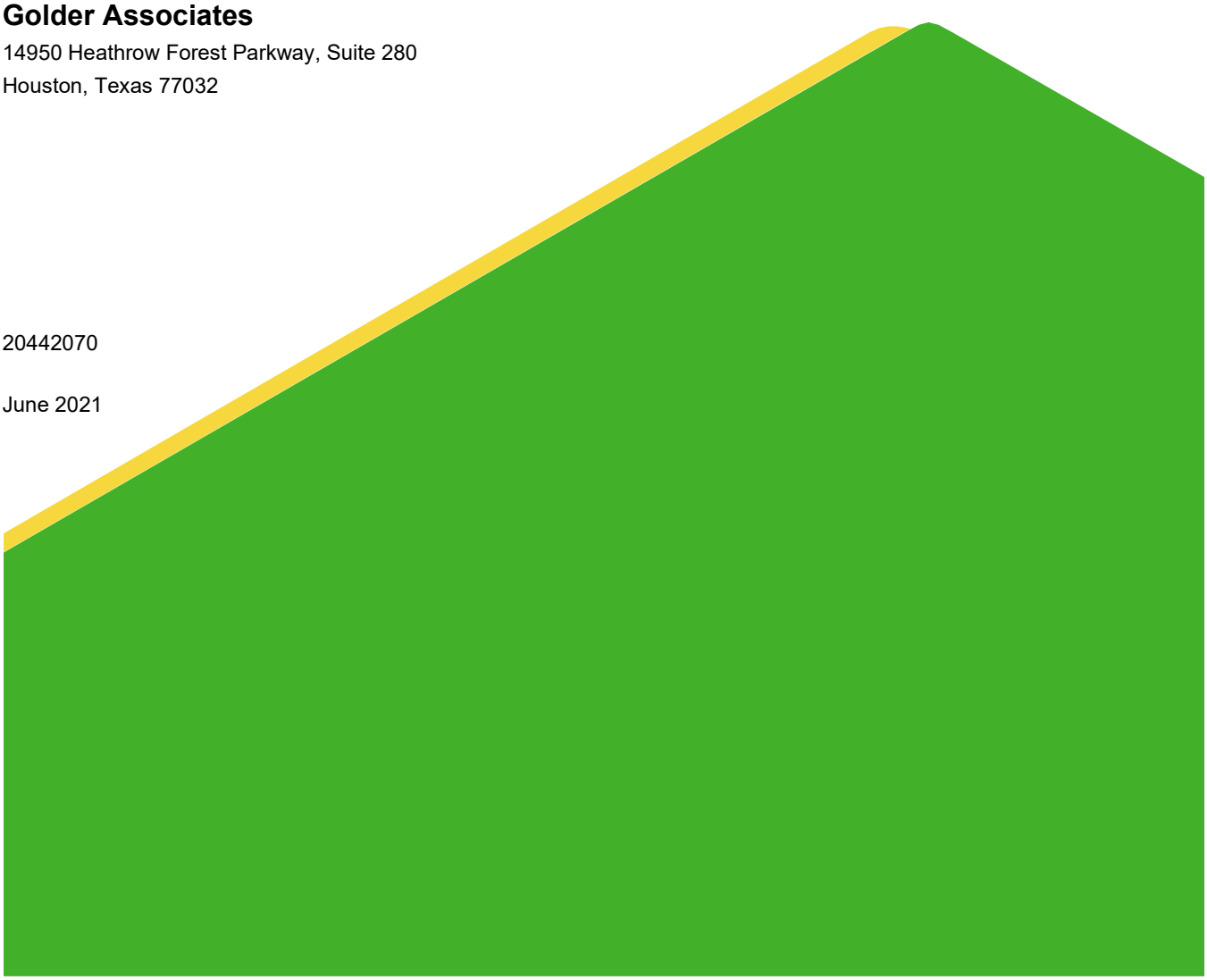
Texas Parks and Wildlife Department

Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 77032

Submitted by:

Golder Associates

14950 Heathrow Forest Parkway, Suite 280
Houston, Texas 77032



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June 2021

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TABLES

APPENDICES

1.0 INTRODUCTION

Golder Associates Inc. (Golder) prepared this State Listed Species Habitat Assessment Report on behalf of BVR Waste and Recycling (BVR) for a Type V Registration Application (RA). The College Station Facility, a municipal solid waste processing facility (Project) is located in Brazos County, Texas. Golder performed a state listed species habitat assessment for the Project to ensure compliance with all federal regulations and to assist with the evaluation of impact that will result from continued operations and additional construction within the Project area.

2.0 METHODOLOGY

Golder performed an environmental resource analysis of the entire Project. A Survey Area totaling approximately 9.7 acres was created to identify potential resources that may be impacted by the Project. The environmental resources analysis consisted of two components: (1) an initial desktop review of the Survey Area and (2) a pedestrian field survey conducted within the Survey Area to observe and record existing conditions. A summary of the methods is presented in the following sections. Mapping exhibits showing the Survey Area are provided in Appendix A.

2.1 Initial Desktop Review

Prior to conducting field surveys, Golder reviewed publicly available information to gain an understanding of the various features in the Survey Area, including layout, land cover, habitat types, and current and historic land use. These features were assessed as a preliminary determination of the presence of existing or potentially occurring agency regulated or protected environmental resources within the Survey Area. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- Natural Resources Conservation Service (NRCS) soil survey database;
- Texas Parks and Wildlife Department (TPWD) Rare, Threatened, and Endangered Species List for Brazos County;
- TPWD Texas Natural Diversity Database (TXNDD) Element Occurrence Dataset for Brazos County; and
- TPWD and Texas Partners in Flight Migratory Bird Ecoregion Checklist.

2.1.1 USGS Topographic Survey Maps and Aerial Photography

Golder reviewed the USGS 7.5 Quadrangle Topographic Map: Chances Store, Texas prior to conducting field surveys. The topographic maps showed the Project area as historically being used as a gravel pit. The headwaters to Brushy Creek, a tributary of the Brazos River, are located directly to the southeast of the Survey Area. Historic and current aerial photographs show the area surrounding the Project having been heavily disturbed from the gravel pit operations over many years. Standing water is shown on aerial imagery within and adjacent to the Survey Area as a result of the gravel mining operations.

2.1.2 NRCS Soils

Review of the NRCS Soil Survey data showed a total of three soil series are located within the Survey Area, which are displayed below in Table 1.

Table 1: NRCS Soils Located within the Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	NRCS Drainage Rating	NRCS Hydric Rating
Silawa fine sandy loam, 2 to 5 percent slopes	SmC	Well Drained	Not Hydric
Silawa fine sandy loam, 5 to 8 percent slopes	SmD	Well Drained	Not Hydric
Robco-Tanlewood complex, 1 to 5 percent slopes	RoB	Moderately Well Drained	Not Hydric

2.1.3 Texas Natural Diversity Database

Golder requested the TXNDD data for Brazos County prior to conducting field surveys (Appendix E). The TXNDD Element Occurrence (EO) dataset revealed four species have been observed within a 1-mile radius of the Project including the Strecker's chorus frog, southern crawfish frog, tree dodder, and branched gay feather.

2.1.4 State Listed Rare, Threatened, and Endangered Species Surveys

Golder reviewed the TPWD annotated county list of rare, threatened, and endangered species known to potentially occur within Brazos County, Texas (Appendix D). The review identified 65 species as potentially occurring within the County. Table 2 in Section 3.2 presents each of these species along with their general habitat requirements and anticipated Project impacts.

2.2 Rare, Threatened, and Endangered Species Surveys

The environmental resource surveys consisted of the identification of all biological resources (state listed threatened and endangered species occurrences, and potentially suitable habitat). All environmental resources identified within the Survey Area were delineated using a handheld sub-meter Global Positioning System (GPS). Photographs of the resources identified within the Survey Area are provided in Appendix B.

Golder reviewed the Survey Area for protected species' suitable habitats listed in the TPWD state listed rare, threatened, and endangered species list for Brazos County. Surveys were conducted along meandering transects to document habitat characteristics, species observations, and indication of the presence of listed species. Observations were recorded and photographs were taken of general habitat characteristics. Additional focus was given to potential suitable habitat for protected species identified during the desktop review.

3.0 FIELD SURVEY RESULTS

Golder conducted the field surveys within the Survey Area as shown in the mapping exhibits provided in Appendix A. Datasheets documenting hydrology, vegetation, and soil conditions encountered are provided in Appendix B. Photographs taken at the site are provided in Appendix C.

3.1 Vegetation

Sparse vegetation was observed throughout the site due to current daily operational activities of the BVR facility. At the locations where vegetation was observed, characteristic vegetation included: Bermuda grass (Cyn*odon dactylon*), baccharis (*Baccharis halimifolia*), and white clover (*Trifolium campestre*).

3.2 State Listed T&E Species

Golder requested the TPWD TXNDD Element Occurrence dataset for Brazos County. The EO dataset revealed four species have been observed within a 1-mile radius of the Project including the Strecker's chorus frog, southern crawfish frog, tree dodder, and branched gay feather.

The TPWD list of rare, threatened, and endangered species for Brazos County identified 65 state listed species that could potentially occur within the Survey Area. Table 2 below presents these species, their associated habitats, and anticipated Project impacts. The TPWD list of rare, threatened, and endangered species for Brazos County is provided in Appendix E.

Table 2: State Listed Rare, Threatened, and Endangered Species for Brazos County

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Amphibians			
Cajun chorus frog (*Pseudacris fouquettei*)	Rare	The species' preferred habitat includes forests, fields, swamps, marshes, irrigation ditches, and temporarily flooded areas. The Survey Area consists of highly disturbed areas and is not likely to be suitable habitat for the species.	No Impacts Anticipated
Houston toad (*Anaxyrus houstonensis*)	Endangered	The species' preferred habitat includes forests with deep sandy soils. Adults and juveniles are presumed to move through areas of less suitable habitat using riparian corridors. The Survey Area consists of highly disturbed areas. No suitable habitat is present for this species.	No Impacts Anticipated
Southern crawfish frog (*Lithobates areolatus areolatus*)	Rare	The species preferred habitat consists of terrestrial and aquatic systems ranging from grasslands, pasture and intact prairie or isolated grasslands in the middle of large, forested areas to ephemeral wetlands. EO occurrence data shows that the species has been identified as recently as 2014 near the Project. The Survey Area consists of highly disturbed areas and is not likely to be suitable habitat for the species.	No Impacts Anticipated
Strecker's chorus frog (*Pseudacris streckeri*)	Rare	The species prefers wooded floodplains and flats, prairies, cultivated fields and marshes with sandy substrates. EO occurrence data shows that the species has been identified as recently as 2016 near the Project. The Survey Area consists of	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		highly disturbed areas and is not likely to be suitable habitat for the species.	
Woodhouse's toad (*Anaxyrus woodhousii*)	Rare	The species prefers a wide variety of habitats including forests, grasslands, and barrier island sand dunes. The Survey Area consists of highly disturbed areas. No suitable habitat is present for this species.	No Impacts Anticipated
Birds			
Bald eagle (*Haliaeetus leucocephalus*)	Threatened	The species prefers habitat near rivers and large lakes nesting in tall trees or on cliffs near water. Mature trees are not present within the Survey Area. In addition, abandoned nests or individuals were not observed during surveys; therefore, no suitable habitat is present within the Survey Area.	No Impacts Anticipated
Black Rail (*Laterallus jamaicensis*)	Threatened	Black rails are year-round residents of the upper central Texas Gulf coast and typically utilize saltgrass marshes and coastal marsh as breeding habitat. This species does not utilize areas with woody species and cover. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Franklin's gull (*Leucophaeus pipxcan*)	Rare	This species is only a spring and fall migrant throughout Texas. During migrations the species is known to utilize stopover habitat at night consisting of prairie and flooded pasture wetlands, lake	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		shores and islands. No suitable habitat is located within the Survey Area.	
Interior Least Tern (*Sternula antillarum athalassos*)	Endangered	This species utilizes sandy beaches, flats, bays, and other sparsely vegetated areas near large waterbodies. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Piping plover (*Charadris melodus*)	Threatened	The species prefers beaches, sandflats and dunes along Gulf Coast beaches and adjacent offshore islands. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Rufa Red Knot (*Calidris canutus rufa*)	Threatened	The species migrates long distances utilizing shorelines of coasts and bays, mudflats, tidal flats, beaches, and herbaceous wetlands. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Swallow-tailed kite (*Elanoides forficatus*)	Threatened	The species prefers lowland forests especially swampy areas, marshes, along rivers, lakes, and ponds. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Western Burrowing Owl (*Athene cunicularia hypugaea*)	Rare	This species is found in open grasslands, prairies, and plains in open areas. Abandoned burrows are utilized as nesting habitat. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
White-faced ibis (*Plegadis chihil*)	Threatened	The species is found in a variety of habitats including freshwater marshes, sloughs, and irrigated rice fields, but can also be found in	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		brackish and saltwater habitats. No suitable habitat is located within the Survey Area.	
Whooping Crane (*Grus americana*)	Endangered	Whooping cranes utilize small ponds, marshes, and flooded grain fields for roosting and foraging. The species spends winters in Aransas, Calhoun, and Refugio Counties along the Texas coast. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Wood stork (*Mycteria americana*)	Threatened	The species prefers to nest in large tracts of bald cypress and red mangrove. Foraging typically occurs in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water. The Project Survey Area does not contain bald cypress or mangrove forested wetlands. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Fish			
Alligator Gar (*Atractosteus spatula*)	Rare	This species of fish is found in rivers, streams, lakes, swamps, bayous, bays, and estuaries. Floodplains inundated with flood waters provide spawning and nursery habitats. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
American Eel (*Anguilla rostrata*)	Rare	This species is found in large rivers, streams, and tributaries. The species is a habitat generalist and can be found in a broad range of aquatic environments. The species moves to coastal waters during its larval stages and returns upstream upon adulthood. While ponding water is	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		present in the Survey Area and adjacent areas, this species is not likely to be found in isolated ponds. No suitable habitat is present within the Survey Area.	
Blackspot Shiner (*Notropis atrocaudalis*)	Rare	This species occurs from the lower Brazos River to the Sabine River drainage within small to moderate sized tributary streams. No streams are present within the Survey Area.	No Impacts Anticipated
Club Shiner (*Notropis potteri*)	Threatened	This species inhabits the Brazos River basin, among others, within streams containing sand or silty substrates. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Sharpnose Shiner (*Notropis oxrhynchus*)	Endangered	This species is found solely within the upper Brazos River upstream of Possum Kingdom Lake. The Survey Area is not located within the known range of this species.	No Impacts Anticipated
Silver Chubb (*Macrhybopsis storeriana*)	Rare	This species is found in the Red River and Brazos River basins, within large and silty rivers. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Silverband shiner (*Notropis shumardi*)	Rare	The species prefers main channels of streams and rivers with moderate to swift currents, moderate to deep depths over silt, sand and gravel. The species is currently known from the Red River to the Lavaca River. No suitable habitat is present within the Survey Area.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Smalleye Shiner (*Notropis buccula*)	Endangered	This species is found in the Brazos River drainage within turbid rivers and streams with sandy substrates. No suitable habitat is present for this species.	No Impacts Anticipated
Western Creek Chubsucker (*Erimyzon claviformis*)	Threatened	This species is found in eastern Texas streams containing silt, sand, and gravel bottoms and is often found near vegetation. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Insects			
A Caddisfly (*Neotrichia mobilensis*)	Rare	This species is only known to exist within Texas and Alabama, but no information is known about its required habitats. Other species of caddisfly require aquatic environments with flowing water for the larval stages of its life. Upon pupation, adults are known to stay in nearby habitats for the remainder of their life. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
American bumblebee (*Bombus pensylvanicus*)	Rare	The species can be found in a wide variety of habitats that support wildflowers, parks, pastures, and open meadows. The majority of Project Survey Area consists of forested uplands; therefore, no suitable habitat is present in the Survey Area.	No Impacts Anticipated
Comanche Harvester Ant (*Pogonomyrmex comanche*)	Rare	This species inhabits upland woodlands or utility rights of way with sandy soils. No suitable habitat is present within the Survey Area.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Variable cuckoo bumble bee *Bombus variabilis*	Rare	This species of bee is a parasitic species that kill and replace the queens of other species. No suitable habitat for beehives is present within the Survey Area.	No Impacts Anticipated
Mammals			
American Badger (*Taxidea taxus*)	Rare	This species is a generalist but prefers areas with soft soils that allow for the excavation of an underground burrow. Suitable habitat may be present, but the Survey Area lacks the preferred soft substrate. Therefore, suitable habitat is not present within the Survey Area.	No Impacts Anticipated
Big brown bat (*Eptesicus fuscus*)	Rare	The species is a habitat generalist found in wooded areas. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Big Free-tailed Bat (*Nyctinomops macrotis*)	Rare	This species roosts in crevices and cracks along canyon walls and within buildings. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Eastern red bat (*Lasiurus borealis*)	Rare	The species is found through a wide variety of habitats but is usually associated with wooded areas. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Eastern spotted skunk (*Spilogale putorius*)	Rare	The species is a habitat generalist found in open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Hoary bat (*Lasiurus cinereus*)	Rare	The species is found in the forests and woods of east and central Texas and prefers riparian wooded habitat. The Survey Area contains low quality forests containing primarily non-native species that do not provide suitable habitat.	No Impacts Anticipated
Long-tailed weasel (*Mustela frenata*)	Rare	This species prefers brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub and are usually found close to water. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Mexican free-tailed bat (*Tadarida brasiliensis*)	Rare	The species is found in a wide variety of habitats, roosting in buildings, bridges, limestone caves and other natural and manmade structures. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Mink (*Neovison vison*)	Rare	The species is closely associated with water habitats consisting of coastal swamps and marshes, wooded riparian zones, and edges of	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		lakes. The majority of Survey Area consists of forested uplands; therefore, no suitable habitat is present in the Survey Area.	
Mountain Lion (*Puma concolor*)	Rare	This species is found in rugged mountains and riparian zones. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Plains Spotted Skunk (*Spilogale putorius interrupta*)	Rare	This species is a generalist and inhabits a wide range of habitats including open fields, croplands, backyards, or brush areas. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Southern short-tailed shrew (*Blarina carolinensis*)	Rare	The species is found in east Texas pine forests and agricultural fields. The Survey Area contains low quality forests containing primarily non-native species that do not provide suitable habitat.	No Impacts Anticipated
Thirteen-lined Ground Squirrel (*Ictidomys tridecemlineatus*)	Rare	This species prefers short grass prairies with deep soils for burrowing. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Tricolored bat (*Perimyotis subflavus*)	Rare	The species is found in forests, bottomland hardwoods, and caves. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Woodland Vole (*Microtus pinetorum*)	Rare	This species inhabits areas including grassy marshes, swamp edges, pine woodlands and	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		tallgrass prairies. No suitable habitat is present within the Survey Area.	
Mollusks			
Brazos Heelsplitter (*Potamilus streckersoni*)	Threatened	This species inhabits perennial streams with running water. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Fawnsfoot (*Truncilla macrodon*)	Threatened	This species is found in large rivers to medium sized streams in near shore areas such as banks and backwaters. It prefers substrates of mud, sandy mud, gravel and cobble. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Reptiles			
Eastern box turtle (*Terrapene carolina*)	Rare	The species prefer forests, fields, and scrub shrub habitats. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated
Massassauga (*Sistrurus tergeminus*)	Rare	This species is found in shortgrass prairies with gravel or sandy soils. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Slender glass lizard (*Ophisaurus attenuatus*)	Rare	The species prefers open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields and areas near streams and ponds often with sandy soils. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Smooth softshell (*Apalone mutica*)	Rare	The species prefers large rivers and streams also found in lakes and impoundments. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas horned lizard (*Phrynosoma cornutum*)	Threatened	The species prefers open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush, or scrubby trees. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Timber (canebrake) rattlesnake (*Crotalus horridus*)	Threatened	The species is found in swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland and limestone bluffs. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated
Western box turtle (*Terrapene ornata*)	Rare	The species is found in prairie grasslands, pasture, fields, sandhills, and open woodlands. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated
Western Hognose Snake (*Heterodon nasicus*)	Rare	This species prefers shortgrass or mixed grass prairie with gravel or sandy soils. No suitable habitat is present within the Survey Area	No Impacts Anticipated
Plants			
Branched Gay-Feather (*Liatris cymose*)	Rare	This species is found in barren grasslands openings within post oak woodlands containing clayey soils. EO data shows that the species is known to exist along Highway 60 near the Project and has been identified as recently as 2016.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		However, suitable habitat is not present within the Survey Area.	
Bristle Nailwort (*Paronychia setacea*)	Rare	This species is found in areas containing sandy soils. The Survey Area is highly disturbed and does not contain suitable habitat for this species.	No Impacts Anticipated
Florida Pinkroot (*Spigelia texana*)	Rare	This species is found in woodlands containing loamy soils. Suitable habitat is not present within the Survey Area.	No Impacts Anticipated
Navasota Ladies'-Tresses (*Spiranthes parksii*)	Endangered	This species is found in post oak savannahs containing sandy loam soils. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Oklahoma Grass Pink (*Calopogon oklahomensis*)	Rare	This species is found in mesic, acidic, sandy to loamy prairies, pine savannas, oak woodlands, edges of bogs, and frequently mowed meadows. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Small-Headed Pipewort (*Thalictrum texanum*)	Threatened	This species is found in post oak woodlands and xeric sandhill openings containing permanently wet acid soils on hillside seepages. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Meadow-rue (*Thalictrum texanum*)	Rare	This species is found in woodlands and woodland margins on soils with a surface layer of sandy loam, and also within prairie pimple mounds. All soils encountered within the Survey Area were	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		documented as clayey textures. No suitable habitat is present within the Survey Area.	
Texas Sandmint (*Rhodon ciliates*)	Rare	This species is found in post oak savannas. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Sunnybell (*Schoenolirion wrightii*)	Rare	This species is found in rocky barrens within post oak savannahs. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Windmill Grass (*Chloris texensis*)	Rare	This species is found in sandy to sandy loam soils in relatively bare areas within coastal prairie grasslands. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Tree Dodder (*Cuscuta exaltata*)	Rare	This parasitic species if found on various tree species including *Quercus, Juglans, Rhus, Vitis, Ulmus,* and *Diospyros*. No trees were observed within the Survey Area which are required as habitat for this species.	No Impacts Anticipated

3.3 Historical Land Use and Modifications

The site has historically been used as a sand and gravel pit, as seen using aerial imagery. The northern portion of the Survey Area is at a much lower elevation as a result of its past land use, which allows the low-lying areas to hold water year-round. Standing water is present throughout this area because crushed concrete has been used as inert general fill to build access roads used by industrial equipment.

4.0 CONCLUSION

Golder's evaluation of TPWD's state listed rare, threatened, and endangered species identified a total of 65 species listed for Brazos County. Golder determined that based off the heavy disturbance and current land use, suitable habitat is present for only seven of the state listed species within the Survey Area. No suitable habitat was identified within the Survey Area for the remaining 58 species. Additionally, the EO data revealed four species have been identified within 1-mile of the Project. However, no suitable habitat is present within the Survey Area for the four species. Based on the disturbance of the Survey Area, significant impacts on state listed Rare, Threatened, and Endangered species from the Project are not anticipated.

Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluation of wetlands at the Project due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made.

5.0 REFERENCES

Natural Resources Conservation Service (NRCS). 2012. Web Soil Survey – Harris County, Texas. Available at: http://websoilsurvey.nrcs.usda.gov.

Soil Survey Staff. 2016. Keys to Soil Taxonomy, 12th ed. USDA-Natural Resources Conservation Service, Washington, DC.

Texas Parks and Wildlife Department. Rare, Threatened, and Endangered Species of Texas by County: Brazos County. Available at: https://tpwd.texas.gov/gis/rtest/. Accessed March 2021.

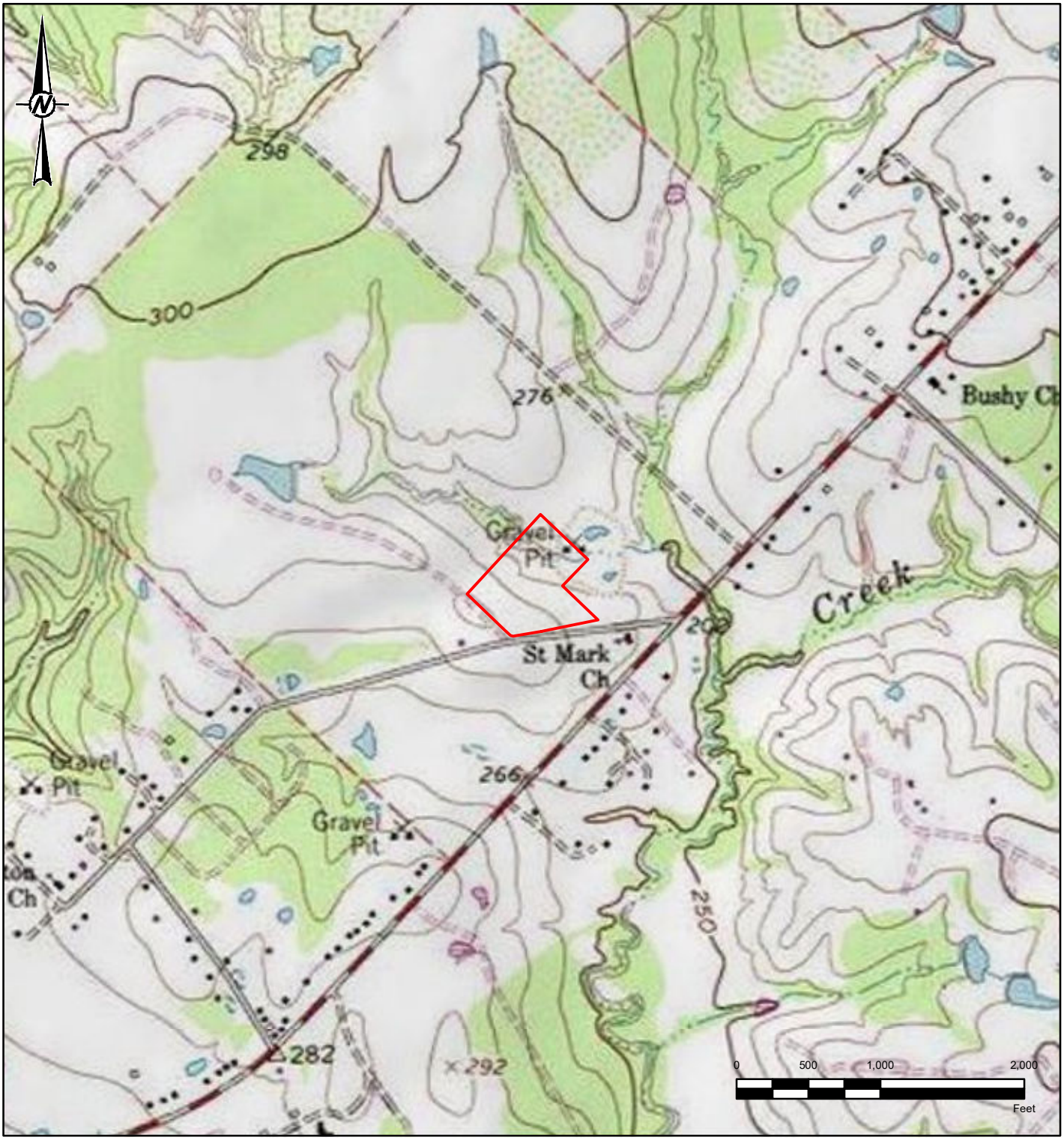
U.S. Geological Survey (USGS). 7.5 Minute Quadrangle Topographic Maps. 1982. Bellaire, Texas.

Signature Page

Kyle Brewer
Staff Biologist

Ashley Thompson
Project Biologist

https://golderassociates.sharepoint.com/sites/140057/project files/5 technical work/bio surveys/report/tpwd/state listed species assessment.docx



LEGEND

Survey Area

REFERENCE(S)
1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
PROJECT OVERVIEW MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A001	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\08 PROJECTS\20442070\A General\GIS\Support\02 PRODUCTION\MXD\20442070 A001 Project Overview.mxd

LEGEND

SURVEY AREA

0 75 150 300

FEET

CLIENT

BRAZOS VALLEY RECYCLING

PROJECT

BVR TYPE V REGISTRATION PROJECT

TITLE

WETLAND MAP

REFERENCE(S)

1. PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A002	0	**2B**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

PATH: G:\Projects\Brazos Valley Recycling\09 PROJECTS\20442070\A GeneralGISSupport\02 PRODUCTION\MXD\20442070 A002 Wetland Map.mxd

LEGEND

- SOIL STATIONS
- SURVEY

REFERENCE(S)

1. SOIL STATIONS, PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
WETLAND AND SOIL STATIONS MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A003	0	**2B**

PATH: G:\Projects\Brazos Valley Recycling\09 PROJECTS\20442070\A General\GISSupport\02 PRODUCTION\MXD\20442070 A003 Wetland SoilStation Map.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

LEGEND
- SOIL STATIONS
- SURVEY AREA

NATIONAL WETLANDS INVENTORY DATA
- RIVERINE

NRCS SOILS
- CHC: CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
- DUC: DUTEK LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES
- ROB: ROBCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
- SMC: SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- SMD: SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
- TAA: TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- UH: UHLAND LOAM, FREQUENTLY FLOODED

REFERENCE(S)
1. PONDS, SOIL STATIONS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020-21
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
DESKTOP ANALYSIS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A004	0	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\99 PROJECTS\20442070\A GeneralGISSupport\02 PRODUCTION\MXD\20442070 A004 Desktop Analysis.mxd

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 5 **Feature:** UP002_NW **Date:** January 29, 2021 **Comments:** Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.	
Photograph Number: 6 **Feature:** UP002 **Date:** January 29, 2021 **Comments:** Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.	

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 9

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing northeast. Crushed concrete covers the ground surface in this area.

Photograph Number: 10

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing southwest. Crushed concrete covers the ground surface in this area.

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 11

Feature: UP005_N

Date: January 29, 2021

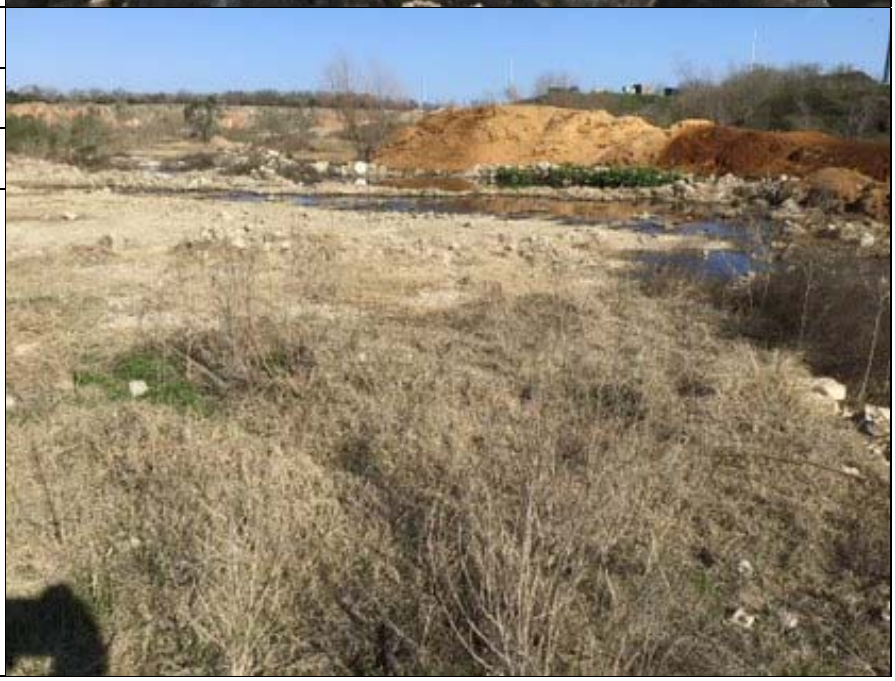
Comments: Photo of upland facing north. Crushed concrete covers the ground surface in this area.

Photograph Number: 12

Feature: UP005_S

Date: January 29, 2021

Comments: Photo of upland facing south. Crushed concrete covers the ground surface in this area.



Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 13

Feature: UP006

Date: January 29, 2021

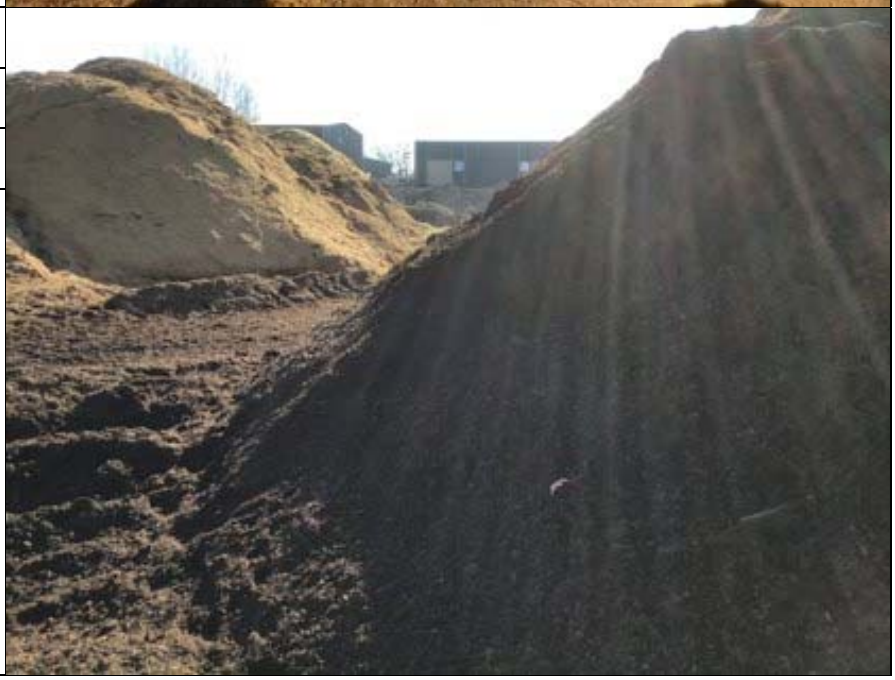
Comments: Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.

Photograph Number: 14

Feature: UP006

Date: January 29, 2021

Comments: Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.



WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP002

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572930 **Long.:** -96.404681 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: -?-

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is heavily disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is heavily disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP004**

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.573178 **Long.:** -96.405508 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	54.5%	FACU
2. Baccharis halimifolia	15	☑	27.3%	FAC
3. Trifolium campestre	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	55	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	55	(A)	215	(B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Area is disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/2	100					Sandy Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP005**

Investigator(s): Kyle Brewer **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572648 **Long.:** -96.405224 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	75.0%	FACU
2. Trifolium campestre	10	☑	25.0%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	40	(A)	170	(B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP006

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572495 **Long.:** -96.404430 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region:

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR	3/2	100					Sandy Clay Loam	Mixed soils

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

Last Update: 8/25/2020

BRAZOS COUNTY

AMPHIBIANS

cajun chorus frog *Pseudacris fouquettei*

Aquatic and terrestrial: Habitats of this ground-dwelling frog are diverse and include forests, fields, swamps, marshes, irrigation ditches, and temporarily flooded areas (Bartlett and Bartlett 1999, Lemmon et al. 2008). Eggs are laid in small clusters that adhere to submerged vegetationin shallow temporary pools, ditches, and flooded areas where emergent vegetation or a grassy margin is present (Dundee and Rossman 1989).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

Houston toad *Anaxyrus houstonensis*

Terrestrial and aquatic: Primary terrestrial habitat is forests with deep sandy soils. Juveniles and adults are presumed to move through areas of less suitable soils using riparian corridors. Aquatic habitats can include any water body from a tire rut to a large lake.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

southern crawfish frog *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S3

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

BIRDS

bald eagle *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

BRAZOS COUNTY

BIRDS

Black Rail *Laterallus jamaicensis*

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: PT | State Status: T | SGCN: Y
Endemic: N | Global Rank: G3G4 | State Rank: S2

Franklin's gull *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S2N

interior least tern *Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: LE | State Status: E | SGCN: Y
Endemic: N | Global Rank: G4T3Q | State Rank: S1B

piping plover *Charadrius melodus*

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT | State Status: T | SGCN: Y
Endemic: N | Global Rank: G3 | State Rank: S2N

Rufa Red Knot *Calidris canutus rufa*

Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. A small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Its bill is dark, straight and, relative to other shorebirds, short-to-medium in length. After molting in late summer, this species is in a drab gray-and-white non-breeding plumage, typically held from September through April. In the non-breeding plumage, the knot might be confused with the omnipresent Sanderling. During this plumage, look for the knot’s prominent pale eyebrow and whitish flanks with dark barring. The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (Donax spp.) on beaches and dwarf surf clam (Mulinia lateralis) in bays, at least in the Laguna Madre. Wintering Range includes- Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.

Federal Status: LT | State Status: T | SGCN: Y

BRAZOS COUNTY

BIRDS

Endemic: N | Global Rank: G4T2 | State Rank: S2N

swallow-tailed kite *Elanoides forficatus*

Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees

Federal Status: | State Status: T | SGCN: Y

Endemic: N | Global Rank: G5 | State Rank: S2B

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status: | State Status: | SGCN: Y

Endemic: N | Global Rank: G4T4 | State Rank: S2

white-faced ibis *Plegadis chihi*

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status: | State Status: T | SGCN: Y

Endemic: N | Global Rank: G5 | State Rank: S4B

whooping crane *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE | State Status: E | SGCN: Y

Endemic: N | Global Rank: G1 | State Rank: S1N

wood stork *Mycteria americana*

Prefers to nest in large tracts of baldcypress (Taxodium distichum) or red mangrove (Rhizophora mangle); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

Federal Status: | State Status: T | SGCN: Y

Endemic: N | Global Rank: G4 | State Rank: SHB,S2N

FISH

alligator gar *Atractosteus spatula*

From the Red River to the Rio Grande (Hubbs et al. 2008); occurs in the Trinity River upstream of Lake Livingston. Found in rivers, streams, lakes, swamps, bayous, bays and estuaries typically in pools and backwater habitats. Floodplains inundated with flood waters provide spawning and nursery habitats.

Federal Status: | State Status: | SGCN: Y

Endemic: N | Global Rank: G3G4 | State Rank: S4

BRAZOS COUNTY

FISH

american eel *Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habtiats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S4

blackspot shiner *Notropis atrocaudalis*

Occurs from the lower Brazos River to the Sabine River drainage; Red River drainage. Small to moderate size tributary streams in runs and pools over all types of substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S3

chub shiner *Notropis potteri*

Brazos, Colorado, San Jacinto, and Trinity river basins. Flowing water with silt or sand substrate

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4 State Rank: S2

sharpnose shiner *Notropis oxyrhynchus*

Range is now restricted to upper Brazos River upstream of Possum Kingdom Lake. May be native to Red River and Colorado River basins. Typically found in turbid water over mostly silt and shifting sand substrates.

Federal Status: LE State Status: E SGCN: Y
Endemic: Y Global Rank: G3 State Rank: S1S2

silver chub *Macrhybopsis storeriana*

Red River and Brazos River basins. Mainly restricted to large, often silty rivers. Ranges over gravel to silt substrates but found more commonly over silt or mud bottom.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

silverband shiner *Notropis shumardi*

In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

smalleye shiner *Notropis buccula*

BRAZOS COUNTY

FISH

Endemic to the Brazos River drainage; presumed to have been introduced into the Colorado River. Historically found in lower Brazos River as far south as Hempstead, Texas but appears to now be restricted to upper Brazos River system upstream of Possum Kingdom Lake. Typically found in turbid waters of broad, sandy channels of main stream, over substrate consisting mostly of shifting sand.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S1S2

western creek chubsucker *Erimyzon claviformis*

Eastern Texas streams from the Red River to the San Jacinto drainage. Habitat includes silt-, sand-, and gravel-bottomed pools of clear headwaters, creeks, and small rivers; often near vegetation; occasionally in lakes. Spawning occurs in river mouths or pools, riffles, lake outlets, or upstream creeks. Prefers headwaters, but seldom occurs in springs.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

INSECTS

a caddisfly *Neotrichia mobilensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: S1?

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

Comanche harvester ant *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

No accepted common name *Bombus variabilis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: SNR

MAMMALS

American badger *Taxidea taxus*

Generalist. Prefers areas with soft soils that sustain ground squirrels for food. When inactive, occupies underground burrow. Young are born in underground burrows.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

BRAZOS COUNTY

MAMMALS

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

big free-tailed bat *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5	State Rank: S3

eastern red bat *Lasiurus borealis*

Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat *Lasiurus cinereus*

Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

Mexican free-tailed bat *Tadarida brasiliensis*

Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

mink *Neovison vison*

BRAZOS COUNTY

MAMMALS

Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

plains spotted skunk *Spilogale putorius interrupta*

Generalist; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S1S3

southern short-tailed shrew *Blarina carolinensis*

Found in East Texas pine forests and agricultural land. May favor areas with abundant leaf litter and fallen logs (Baumgardner et al. 1992). Nest sites are probably under logs, stumps and other debris.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

thirteen-lined ground squirrel *Ictidomys tridecemlineatus*

Prefers short grass prairies with deep soils for burrowing. Frequently found in grazed ranchland, mowed pastures, and golf courses.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S3S4

woodland vole *Microtus pinetorum*

Include grassy marshes, swamp edges, old-field/pine woodland ecotones, tallgrass fields; generally sandy soils.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

BRAZOS COUNTY

MOLLUSKS

Brazos Heelsplitter *Potamilus streckersoni*

Habitat description is not available at this time.

Federal Status:	State Status: T	SGCN: N
Endemic: Y	Global Rank: GNR	State Rank: SNR

Texas Fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: C	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

REPTILES

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

massasauga *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3S4

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

smooth softshell *Apalone mutica*

Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

BRAZOS COUNTY

REPTILES

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

western hognose snake *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

PLANTS

branched gay-feather *Liatris cymosa*

Somewhat barren grassland openings in post oak woodlands on tight clayey, chalky, or gravelly soils, often over Catahoula Formation; flowering July-October

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

bristle nailwort *Paronychia setacea*

Flowering vascular plant endemic to eastern southcentral Texas, occurring in sandy soils

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

BRAZOS COUNTY

PLANTS

Florida pinkroot *Spigelia texana*

Woodlands on loamy soils; Perennial; Flowering March-Nov; Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Navasota ladies'-tresses *Spiranthes parksii*

Openings in post oak woodlands in sandy loams along upland drainages or intermittent streams, often in areas with suitable hydrologic factors, such as a perched water table associated with the underlying claypan; flowering populations fluctuate widely from year to year, an individual plant does not flower every year; flowering late October-early November (-early December)

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Oklahoma grass pink *Calopogon oklahomensis*

Mesic, acidic, sandy to loamy prairies, pine savannas, oak woodlands, edges of bogs, and frequently mowed meadows (Goldman, Magrath & Catling 2002). Flowering March-July.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1S2

small-headed pipewort *Eriocaulon koernickianum*

In East Texas, post-oak woodlands and xeric sandhill openings on permanently wet acid sands of upland seeps and hillside seepage bogs, usually in patches of bare sand rather than among dense vegetation or on muck; in Gillespie County, on permanently wet or moist hillside seep on decomposing granite gravel and sand among granite outcrops; flowering/fruiting late May-late June

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1S2

Texas meadow-rue *Thalictrum texanum*

Mostly found in woodlands and woodland margins on soils with a surface layer of sandy loam, but it also occurs on prairie pimple mounds; both on uplands and creek terraces, but perhaps most common on claypan savannas; soils are very moist during its active growing season; flowering/fruiting (January-)February-May, withering by midsummer, foliage reappears in late fall(November) and may persist through the winter

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2Q	State Rank: S2

Texas sandmint *Rhododon ciliatus*

Open sandy areas in the Post Oak Belt of east-central Texas; Annual; Flowering April-Aug; Fruiting May-Aug

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

BRAZOS COUNTY

PLANTS

Texas sunnybell *Schoenolirion wrightii*

Rocky barrens in the Post Oak region near College Station, with a few disjunct populations on the Catahoula Formation of southeast Texas; Perennial; Flowering March-April; Fruiting March

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Texas windmill grass *Chloris texensis*

Sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants, often on roadsides where regular mowing may mimic natural prairie fire regimes; flowering in fall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

tree dodder *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

golder.com

Attachment IIE-3
Texas Department of Parks and Wildlife (TDPW) Correspondence

ROUX

September 19, 2024

Mr. John Silovsky
Director of Wildlife
Texas Parks and Wildlife Department
4200 Smith School Rd
Austin, Texas 78744

Re: Threatened and Endangered Species Review Request
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

Dear Mr. Silovsky:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, Brazos County, Texas. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

Attachment 1 is a project summary and site location maps. **Attachments 2 and 3** are copies of the threatened and endangered species assessments conducted by Golder at the site. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973. Based on a field survey and available records, it was concluded that the Facility and the operation of the facility is not expected to result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species.

Under the current Texas Administrative Code 30 TAC §330.61(n)(1), the applicant must consider any negative impact to threatened and endangered species. As this RA is not for a landfill, 330.61(n)(2) does not apply; therefore, a biological assessment does not need to be prepared. Through submittal of this coordination letter, Roux is requesting a letter response from the Texas Parks and Wildlife Department indicating the proposed Facility will not adversely affect threatened and endangered species.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

4759.0001H000

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps
Attachment 2 – Federally Protected Species Habitat Assessment
Attachment 3 – State Listed Species Habitat Assessment

ATTACHMENT 1

Attachment 1
Project Summary

1. Introduction

Brannon Industrial Group, LLC (“BIG”) is preparing a Registration Application (RA) to be submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division for an operation of the BVR Waste and Recycling Transfer Station (“Facility” or “Site”), a Type V Transfer Station. The Facility is located with the extraterritorial jurisdiction of City of College Station, Brazos County, Texas.

BVR Waste and Recycling Transfer Station occupies 4.419 acres of a 10-acre tract owned by BIG. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

2. Facility Location

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

The Facility is located on the property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

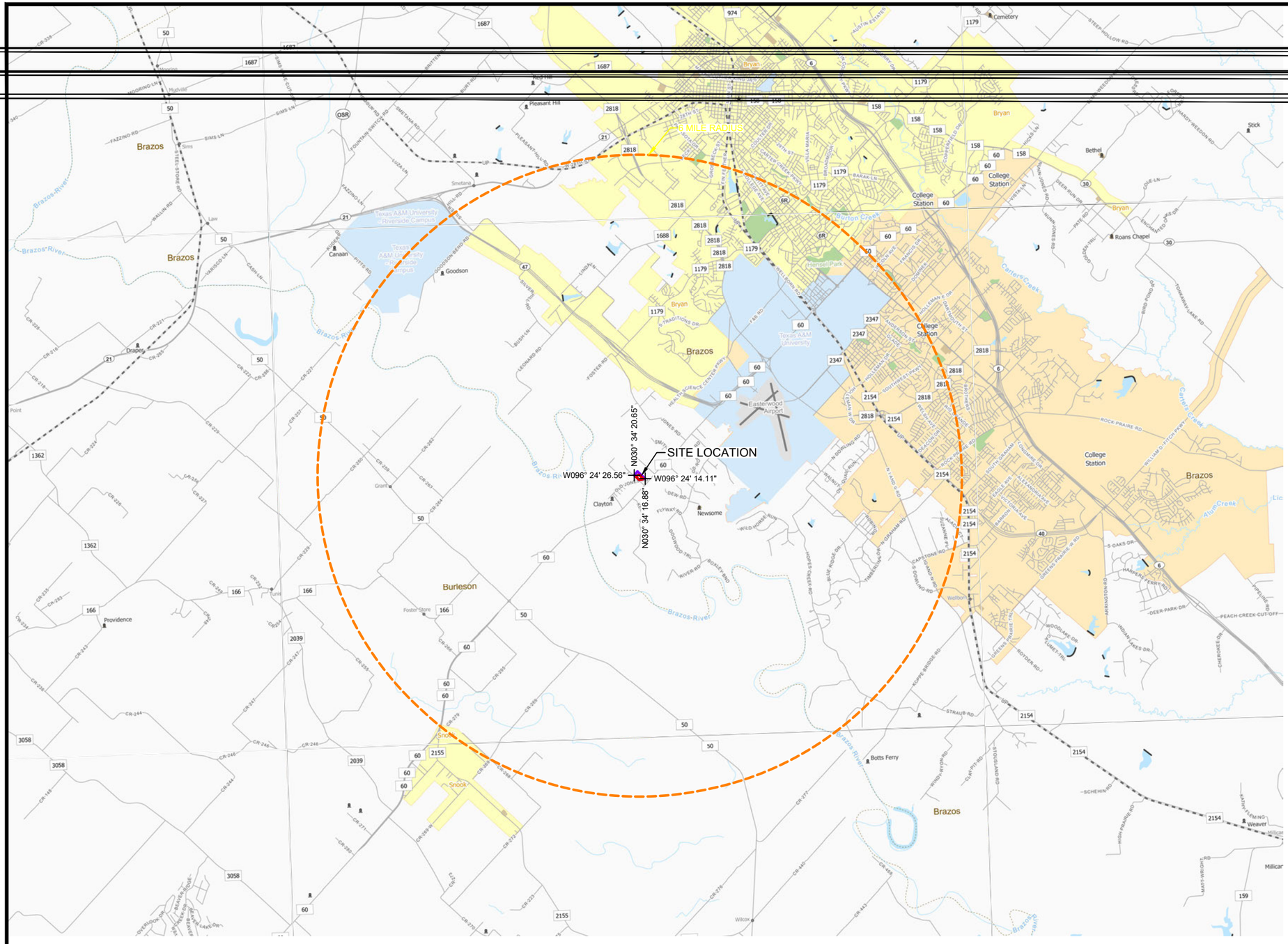
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

- ITE UN A Y FF ET A IU
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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
84459
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

N

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

2 MILES 0 2 MILES

Title:
GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

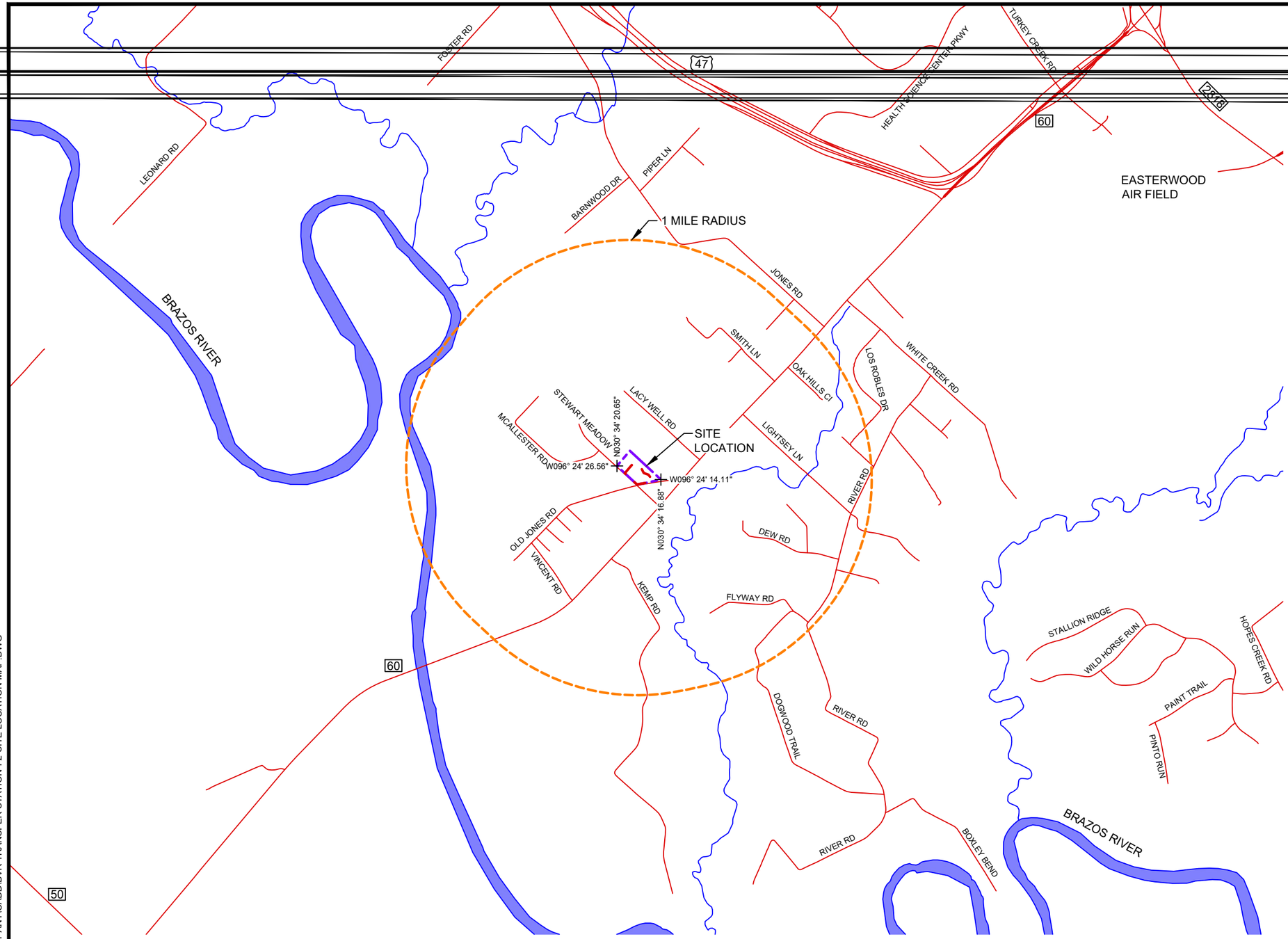
Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024
Prepared by: AEP	Scale: AS SHOWN
Project Mgr: ATN	Project: 4759.0001H000
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG	

FIGURE I-1

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



STATE OF TEXAS
GARY RUSSELL HORWITCH
84594
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

ISSUED FOR PERMITTING

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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LEGEND

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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

STATE OF TEXAS
GARY RUSSELL HORWITCH
104580
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

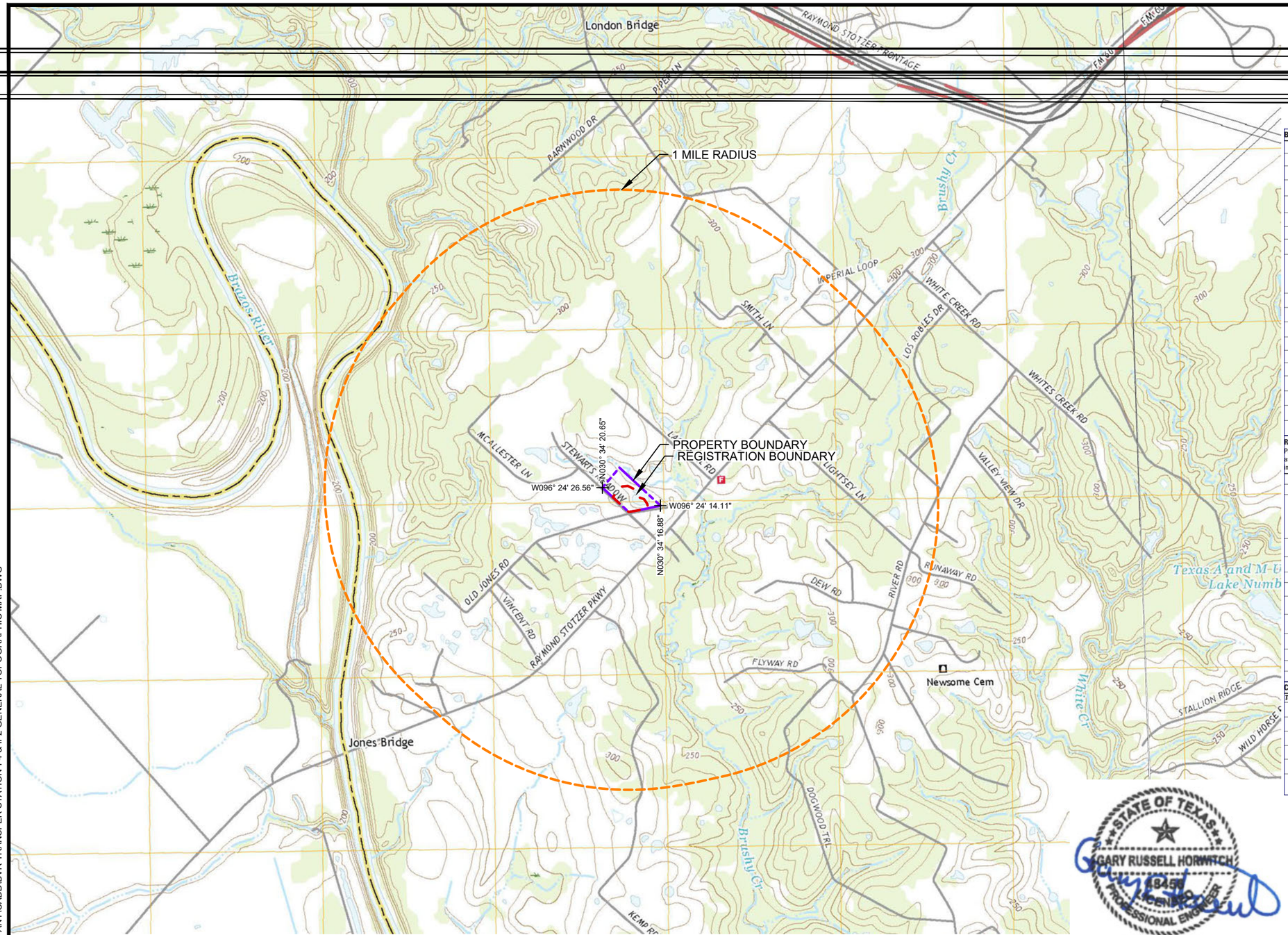
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG



LEGEND

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ▭ 9134 BM △ 277)
- Third-order or better elevation, recoverable mark, no tablet (▭ 5628)
- With number and elevation (67 ▭ 4567)

Horizontal control

- Third-order or better, permanent mark (△ Neace Neace)
- With third-order or better elevation (BM △ 62 Pike BM393)
- With checked spot elevation (△ 1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84457
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-4
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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ATTACHMENT 2

Attachment 2
Federally Protected Species Habitat Assessment

GOLDER

REPORT

Federally Protected Species Habitat Assessment

BVR Waste and Recycling - College Station Facility

Type V Registration Application

Submitted to:

U.S. Fish and Wildlife Service

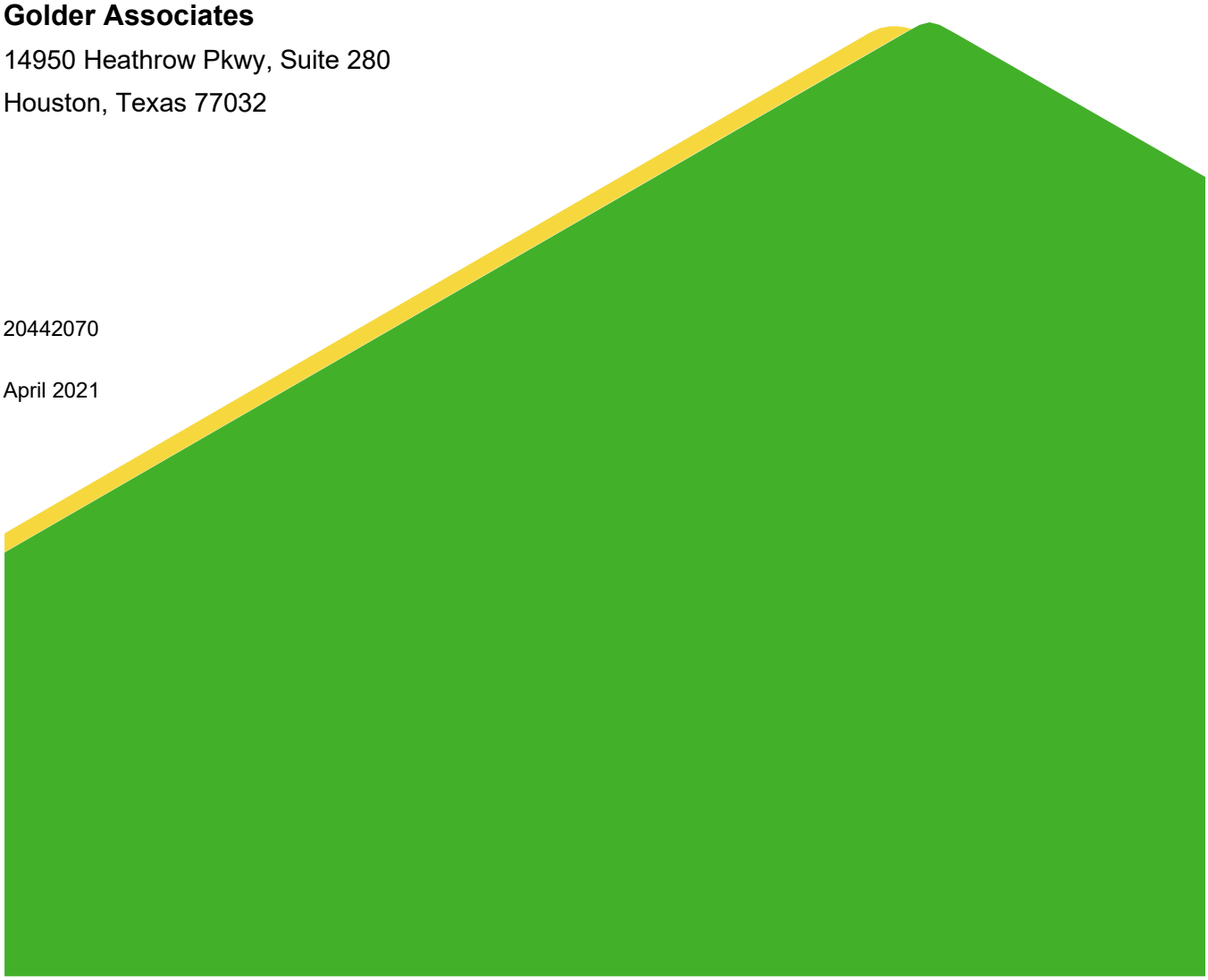
Texas Coastal Ecological Services Field Office
Houston Field Office
17629 El Camino Real #211
Houston, Texas 77058

Submitted by:

Golder Associates

14950 Heathrow Pkwy, Suite 280

Houston, Texas 77032



20442070

April 2021

Table of Contents

TABLES

APPENDICES

1.0 INTRODUCTION

Golder Associates Inc. (Golder) prepared this Federally Protected Species Habitat Assessment Report on behalf of BVR Waste and Recycling (BVR) for a Type V Registration Application (RA). The College Station Facility, a municipal solid waste processing facility (Project) is located in Brazos County, Texas. Golder performed an environmental resource analysis for the Project to determine the likelihood of impacts to federally listed threatened and endangered (T&E) species, avian species protected by the Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) from continued operations and additional construction within the Project area.

2.0 METHODOLOGY

Golder performed an environmental resource analysis of the entire Project footprint. A Project Survey Area of approximately 9.7 acres was created to identify all resources that may be impacted by the Project. The environmental resource analysis consisted of two components: (1) an initial desktop review of the Survey Area and (2) a pedestrian field survey conducted within the Survey Area to observe and record exiting conditions. A summary of the methods is presented in the following sections. Mapping exhibits showing the Survey Area is provided in Appendix A.

2.1 Initial Desktop Review

Prior to conducting field surveys, Golder reviewed publicly available information to gain an understanding of the various features in the Survey Area, including layout, land cover, habitat types, and current and historic land use. These features were assessed as a preliminary determination of the presence of existing or potentially occurring agency regulated or protected environmental resources within the Survey Area. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- Natural Resources Conservation Service (NRCS) soil survey database; and
- United States Fish and Wildlife Service (USFWS) Information for Planning and Consulting (IPaC) online mapping system.

2.1.1 USGS Topographic Survey Maps and Aerial Imagery

Golder reviewed the USGS 7.5 Quadrangle Topographic Map: Chances Store, Texas prior to conducting field surveys. The topographic maps showed the Project area as historically being used as a gravel pit. The headwaters to Brushy Creek, a tributary of the Brazos River, are located directly to the southeast of the Survey Area. Historic and current aerial photographs show the area surrounding the Project having been heavily disturbed from the gravel pit operations over many years. Standing water is shown on aerial imagery within and adjacent to the Survey Area as a result of the gravel mining operations.

2.1.2 NRCS Soils Data

Review of the NRCS Soil Survey data showed a total of three soil series are located within the Survey Area, which are displayed below in Table 1.

Table 1: NRCS Soils within the Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	NRCS Drainage Rating	NRCS Hydric Rating
Silawa fine sandy loam, 2 to 5 percent slopes	SmC	Well Drained	Not Hydric
Silawa fine sandy loam, 5 to 8 percent slopes	SmD	Well Drained	Not Hydric
Robco-Tanlewood complex, 1 to 5 percent slopes	RoB	Moderately Well Drained	Not Hydric

2.1.3 USFWS IPaC

The USFWS IPaC identified a total of five federally listed T&E species as potentially occurring within the Survey Area. Two of these species, the piping plover (*Charadrius melodus*) and red knot (*Calidris canutus rufa*) only require evaluation for wind energy related projects within their migratory route and are not discussed within this report. A habitat assessment was performed for the Project for the remaining three species.

2.2 Field Surveys

Golder conducted field surveys to evaluate if the Survey Area contained suitable habitat for federally listed T&E species. The field survey consisted of the identification of biological resources (federally listed threatened and endangered species occurrences, potentially suitable habitat, and any designated critical habitat). All environmental resources identified within the Survey Area were delineated using a handheld sub-meter Global Positioning System (GPS). Photographs of the resources identified within the Survey Area are provided in Appendix B.

3.0 FIELD SURVEY RESULTS

3.1 Vegetation

Sparse vegetation was observed throughout the site due to current daily operational activities of the BVR facility. At the locations where vegetation was observed, characteristic vegetation included: Bermuda grass (Cy*nodon dactylon*), baccharis (*Baccharis halimifolia*), and white clover (*Trifolium campestre*). Additional information regarding vegetation observed is included within the datasheets provided as Appendix C.

3.2 Historical Land Use and Modifications

The site has historically been used as a sand and gravel pit, as evidenced by aerial imagery. The northern portion of the Survey Area is at a much lower elevation as a result of its past land use, which allows the low-lying areas to hold water year-round. Standing water is present throughout this area because crushed concrete has been used as inert general fill to build access roads used by industrial equipment.

3.3 Federally Listed T&E Species

Golder performed a habitat evaluation for three of the five species identified by the USFWS IPaC, which is provided as Appendix D. Table 2 below lists the species, their federal status, habitat requirements, and effect determinations.

Table 2: Federally Listed Species for the Survey Area

Federal Species	Federal Status	Habitat Requirements	Effect Determination
Whooping Crane (*Grus americana*)	Endangered	This migratory bird species travels from its nesting grounds in Canada to its wintering habitat along the Texas coast. Habitat utilized by this species near the Project consists of stopover habitat during its migration. Stopover habitat consists of agriculture fields, emergent wetlands, and pastures. This species is not likely to utilize the Survey Area as stopover habitat due to the extensive disturbance and lack of vegetation that would allow for foraging.	*No Effect*
Texas Fawnsfoot (*Truncilla macrodon*)	Candidate	This species of clam is found in streams and rivers containing riffle pools. No streams or rivers are located within the Survey Area.	*No Effect*
Navasota Ladies-tresses (*Spiranthes parksii*)	Endangered	This plant species is found within openings of post oak woodlands containing sandy loam soils near drainages and seasonal streams. The Survey Area does not contain suitable habitat for this species.	*No Effect*

3.4 MBTA and BGEPA

No trees containing suitable nesting habitat for MBTA protected species were observed within the Survey Area. Additionally, no trees were observed within or adjacent to the Survey Area that would provide suitable nesting habitat for raptor species, bald eagles, or golden eagles. No impacts are anticipated to avian species from the Project.

4.0 CONCLUSION

Golder determined that construction of the Project will result in *no effect* to any Federally listed T&E species identified as potentially occurring within the Survey Area by the USFWS IPaC. No trees were observed within the Survey Area to provide suitable nesting habitat to MBTA protected species. Additionally, no suitable nesting trees

were observed adjacent to the Survey Area that would provide suitable nesting habitat to BGEPA protected species.

Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluation of wetlands at the Project due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made.

5.0 REFERENCES

Natural Resources Conservation Service (NRCS). 2012. Web Soil Survey – Harris County, Texas. Available at: http://websoilsurvey.nrcs.usda.gov.

Soil Survey Staff. 2016. Keys to Soil Taxonomy, 12th ed. USDA-Natural Resources Conservation Service, Washington, DC.

U.S. Geological Survey. 7.5 Minute Quadrangle Topographic Maps. 1980. Chances Store, Texas.

U.S. Fish and Wildlife Service. Environmental Conservation Online System. Navasota ladies-tresses (*Spiranthes parksii*). Available at: https://ecos.fws.gov/ecp/species/1570. Accessed March 2021.

U.S. Fish and Wildlife Service. Environmental Conservation Online System. Texas Fawnsfoot (*Truncilla macrodon*). Available at: https://ecos.fws.gov/ecp/species/8965. Accessed March 2021.

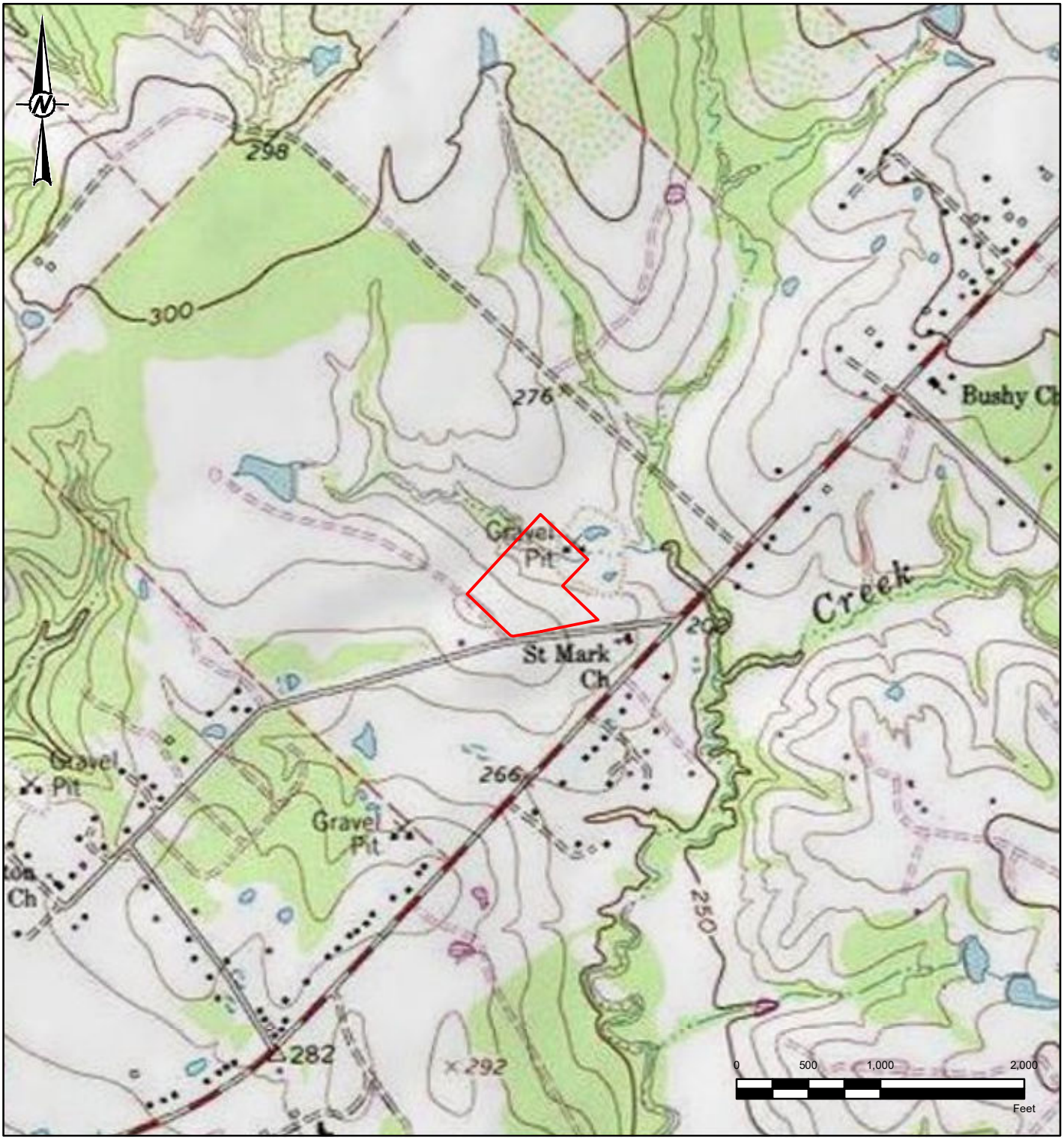
U.S. Fish and Wildlife Service. Environmental Conservation Online System. Whooping Crane (*Grus americana*). Available at: https://ecos.fws.gov/ecp/species/758. Accessed March 2021.

Signature Page

Kyle Brewer
Staff Biologist

Ashley Thompson
Project Biologist

https://golderassociates.sharepoint.com/sites/140057/project files/5 technical work/bio surveys/report/usfws/usfws t&e report.docx



LEGEND

Survey Area

REFERENCE(S)
1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
PROJECT OVERVIEW MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A001	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\08 PROJECTS\20442070\A General\GIS\Support\02 PRODUCTION\MXD\20442070 A001 Project Overview.mxd

LEGEND

SURVEY AREA

0 75 150 300

FEET

CLIENT

BRAZOS VALLEY RECYCLING

PROJECT

BVR TYPE V REGISTRATION PROJECT

TITLE

WETLAND MAP

REFERENCE(S)

1. PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
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LEGEND

- SOIL STATIONS
- SURVEY

REFERENCE(S)

1. SOIL STATIONS, PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
WETLAND AND SOIL STATIONS MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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LEGEND
- SOIL STATIONS
- SURVEY AREA

NATIONAL WETLANDS INVENTORY DATA
- RIVERINE

NRCS SOILS
- CHC: CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
- DUC: DUTEK LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES
- ROB: ROBCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
- SMC: SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- SMD: SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
- TAA: TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- UH: UHLAND LOAM, FREQUENTLY FLOODED

REFERENCE(S)
1. PONDS, SOIL STATIONS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020-21
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
DESKTOP ANALYSIS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\99 PROJECTS\20442070\A GeneralGISSupport\02 PRODUCTION\MXD\20442070 A004 Desktop Analysis.mxd

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 5 **Feature:** UP002_NW **Date:** January 29, 2021 **Comments:** Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.	
Photograph Number: 6 **Feature:** UP002 **Date:** January 29, 2021 **Comments:** Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.	

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 9

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing northeast. Crushed concrete covers the ground surface in this area.

Photograph Number: 10

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing southwest. Crushed concrete covers the ground surface in this area.

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 11

Feature: UP005_N

Date: January 29, 2021

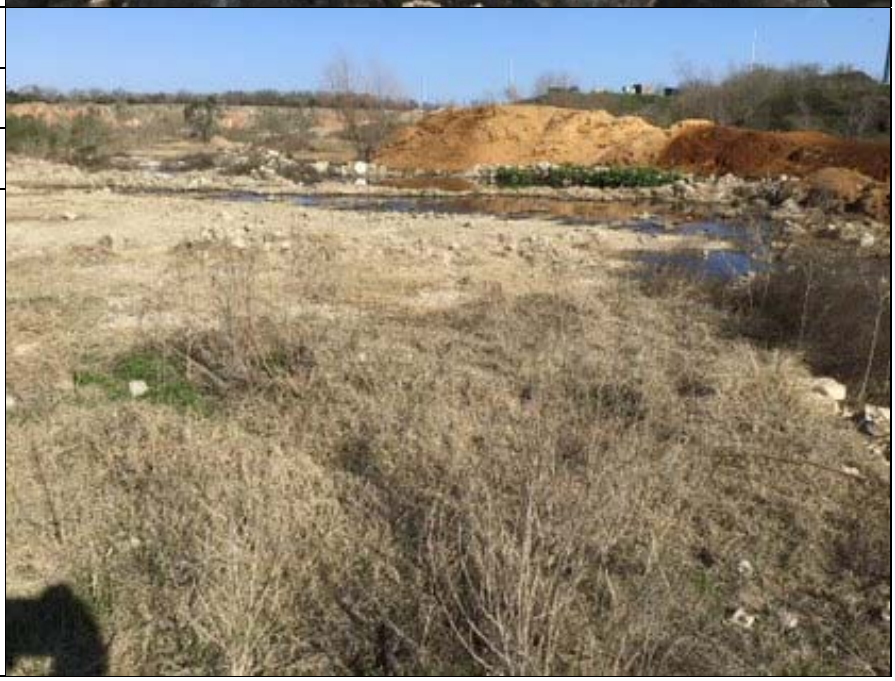
Comments: Photo of upland facing north. Crushed concrete covers the ground surface in this area.

Photograph Number: 12

Feature: UP005_S

Date: January 29, 2021

Comments: Photo of upland facing south. Crushed concrete covers the ground surface in this area.



Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 13

Feature: UP006

Date: January 29, 2021

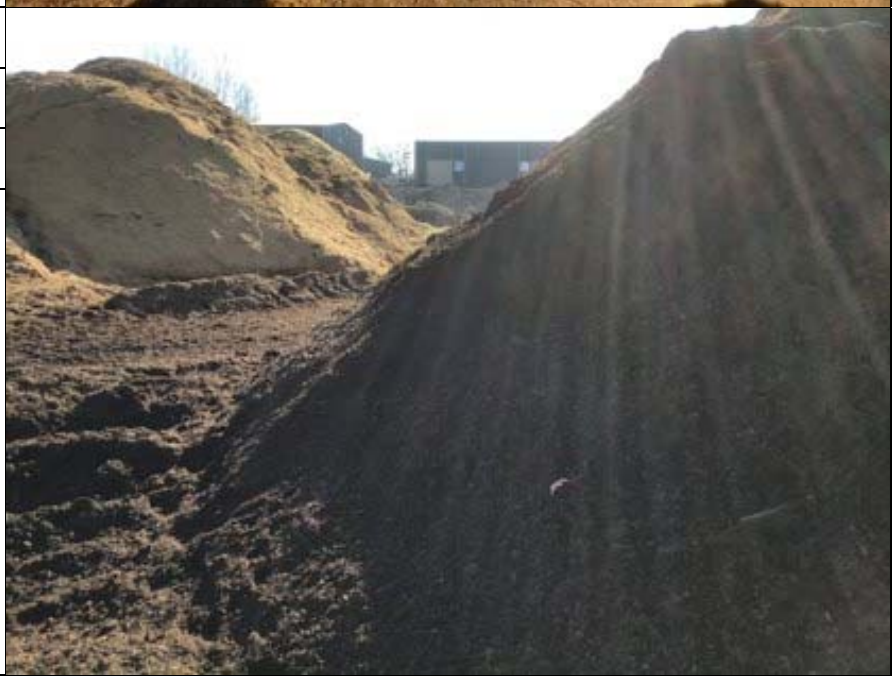
Comments: Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.

Photograph Number: 14

Feature: UP006

Date: January 29, 2021

Comments: Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.



WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP002

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572930 **Long.:** -96.404681 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: -?-

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is heavily disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is heavily disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP004**

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.573178 **Long.:** -96.405508 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	54.5%	FACU
2. Baccharis halimifolia	15	☑	27.3%	FAC
3. Trifolium campestre	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	55	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	55	(A)	215	(B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Area is disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/2	100					Sandy Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP005**

Investigator(s): Kyle Brewer **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572648 **Long.:** -96.405224 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	75.0%	FACU
2. Trifolium campestre	10	☑	25.0%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	40	(A)	170	(B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP006

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572495 **Long.:** -96.404430 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region:

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR	3/2	100					Sandy Clay Loam	Mixed soils

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
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Secondary Indicators (minimum of two required)

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Field Observations:

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Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Texas Coastal Ecological Services Field Office
4444 Corona Drive, Suite 215
Corpus Christi, TX 78411
Phone: (281) 286-8282 Fax: (281) 488-5882
http://www.fws.gov/southwest/es/TexasCoastal/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To: March 03, 2021
Consultation Code: 02ETTX00-2021-SLI-1184
Event Code: 02ETTX00-2021-E-02704
Project Name: Brazos Valley Recycling

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, Tx, and Corpus Christi, Tx, have combined administratively to form the Texas Coastal Ecological Services Field Office. A map of the Texas Coastal Ecological Services Field Office area of responsibility can be found at: http://www.fws.gov/southwest/es/TexasCoastal/Map.html. All project related correspondence should be sent to the field office responsible for the area in which your project occurs. For projects located in southeast Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; 17629 El Camino Real Ste. 211; Houston, Texas 77058. For projects located in southern Texas please write to: Field Supervisor; U.S. Fish and Wildlife Service; P.O. Box 81468; Corpus Christi, Texas 78468-1468. For projects located in six counties in southern Texas (Cameron, Hidalgo, Starr, Webb, Willacy, and Zapata) please write: Santa Ana NWR, ATTN: Ecological Services Sub Office, 3325 Green Jay Road, Alamo, Texas 78516.

The enclosed species list identifies federally threatened, endangered, and proposed to be listed species; designated critical habitat; and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project.

New information from updated surveys, changes in the abundance and distribution of species, changes in habitat conditions, or other factors could change the list. 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. The Service recommends that verification be completed by visiting the ECOS-IPaC website http://ecos.fws.gov/ipac/ at regular intervals during project planning and implementation for updates to species list and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Candidate species have no protection under the Act but are included for consideration because they could be listed prior to the completion of your project. The other species information should help you determine if suitable habitat for these listed species exists in any of the proposed project areas or if project activities may affect species on-site, off-site, and/or result in "take" of a federally listed species.

"Take" is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. In addition to the direct take of an individual animal, habitat destruction or modification can be considered take, regardless of whether it has been formally designated as critical habitat, if the activity results in the death or injury of wildlife by removing essential habitat components or significantly alters essential behavior patterns, including breeding, feeding, or sheltering.

Section 7

Section 7 of the Act requires that all Federal agencies consult with the Service to ensure that actions authorized, funded or carried out by such agencies do not jeopardize the continued existence of any listed threatened or endangered species or adversely modify or destroy critical habitat of such species. It is the responsibility of the Federal action agency to determine if the proposed project may affect threatened or endangered species. If a "may affect" determination is made, the Federal agency shall initiate the section 7 consultation process by writing to the office that has responsibility for the area in which your project occurs.

Is not likely to adversely affect - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effects. The Federal agency or the designated non-Federal representative should seek written concurrence from the Service that adverse effects have been eliminated. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.

Is likely to adversely affect - adverse effects to listed species may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions, and the effect is not discountable, insignificant, or beneficial. If the overall effect of the proposed action is beneficial to the listed species but also is likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. An "is likely to adversely affect" determination requires the Federal action agency to initiate formal section 7 consultation with this office.

No effect - the proposed action will not affect federally listed species or critical habitat (i.e., suitable habitat for the species occurring in the project county is not present in or adjacent to the action area). No further coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.

Regardless of your determination, the Service recommends that you maintain a complete record of the evaluation, including steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related articles.

Please be advised that while a Federal agency may designate a non-Federal representative to conduct informal consultations with the Service, assess project effects, or prepare a biological assessment, the Federal agency must notify the Service in writing of such a designation. The Federal agency shall also independently review and evaluate the scope and contents of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

The Service's Consultation Handbook is available online to assist you with further information on definitions, process, and fulfilling Act requirements for your projects at: http://www.fws.gov/endangered/esa-library/pdf/esa_section7_handbook.pdf

Section 10

If there is no federal involvement and the proposed project is being funded or carried out by private interests and/or non-federal government agencies, and the project as proposed may affect listed species, a section 10(a)(1)(B) permit is recommended. The Habitat Conservation Planning Handbook is available at: http://www.fws.gov/endangered/esa-library/pdf/HCP_Handbook.pdf

Service Response

Please note that the Service strives to respond to requests for project review within 30 days of receipt, however, this time period is not mandated by regulation. Responses may be delayed due to workload and lack of staff. Failure to meet the 30-day timeframe does not constitute a concurrence from the Service that the proposed project will not have impacts to threatened and endangered species.

Proposed Species and/or Proposed Critical Habitat

While consultations are required when the proposed action may affect listed species, section 7(a)(4) was added to the ESA to provide a mechanism for identifying and resolving potential conflicts between a proposed action and proposed species or proposed critical habitat at an early planning stage. The action agency should seek conference from the Service to assist the action agency in determining effects and to advise the agency on ways to avoid or minimize adverse effect to proposed species or proposed critical habitat.

Candidate Species

Candidate species are species that are being considered for possible addition to the threatened and endangered species list. They currently have no legal protection under the ESA. If you find you have potential project impacts to these species the Service would like to provide technical assistance to help avoid or minimize adverse effects. Addressing potential impacts to these species at this stage could better provide for overall ecosystem healh in the local area and ay avert potential future listing.

Several species of freshwater mussels occur in Texas and four are candidates for listing under the ESA. The Service is also reviewing the status of six other species for potential listing under the ESA. One of the main contributors to mussel die offs is sedimentation, which smothers and suffocates mussels. To reduce sedimentation within rivers, streams, and tributaries crossed by a

project, the Service recommends that that you implement the best management practices found at: http://www.fws.gov/southwest/es/TexasCoastal/FreshwaterMussels.html.

Candidate Conservation Agreements (CCAs) or Candidate Conservation Agreements with Assurances (CCAAs) are voluntary agreements between the Service and public or private entities to implement conservation measures to address threats to candidate species. Implementing conservation efforts before species are listed increases the likelihood that simpler, flexible, and more cost-effective conservation options are available. A CCAA can provide participants with assurances that if they engage in conservation actions, they will not be required to implement additional conservation measures beyond those in the agreement. For additional information on CCAs/CCAAs please visit the Service's website at http://www.fws.gov/endangered/what-we-do/cca.html.

Migratory Birds

The Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Many may nest in trees, brush areas or other suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals or eggs. If project activities must be conducted during this time, we recommend surveying for active nests prior to commencing work. A list of migratory birds may be viewed at http://www.fws.gov/migratorybirds/regulationspolicies/mbta/mbtandx.html.

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the Act on August 9, 2007. Both the bald eagle and the goden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For more information on bald and golden eagle management guidlines, we recommend you review information provided at http://www.fws.gov/midwest/eagle/pdf/NationalBaldEagleManagementGuidelines.pdf.

The construction of overhead power lines creates threats of avian collision and electrocution. The Service recommends the installation of underground rather than overhead power lines whenever possible. For new overhead lines or retrofitting of old lines, we recommend that project developers implement, to the maximum extent practicable, the Avian Power Line Interaction Committee guidelines found at http://www.aplic.org/.

Meteorological and communication towers are estimated to kill millions of birds per year. We recommend following the guidance set forth in the Service Interim Guidelines for Recommendations on Communications Tower Siting, Constructions, Operation and Decommissioning, found online at: http://www.fws.gov/habitatconservation/communicationtowers.html, to minimize the threat of avian mortality at these towers. Monitoring at these towers would provide insight into the effectiveness of the minimization measures. We request the results of any wildlife mortality monitoring at towers associated with this project.

We request that you provide us with the final location and specifications of your proposed towers, as well as the recommendations implemented. A Tower Site Evaluation Form is also available via the above website; we recommend you complete this form and keep it in your files. If meteorological towers are to be constructed, please forward this completed form to our office.

More information concerning sections 7 and 10 of the Act, migratory birds, candidate species, and landowner tools can be found on our website at: http://www.fws.gov/southwest/es/TexasCoastal/ProjectReviews.html.

Wetlands and Wildlife Habitat

Wetlands and riparian zones provide valuable fish and wildlife habitat as well as contribute to flood control, water quality enhancement, and groundwater recharge. Wetland and riparian vegetation provides food and cover for wildlife, stabilizes banks and decreases soil erosion. These areas are inherently dynamic and very sensitive to changes caused by such activities as overgrazing, logging, major construction, or earth disturbance. Executive Order 11990 asserts that each agency shall provide leadership and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial value of wetlands in carrying out the agency's responsibilities. Construction activities near riparian zones should be carefully designed to minimize impacts. If vegetation clearing is needed in these riparian areas, they should be re-vegetated with native wetland and riparian vegetation to prevent erosion or loss of habitat. We recommend minimizing the area of soil scarification and initiating incremental re-establishment of herbaceous vegetation at the proposed work sites. Denuded and/or disturbed areas should be re-vegetated with a mixture of native legumes and grasses. Species commonly used for soil stabilization are listed in the Texas Department of Agriculture's (TDA) Native Tree and Plant Directory, available from TDA at P.O. Box 12847, Austin, Texas 78711. The Service also urges taking precautions to ensure sediment loading does not occur to any receiving streams in the proposed project area. To prevent and/or minimize soil erosion and compaction associated with construction activities, avoid any unnecessary clearing of vegetation, and follow established rights-of-way whenever possible. All machinery and petroleum products should be stored outside the floodplain and/or wetland area during construction to prevent possible contamination of water and soils.

Wetlands and riparian areas are high priority fish and wildlife habitat, serving as important sources of food, cover, and shelter for numerous species of resident and migratory wildlife. Waterfowl and other migratory birds use wetlands and riparian corridors as stopover, feeding, and nesting areas. We strongly recommend that the selected project site not impact wetlands and riparian areas, and be located as far as practical from these areas. Migratory birds tend to concentrate in or near wetlands and riparian areas and use these areas as migratory flyways or corridors. After every effort has been made to avoid impacting wetlands, you anticipate unavoidable wetland impacts will occur; you should contact the appropriate U.S. Army Corps of Engineers office to determine if a permit is necessary prior to commencement of construction activities.

If your project will involve filling, dredging, or trenching of a wetland or riparian area it may require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers (COE).

For permitting requirements please contact the U.S. Corps of Engineers, District Engineer, P.O. Box 1229, Galveston, Texas 77553-1229, (409) 766-3002.

Beneficial Landscaping

In accordance with Executive Order 13112 on Invasive Species and the Executive Memorandum on Beneficial Landscaping (42 C.F.R. 26961), where possible, any landscaping associated with project plans should be limited to seeding and replanting with native species. A mixture of grasses and forbs appropriate to address potential erosion problems and long-term cover should be planted when seed is reasonably available. Although Bermuda grass is listed in seed mixtures, this species and other introduced species should be avoided as much as possible. The Service also recommends the use of native trees, shrubs, and herbaceous species that are adaptable, drought tolerant and conserve water.

State Listed Species

The State of Texas protects certain species. Please contact the Texas Parks and Wildlife Department (Endangered Resources Branch), 4200 Smith School Road, Austin, Texas 78744 (telephone 512/389-8021) for information concerning fish, wildlife, and plants of State concern or visit their website at: http://www.tpwd.state.tx.us/huntwild/wild/wildlife_diversity/texas_rare_species/listed_species/.

If we can be of further assistance, or if you have any questions about these comments, please contact 281/286-8282 if your project is in southeast Texas, or 361/994-9005, ext. 246, if your project is in southern Texas. Please refer to the Service consultation number listed above in any future correspondence regarding this project.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Texas Coastal Ecological Services Field Office
4444 Corona Drive, Suite 215
Corpus Christi, TX 78411
(281) 286-8282

Project Summary

Consultation Code: 02ETTX00-2021-SLI-1184
Event Code: 02ETTX00-2021-E-02704
Project Name: Brazos Valley Recycling
Project Type: Landfill
Project Description: The Project involves the expansion of the Brazos Valley Recycling facility to be used for landfill activities.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.5723995,-96.40560714658307,14z

Counties: Brazos County, Texas

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. The location of the critical habitat is not available. This species only needs to be considered under the following conditions: ▪ Wind related projects within migratory route. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind related projects within migratory route. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane *Grus americana* Population: Wherever found, except where listed as an experimental population There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Clams

NAME	STATUS
Texas Fawnsfoot *Truncilla macrodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8965	Candidate

Flowering Plants

NAME	STATUS
Navasota Ladies-tresses *Spiranthes parksii*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/1570

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

golder.com

ATTACHMENT 3

Attachment 3
State Listed Species Habitat Assessment

GOLDER

REPORT

State Listed Species Habitat Assessment

BVR Waste and Recycling - College Station Facility

Type V Registration Application

Submitted to:

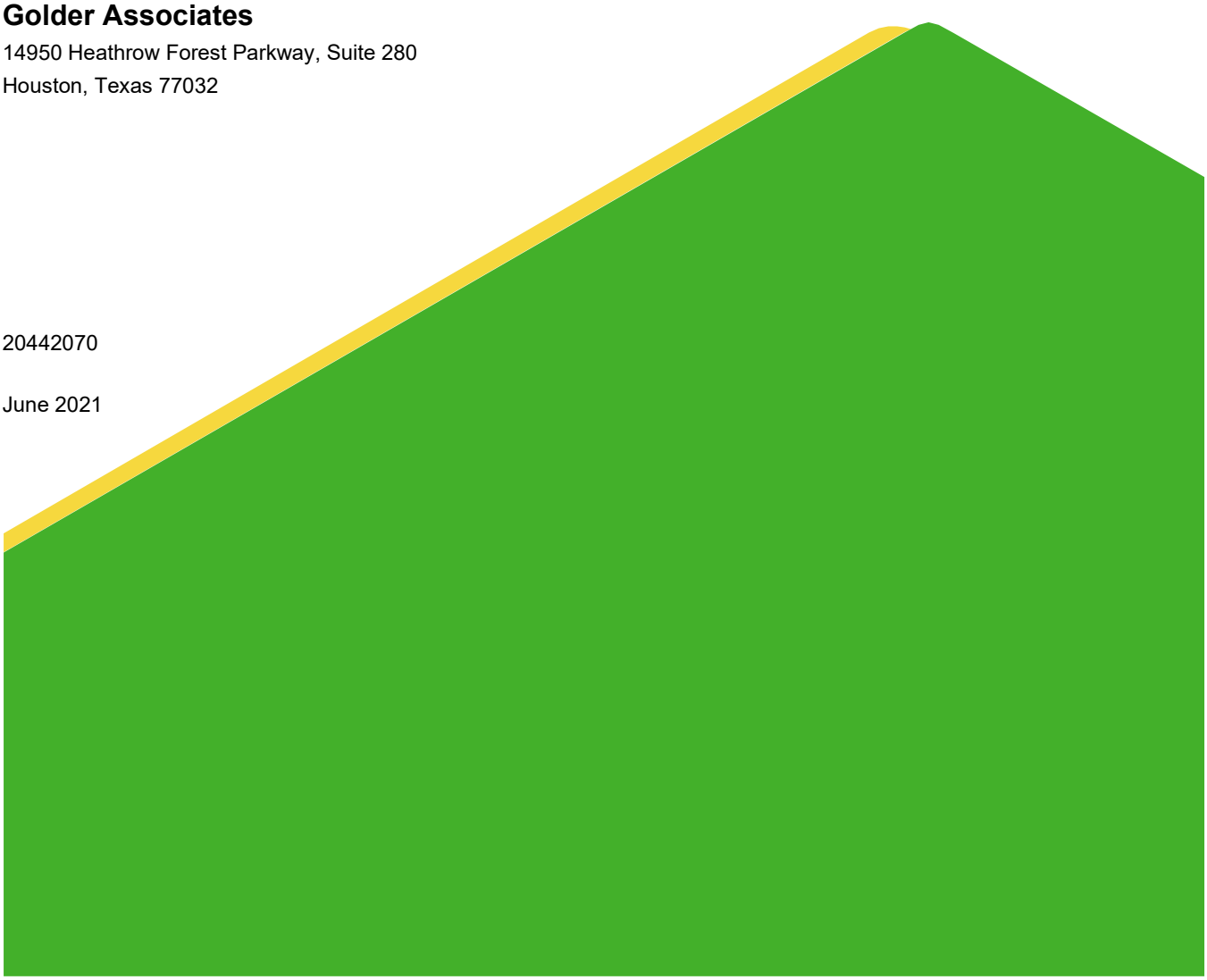
Texas Parks and Wildlife Department

Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 77032

Submitted by:

Golder Associates

14950 Heathrow Forest Parkway, Suite 280
Houston, Texas 77032



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June 2021

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APPENDICES

1.0 INTRODUCTION

Golder Associates Inc. (Golder) prepared this State Listed Species Habitat Assessment Report on behalf of BVR Waste and Recycling (BVR) for a Type V Registration Application (RA). The College Station Facility, a municipal solid waste processing facility (Project) is located in Brazos County, Texas. Golder performed a state listed species habitat assessment for the Project to ensure compliance with all federal regulations and to assist with the evaluation of impact that will result from continued operations and additional construction within the Project area.

2.0 METHODOLOGY

Golder performed an environmental resource analysis of the entire Project. A Survey Area totaling approximately 9.7 acres was created to identify potential resources that may be impacted by the Project. The environmental resources analysis consisted of two components: (1) an initial desktop review of the Survey Area and (2) a pedestrian field survey conducted within the Survey Area to observe and record existing conditions. A summary of the methods is presented in the following sections. Mapping exhibits showing the Survey Area are provided in Appendix A.

2.1 Initial Desktop Review

Prior to conducting field surveys, Golder reviewed publicly available information to gain an understanding of the various features in the Survey Area, including layout, land cover, habitat types, and current and historic land use. These features were assessed as a preliminary determination of the presence of existing or potentially occurring agency regulated or protected environmental resources within the Survey Area. Golder reviewed information from the following sources:

- United States Geologic Survey (USGS) topographic survey maps;
- Historic and current aerial photographs;
- Natural Resources Conservation Service (NRCS) soil survey database;
- Texas Parks and Wildlife Department (TPWD) Rare, Threatened, and Endangered Species List for Brazos County;
- TPWD Texas Natural Diversity Database (TXNDD) Element Occurrence Dataset for Brazos County; and
- TPWD and Texas Partners in Flight Migratory Bird Ecoregion Checklist.

2.1.1 USGS Topographic Survey Maps and Aerial Photography

Golder reviewed the USGS 7.5 Quadrangle Topographic Map: Chances Store, Texas prior to conducting field surveys. The topographic maps showed the Project area as historically being used as a gravel pit. The headwaters to Brushy Creek, a tributary of the Brazos River, are located directly to the southeast of the Survey Area. Historic and current aerial photographs show the area surrounding the Project having been heavily disturbed from the gravel pit operations over many years. Standing water is shown on aerial imagery within and adjacent to the Survey Area as a result of the gravel mining operations.

2.1.2 NRCS Soils

Review of the NRCS Soil Survey data showed a total of three soil series are located within the Survey Area, which are displayed below in Table 1.

Table 1: NRCS Soils Located within the Survey Area

Soil Series Map Unit	Soil Map Unit Symbol	NRCS Drainage Rating	NRCS Hydric Rating
Silawa fine sandy loam, 2 to 5 percent slopes	SmC	Well Drained	Not Hydric
Silawa fine sandy loam, 5 to 8 percent slopes	SmD	Well Drained	Not Hydric
Robco-Tanlewood complex, 1 to 5 percent slopes	RoB	Moderately Well Drained	Not Hydric

2.1.3 Texas Natural Diversity Database

Golder requested the TXNDD data for Brazos County prior to conducting field surveys (Appendix E). The TXNDD Element Occurrence (EO) dataset revealed four species have been observed within a 1-mile radius of the Project including the Strecker's chorus frog, southern crawfish frog, tree dodder, and branched gay feather.

2.1.4 State Listed Rare, Threatened, and Endangered Species Surveys

Golder reviewed the TPWD annotated county list of rare, threatened, and endangered species known to potentially occur within Brazos County, Texas (Appendix D). The review identified 65 species as potentially occurring within the County. Table 2 in Section 3.2 presents each of these species along with their general habitat requirements and anticipated Project impacts.

2.2 Rare, Threatened, and Endangered Species Surveys

The environmental resource surveys consisted of the identification of all biological resources (state listed threatened and endangered species occurrences, and potentially suitable habitat). All environmental resources identified within the Survey Area were delineated using a handheld sub-meter Global Positioning System (GPS). Photographs of the resources identified within the Survey Area are provided in Appendix B.

Golder reviewed the Survey Area for protected species' suitable habitats listed in the TPWD state listed rare, threatened, and endangered species list for Brazos County. Surveys were conducted along meandering transects to document habitat characteristics, species observations, and indication of the presence of listed species. Observations were recorded and photographs were taken of general habitat characteristics. Additional focus was given to potential suitable habitat for protected species identified during the desktop review.

3.0 FIELD SURVEY RESULTS

Golder conducted the field surveys within the Survey Area as shown in the mapping exhibits provided in Appendix A. Datasheets documenting hydrology, vegetation, and soil conditions encountered are provided in Appendix B. Photographs taken at the site are provided in Appendix C.

3.1 Vegetation

Sparse vegetation was observed throughout the site due to current daily operational activities of the BVR facility. At the locations where vegetation was observed, characteristic vegetation included: Bermuda grass (Cyn*odon dactylon*), baccharis (*Baccharis halimifolia*), and white clover (*Trifolium campestre*).

3.2 State Listed T&E Species

Golder requested the TPWD TXNDD Element Occurrence dataset for Brazos County. The EO dataset revealed four species have been observed within a 1-mile radius of the Project including the Strecker's chorus frog, southern crawfish frog, tree dodder, and branched gay feather.

The TPWD list of rare, threatened, and endangered species for Brazos County identified 65 state listed species that could potentially occur within the Survey Area. Table 2 below presents these species, their associated habitats, and anticipated Project impacts. The TPWD list of rare, threatened, and endangered species for Brazos County is provided in Appendix E.

Table 2: State Listed Rare, Threatened, and Endangered Species for Brazos County

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Amphibians			
Cajun chorus frog (*Pseudacris fouquettei*)	Rare	The species' preferred habitat includes forests, fields, swamps, marshes, irrigation ditches, and temporarily flooded areas. The Survey Area consists of highly disturbed areas and is not likely to be suitable habitat for the species.	No Impacts Anticipated
Houston toad (*Anaxyrus houstonensis*)	Endangered	The species' preferred habitat includes forests with deep sandy soils. Adults and juveniles are presumed to move through areas of less suitable habitat using riparian corridors. The Survey Area consists of highly disturbed areas. No suitable habitat is present for this species.	No Impacts Anticipated
Southern crawfish frog (*Lithobates areolatus areolatus*)	Rare	The species preferred habitat consists of terrestrial and aquatic systems ranging from grasslands, pasture and intact prairie or isolated grasslands in the middle of large, forested areas to ephemeral wetlands. EO occurrence data shows that the species has been identified as recently as 2014 near the Project. The Survey Area consists of highly disturbed areas and is not likely to be suitable habitat for the species.	No Impacts Anticipated
Strecker's chorus frog (*Pseudacris streckeri*)	Rare	The species prefers wooded floodplains and flats, prairies, cultivated fields and marshes with sandy substrates. EO occurrence data shows that the species has been identified as recently as 2016 near the Project. The Survey Area consists of	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		highly disturbed areas and is not likely to be suitable habitat for the species.	
Woodhouse's toad (*Anaxyrus woodhousii*)	Rare	The species prefers a wide variety of habitats including forests, grasslands, and barrier island sand dunes. The Survey Area consists of highly disturbed areas. No suitable habitat is present for this species.	No Impacts Anticipated
Birds			
Bald eagle (*Haliaeetus leucocephalus*)	Threatened	The species prefers habitat near rivers and large lakes nesting in tall trees or on cliffs near water. Mature trees are not present within the Survey Area. In addition, abandoned nests or individuals were not observed during surveys; therefore, no suitable habitat is present within the Survey Area.	No Impacts Anticipated
Black Rail (*Laterallus jamaicensis*)	Threatened	Black rails are year-round residents of the upper central Texas Gulf coast and typically utilize saltgrass marshes and coastal marsh as breeding habitat. This species does not utilize areas with woody species and cover. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Franklin's gull (*Leucophaeus pipxcan*)	Rare	This species is only a spring and fall migrant throughout Texas. During migrations the species is known to utilize stopover habitat at night consisting of prairie and flooded pasture wetlands, lake	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		shores and islands. No suitable habitat is located within the Survey Area.	
Interior Least Tern (*Sternula antillarum athalassos*)	Endangered	This species utilizes sandy beaches, flats, bays, and other sparsely vegetated areas near large waterbodies. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Piping plover (*Charadris melodus*)	Threatened	The species prefers beaches, sandflats and dunes along Gulf Coast beaches and adjacent offshore islands. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Rufa Red Knot (*Calidris canutus rufa*)	Threatened	The species migrates long distances utilizing shorelines of coasts and bays, mudflats, tidal flats, beaches, and herbaceous wetlands. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Swallow-tailed kite (*Elanoides forficatus*)	Threatened	The species prefers lowland forests especially swampy areas, marshes, along rivers, lakes, and ponds. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Western Burrowing Owl (*Athene cunicularia hypugaea*)	Rare	This species is found in open grasslands, prairies, and plains in open areas. Abandoned burrows are utilized as nesting habitat. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
White-faced ibis (*Plegadis chihil*)	Threatened	The species is found in a variety of habitats including freshwater marshes, sloughs, and irrigated rice fields, but can also be found in	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		brackish and saltwater habitats. No suitable habitat is located within the Survey Area.	
Whooping Crane (*Grus americana*)	Endangered	Whooping cranes utilize small ponds, marshes, and flooded grain fields for roosting and foraging. The species spends winters in Aransas, Calhoun, and Refugio Counties along the Texas coast. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Wood stork (*Mycteria americana*)	Threatened	The species prefers to nest in large tracts of bald cypress and red mangrove. Foraging typically occurs in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water. The Project Survey Area does not contain bald cypress or mangrove forested wetlands. No suitable habitat is located within the Survey Area.	No Impacts Anticipated
Fish			
Alligator Gar (*Atractosteus spatula*)	Rare	This species of fish is found in rivers, streams, lakes, swamps, bayous, bays, and estuaries. Floodplains inundated with flood waters provide spawning and nursery habitats. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
American Eel (*Anguilla rostrata*)	Rare	This species is found in large rivers, streams, and tributaries. The species is a habitat generalist and can be found in a broad range of aquatic environments. The species moves to coastal waters during its larval stages and returns upstream upon adulthood. While ponding water is	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		present in the Survey Area and adjacent areas, this species is not likely to be found in isolated ponds. No suitable habitat is present within the Survey Area.	
Blackspot Shiner (*Notropis atrocaudalis*)	Rare	This species occurs from the lower Brazos River to the Sabine River drainage within small to moderate sized tributary streams. No streams are present within the Survey Area.	No Impacts Anticipated
Club Shiner (*Notropis potteri*)	Threatened	This species inhabits the Brazos River basin, among others, within streams containing sand or silty substrates. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Sharpnose Shiner (*Notropis oxrhynchus*)	Endangered	This species is found solely within the upper Brazos River upstream of Possum Kingdom Lake. The Survey Area is not located within the known range of this species.	No Impacts Anticipated
Silver Chubb (*Macrhybopsis storeriana*)	Rare	This species is found in the Red River and Brazos River basins, within large and silty rivers. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Silverband shiner (*Notropis shumardi*)	Rare	The species prefers main channels of streams and rivers with moderate to swift currents, moderate to deep depths over silt, sand and gravel. The species is currently known from the Red River to the Lavaca River. No suitable habitat is present within the Survey Area.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Smalleye Shiner (*Notropis buccula*)	Endangered	This species is found in the Brazos River drainage within turbid rivers and streams with sandy substrates. No suitable habitat is present for this species.	No Impacts Anticipated
Western Creek Chubsucker (*Erimyzon claviformis*)	Threatened	This species is found in eastern Texas streams containing silt, sand, and gravel bottoms and is often found near vegetation. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Insects			
A Caddisfly (*Neotrichia mobilensis*)	Rare	This species is only known to exist within Texas and Alabama, but no information is known about its required habitats. Other species of caddisfly require aquatic environments with flowing water for the larval stages of its life. Upon pupation, adults are known to stay in nearby habitats for the remainder of their life. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
American bumblebee (*Bombus pensylvanicus*)	Rare	The species can be found in a wide variety of habitats that support wildflowers, parks, pastures, and open meadows. The majority of Project Survey Area consists of forested uplands; therefore, no suitable habitat is present in the Survey Area.	No Impacts Anticipated
Comanche Harvester Ant (*Pogonomyrmex comanche*)	Rare	This species inhabits upland woodlands or utility rights of way with sandy soils. No suitable habitat is present within the Survey Area.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Variable cuckoo bumble bee *Bombus variabilis*	Rare	This species of bee is a parasitic species that kill and replace the queens of other species. No suitable habitat for beehives is present within the Survey Area.	No Impacts Anticipated
Mammals			
American Badger (*Taxidea taxus*)	Rare	This species is a generalist but prefers areas with soft soils that allow for the excavation of an underground burrow. Suitable habitat may be present, but the Survey Area lacks the preferred soft substrate. Therefore, suitable habitat is not present within the Survey Area.	No Impacts Anticipated
Big brown bat (*Eptesicus fuscus*)	Rare	The species is a habitat generalist found in wooded areas. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Big Free-tailed Bat (*Nyctinomops macrotis*)	Rare	This species roosts in crevices and cracks along canyon walls and within buildings. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Eastern red bat (*Lasiurus borealis*)	Rare	The species is found through a wide variety of habitats but is usually associated with wooded areas. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Eastern spotted skunk (*Spilogale putorius*)	Rare	The species is a habitat generalist found in open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Hoary bat (*Lasiurus cinereus*)	Rare	The species is found in the forests and woods of east and central Texas and prefers riparian wooded habitat. The Survey Area contains low quality forests containing primarily non-native species that do not provide suitable habitat.	No Impacts Anticipated
Long-tailed weasel (*Mustela frenata*)	Rare	This species prefers brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub and are usually found close to water. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Mexican free-tailed bat (*Tadarida brasiliensis*)	Rare	The species is found in a wide variety of habitats, roosting in buildings, bridges, limestone caves and other natural and manmade structures. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Mink (*Neovison vison*)	Rare	The species is closely associated with water habitats consisting of coastal swamps and marshes, wooded riparian zones, and edges of	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		lakes. The majority of Survey Area consists of forested uplands; therefore, no suitable habitat is present in the Survey Area.	
Mountain Lion (*Puma concolor*)	Rare	This species is found in rugged mountains and riparian zones. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Plains Spotted Skunk (*Spilogale putorius interrupta*)	Rare	This species is a generalist and inhabits a wide range of habitats including open fields, croplands, backyards, or brush areas. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Southern short-tailed shrew (*Blarina carolinensis*)	Rare	The species is found in east Texas pine forests and agricultural fields. The Survey Area contains low quality forests containing primarily non-native species that do not provide suitable habitat.	No Impacts Anticipated
Thirteen-lined Ground Squirrel (*Ictidomys tridecemlineatus*)	Rare	This species prefers short grass prairies with deep soils for burrowing. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Tricolored bat (*Perimyotis subflavus*)	Rare	The species is found in forests, bottomland hardwoods, and caves. The Survey Area contains low quality forests containing primarily non-native species which could potentially serve as suitable habitat for this species.	May Impact
Woodland Vole (*Microtus pinetorum*)	Rare	This species inhabits areas including grassy marshes, swamp edges, pine woodlands and	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		tallgrass prairies. No suitable habitat is present within the Survey Area.	
Mollusks			
Brazos Heelsplitter (*Potamilus streckersoni*)	Threatened	This species inhabits perennial streams with running water. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Fawnsfoot (*Truncilla macrodon*)	Threatened	This species is found in large rivers to medium sized streams in near shore areas such as banks and backwaters. It prefers substrates of mud, sandy mud, gravel and cobble. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Reptiles			
Eastern box turtle (*Terrapene carolina*)	Rare	The species prefer forests, fields, and scrub shrub habitats. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated
Massassauga (*Sistrurus tergeminus*)	Rare	This species is found in shortgrass prairies with gravel or sandy soils. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Slender glass lizard (*Ophisaurus attenuatus*)	Rare	The species prefers open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields and areas near streams and ponds often with sandy soils. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
Smooth softshell (*Apalone mutica*)	Rare	The species prefers large rivers and streams also found in lakes and impoundments. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas horned lizard (*Phrynosoma cornutum*)	Threatened	The species prefers open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush, or scrubby trees. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Timber (canebrake) rattlesnake (*Crotalus horridus*)	Threatened	The species is found in swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland and limestone bluffs. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated
Western box turtle (*Terrapene ornata*)	Rare	The species is found in prairie grasslands, pasture, fields, sandhills, and open woodlands. The Survey Area does not contain suitable habitat for this species.	No Impacts Anticipated
Western Hognose Snake (*Heterodon nasicus*)	Rare	This species prefers shortgrass or mixed grass prairie with gravel or sandy soils. No suitable habitat is present within the Survey Area	No Impacts Anticipated
Plants			
Branched Gay-Feather (*Liatris cymose*)	Rare	This species is found in barren grasslands openings within post oak woodlands containing clayey soils. EO data shows that the species is known to exist along Highway 60 near the Project and has been identified as recently as 2016.	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		However, suitable habitat is not present within the Survey Area.	
Bristle Nailwort (*Paronychia setacea*)	Rare	This species is found in areas containing sandy soils. The Survey Area is highly disturbed and does not contain suitable habitat for this species.	No Impacts Anticipated
Florida Pinkroot (*Spigelia texana*)	Rare	This species is found in woodlands containing loamy soils. Suitable habitat is not present within the Survey Area.	No Impacts Anticipated
Navasota Ladies'-Tresses (*Spiranthes parksii*)	Endangered	This species is found in post oak savannahs containing sandy loam soils. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Oklahoma Grass Pink (*Calopogon oklahomensis*)	Rare	This species is found in mesic, acidic, sandy to loamy prairies, pine savannas, oak woodlands, edges of bogs, and frequently mowed meadows. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Small-Headed Pipewort (*Thalictrum texanum*)	Threatened	This species is found in post oak woodlands and xeric sandhill openings containing permanently wet acid soils on hillside seepages. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Meadow-rue (*Thalictrum texanum*)	Rare	This species is found in woodlands and woodland margins on soils with a surface layer of sandy loam, and also within prairie pimple mounds. All soils encountered within the Survey Area were	No Impacts Anticipated

Species Name	State Status	Habitat Requirements	Anticipated Project Impacts
		documented as clayey textures. No suitable habitat is present within the Survey Area.	
Texas Sandmint (*Rhodon ciliates*)	Rare	This species is found in post oak savannas. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Sunnybell (*Schoenolirion wrightii*)	Rare	This species is found in rocky barrens within post oak savannahs. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Texas Windmill Grass (*Chloris texensis*)	Rare	This species is found in sandy to sandy loam soils in relatively bare areas within coastal prairie grasslands. No suitable habitat is present within the Survey Area.	No Impacts Anticipated
Tree Dodder (*Cuscuta exaltata*)	Rare	This parasitic species if found on various tree species including *Quercus, Juglans, Rhus, Vitis, Ulmus,* and *Diospyros*. No trees were observed within the Survey Area which are required as habitat for this species.	No Impacts Anticipated

3.3 Historical Land Use and Modifications

The site has historically been used as a sand and gravel pit, as seen using aerial imagery. The northern portion of the Survey Area is at a much lower elevation as a result of its past land use, which allows the low-lying areas to hold water year-round. Standing water is present throughout this area because crushed concrete has been used as inert general fill to build access roads used by industrial equipment.

4.0 CONCLUSION

Golder's evaluation of TPWD's state listed rare, threatened, and endangered species identified a total of 65 species listed for Brazos County. Golder determined that based off the heavy disturbance and current land use, suitable habitat is present for only seven of the state listed species within the Survey Area. No suitable habitat was identified within the Survey Area for the remaining 58 species. Additionally, the EO data revealed four species have been identified within 1-mile of the Project. However, no suitable habitat is present within the Survey Area for the four species. Based on the disturbance of the Survey Area, significant impacts on state listed Rare, Threatened, and Endangered species from the Project are not anticipated.

Golder's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Discrepancies may arise between current and future evaluation of wetlands at the Project due to changes in land use, vegetation, and/or hydrology. No warranties, implied or expressed, are made.

5.0 REFERENCES

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Signature Page

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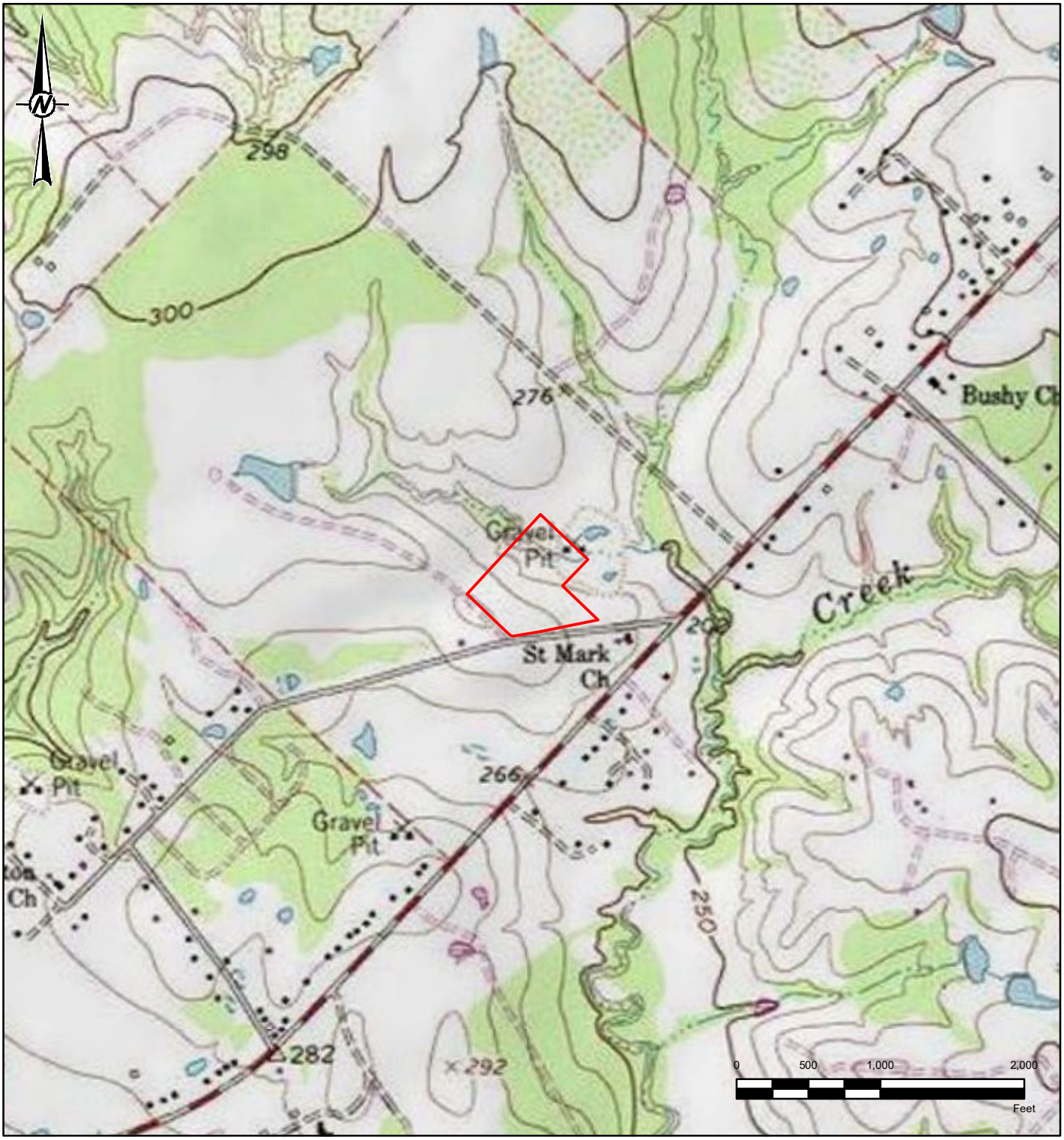
Staff Biologist

Ashley Thompson
Project Biologist

https://golderassociates.sharepoint.com/sites/140057/project files/5 technical work/bio surveys/report/tpwd/state listed species assessment.docx



LEGEND

Survey Area

REFERENCE(S)
1. SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS SOUTH CENTRAL FIPS 4204 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
PROJECT OVERVIEW MAP

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A001	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\08 PROJECTS\20442070\A General\GIS\Support\02 PRODUCTION\MXD\20442070 A001 Project Overview.mxd

LEGEND

SURVEY AREA

0 75 150 300

FEET

CLIENT

BRAZOS VALLEY RECYCLING

PROJECT

BVR TYPE V REGISTRATION PROJECT

TITLE

WETLAND MAP

REFERENCE(S)

1. PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CONSULTANT

GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A002	0	**2B**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

PATH: G:\Projects\Brazos Valley Recycling\09 PROJECTS\20442070\A GeneralGISSupport\02 PRODUCTION\MXD\20442070 A002 Wetland Map.mxd

LEGEND

- SOIL STATIONS
- SURVEY

REFERENCE(S)

1. SOIL STATIONS, PONDS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020.
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
WETLAND AND SOIL STATIONS MAP

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A003	0	**2B**

PATH: G:\Projects\Brazos Valley Recycling\09 PROJECTS\20442070\A General\GISSupport\02 PRODUCTION\MXD\20442070 A003 Wetland SoilStation Map.mxd

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

1 in

0

LEGEND
- SOIL STATIONS
- SURVEY AREA

NATIONAL WETLANDS INVENTORY DATA
- RIVERINE

NRCS SOILS
- CHC: CHAZOS LOAMY FINE SAND, 1 TO 5 PERCENT SLOPES
- DUC: DUTEK LOAMY FINE SAND, 3 TO 8 PERCENT SLOPES
- ROB: ROBCO-TANGLEWOOD COMPLEX, 1 TO 5 PERCENT SLOPES
- SMC: SILAWA FINE SANDY LOAM, 2 TO 5 PERCENT SLOPES
- SMD: SILAWA FINE SANDY LOAM, 5 TO 8 PERCENT SLOPES
- TAA: TABOR FINE SANDY LOAM, 0 TO 2 PERCENT SLOPES
- UH: UHLAND LOAM, FREQUENTLY FLOODED

REFERENCE(S)
1. PONDS, SOIL STATIONS, SURVEY AREA, GOLDER ASSOCIATES, INC., 2020-21
2. SERVICE LAYER CREDITS: SOURCE: ESRI, MAXAR, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

COORDINATE SYSTEM: NAD 1983 STATEPLANE TEXAS CENTRAL FIPS 4203 FEET
PROJECTION: LAMBERT CONFORMAL CONIC
DATUM: NORTH AMERICAN 1983

CLIENT
BRAZOS VALLEY RECYCLING

PROJECT
BVR TYPE V REGISTRATION PROJECT

TITLE
DESKTOP ANALYSIS

CONSULTANT
GOLDER

YYYY-MM-DD	2021-05-25
DESIGNED	JGW
PREPARED	JGW
REVIEWED	KB
APPROVED	JMT

PROJECT NO.	CONTROL	REV.	FIGURE
20442070	A004	0	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

PATH: G:\Projects\Brazos Valley Recycling\99 PROJECTS\20442070\A GeneralGISSupport\02 PRODUCTION\MXD\20442070 A004 Desktop Analysis.mxd

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 5 **Feature:** UP002_NW **Date:** January 29, 2021 **Comments:** Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.	
Photograph Number: 6 **Feature:** UP002 **Date:** January 29, 2021 **Comments:** Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.	

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 9

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing northeast. Crushed concrete covers the ground surface in this area.

Photograph Number: 10

Feature: UP004

Date: January 29, 2021

Comments: Photo of upland facing southwest. Crushed concrete covers the ground surface in this area.

Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 11

Feature: UP005_N

Date: January 29, 2021

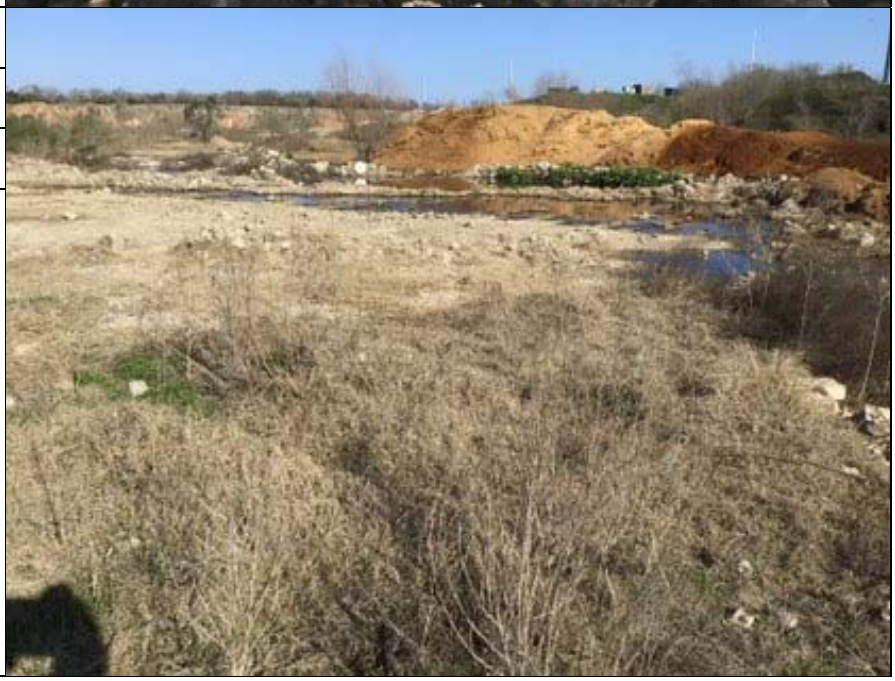
Comments: Photo of upland facing north. Crushed concrete covers the ground surface in this area.

Photograph Number: 12

Feature: UP005_S

Date: January 29, 2021

Comments: Photo of upland facing south. Crushed concrete covers the ground surface in this area.



Brazos Valley Recycling	Location: Brazos County
BVR Type V Registration Project	Project Number: 20442070

Photograph Number: 13

Feature: UP006

Date: January 29, 2021

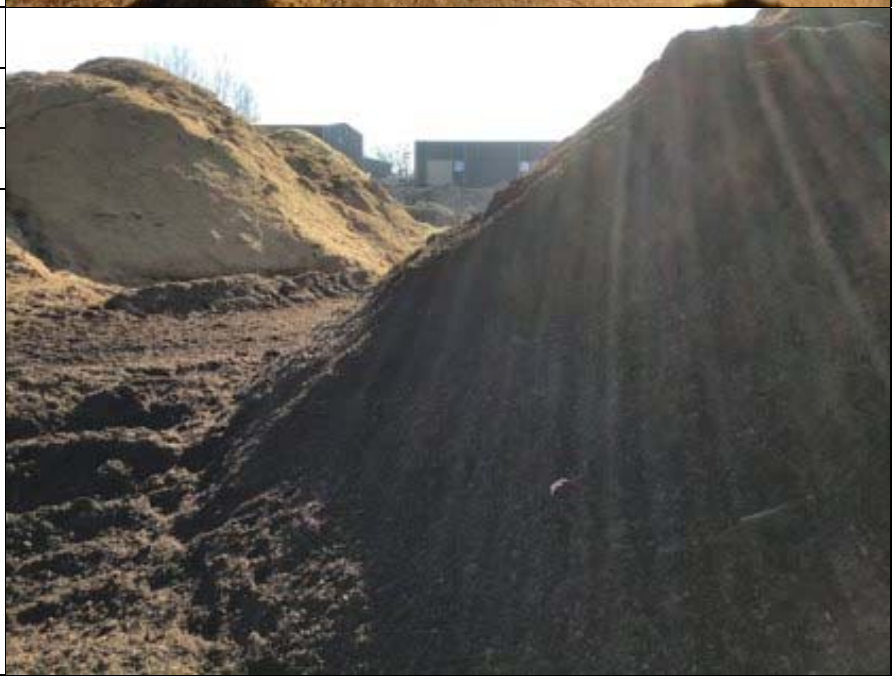
Comments: Photo of upland facing northwest. Piles of horse manure used to make fertilizer are shown.

Photograph Number: 14

Feature: UP006

Date: January 29, 2021

Comments: Photo of upland facing southeast. Piles of horse manure used to make fertilizer are shown.



WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP002

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572930 **Long.:** -96.404681 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: -?-

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Concrete

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is heavily disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present?	Yes ○	No ◉	Depth (inches):	
Water Table Present?	Yes ○	No ◉	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes ○	No ◉	Depth (inches):	

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is heavily disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP004**

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.573178 **Long.:** -96.405508 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	54.5%	FACU
2. Baccharis halimifolia	15	☑	27.3%	FAC
3. Trifolium campestre	10	☐	18.2%	UPL
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	55	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	15	x 3 =	45	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	55	(A)	215	(B)

Prevalence Index = B/A = 3.909

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
Area is disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP004

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR	3/2	100					Sandy Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 4

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** **UP005**

Investigator(s): Kyle Brewer **Section, Township, Range:** **S** N/A **T** N/A **R** N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572648 **Long.:** -96.405224 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region: GP

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15')				
1.	0	☐		
2.	0	☐		
3.	0	☐		
4.	0	☐		
5.	0	☐		
	0	= Total Cover		
Herb Stratum (Plot size: 5')				
1. Cynodon dactylon	30	☑	75.0%	FACU
2. Trifolium campestre	10	☑	25.0%	UPL
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30')				
1.	0	☐		
2.	0	☐		
	0	= Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	30	x 4 =	120	
UPL species	10	x 5 =	50	
Column Totals:	40	(A)	170	(B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP005

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox depressions (F8)
- ☐ High Plains Depressions (F16) **(MLRA 72 and 73 of LRR H)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR I, J)
- ☐ Coastal Prairie Redox (A16) (LRR F, G, H)
- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: Rock

Depth (inches): 0

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
- ☐ Presence of Reduced Iron (C4)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where tilled)**
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Brazos Valley Recycling **City/County:** Brazos County **Sampling Date:** 29-Jan-21

Applicant/Owner: Brazos Valley Recycling **State:** TX **Sampling Point:** UP006

Investigator(s): Kyle Brewer **Section, Township, Range:** S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 0.0% / 0.0 °

Subregion (LRR): LRR J **Lat.:** 30.572495 **Long.:** -96.404430 **Datum:** NAD 83

Soil Map Unit Name: Silawa fine sandy loam, 5 to 8 percent slopes (SmD) **NWI classification:** None

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ **(If no, explain in Remarks.)**

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ◉ No ○

Are Vegetation ☐ **, Soil** ☐ **, or Hydrology** ☐ **naturally problematic?** **(If needed, explain any answers in Remarks.)**

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ○	No ◉	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○	No ◉	
Wetland Hydrology Present?	Yes ○	No ◉	

Remarks:
This area is heavily disturbed. Hydrophytic vegetation, hydric soil, and wetland hydrology are not present. This area is not a wetland.

VEGETATION - Use scientific names of plants

FWS Region:

	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.	0	☐	
2.	0	☐	
3.	0	☐	
4.	0	☐	
5.	0	☐	
6.	0	☐	
7.	0	☐	
8.	0	☐	
9.	0	☐	
10.	0	☐	
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.	0	☐	
2.	0	☐	
	0	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0	
FACW species	0	x 2 =	0	
FAC species	0	x 3 =	0	
FACU species	0	x 4 =	0	
UPL species	0	x 5 =	0	
Column Totals:	0	(A)	0	(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☐ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

[1] **Indicators of hydric soil and wetland hydrology must be present.**

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks:
No vegetation is present. This area is heavily disturbed.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Soil

Sampling Point: UP006

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR	3/2	100					Sandy Clay Loam	Mixed soils

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains [2]Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR F)
- ☐ 1 cm Muck (A9) (LRR F,G,H)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)
- ☐ 5 cm Mucky Peat or Peat (S3) (LRR F)
- ☐ Sandy Gleyed Matrix S4
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
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- ☐ Dark Surface (S7) (LRR G)
- ☐ High Plains Depressions (F16) **(LRR H outside of MLRA 72 and 73)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

Area is disturbed.

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
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- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Dry Season Water Table (C2)
- ☐ Oxidized Rhizospheres on Living Roots (C3) **(where not tilled)**
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Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
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- ☐ Geomorphic Position (D2)
- ☐ FAC-neutral Test (D5)
- ☐ Frost Heave Hummocks (D7) (LRR F)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Area is disturbed.

Last Update: 8/25/2020

BRAZOS COUNTY

AMPHIBIANS

cajun chorus frog *Pseudacris fouquettei*

Aquatic and terrestrial: Habitats of this ground-dwelling frog are diverse and include forests, fields, swamps, marshes, irrigation ditches, and temporarily flooded areas (Bartlett and Bartlett 1999, Lemmon et al. 2008). Eggs are laid in small clusters that adhere to submerged vegetationin shallow temporary pools, ditches, and flooded areas where emergent vegetation or a grassy margin is present (Dundee and Rossman 1989).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

Houston toad *Anaxyrus houstonensis*

Terrestrial and aquatic: Primary terrestrial habitat is forests with deep sandy soils. Juveniles and adults are presumed to move through areas of less suitable soils using riparian corridors. Aquatic habitats can include any water body from a tire rut to a large lake.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

southern crawfish frog *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestial habitat is primarily grassland and can vary from pasture to intact prairie; it can also include small prairies in the middle of large forested areas. Aquatic habitat is any body of water but preferred habitat is ephemeral wetlands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4T4	State Rank: S3

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

Woodhouse's toad *Anaxyrus woodhousii*

Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: SU

BIRDS

bald eagle *Haliaeetus leucocephalus*

Found primarily near rivers and large lakes; nests in tall trees or on cliffs near water; communally roosts, especially in winter; hunts live prey, scavenges, and pirates food from other birds

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3B,S3N

BRAZOS COUNTY

BIRDS

Black Rail *Laterallus jamaicensis*

Salt, brackish, and freshwater marshes, pond borders, wet meadows, and grassy swamps; nests in or along edge of marsh, sometimes on damp ground, but usually on mat of previous years dead grasses; nest usually hidden in marsh grass or at base of Salicornia

Federal Status: PT | State Status: T | SGCN: Y
Endemic: N | Global Rank: G3G4 | State Rank: S2

Franklin's gull *Leucophaeus pipixcan*

This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status: | State Status: | SGCN: Y
Endemic: N | Global Rank: G5 | State Rank: S2N

interior least tern *Sternula antillarum athalassos*

Sand beaches, flats, bays, inlets, lagoons, islands. Subspecies is listed only when inland (more than 50 miles from a coastline); nests along sand and gravel bars within braided streams, rivers; also know to nest on man-made structures (inland beaches, wastewater treatment plants, gravel mines, etc); eats small fish and crustaceans, when breeding forages within a few hundred feet of colony

Federal Status: LE | State Status: E | SGCN: Y
Endemic: N | Global Rank: G4T3Q | State Rank: S1B

piping plover *Charadrius melodus*

Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT | State Status: T | SGCN: Y
Endemic: N | Global Rank: G3 | State Rank: S2N

Rufa Red Knot *Calidris canutus rufa*

Red knots migrate long distances in flocks northward through the contiguous United States mainly April-June, southward July-October. A small plump-bodied, short-necked shorebird that in breeding plumage, typically held from May through August, is a distinctive and unique pottery orange color. Its bill is dark, straight and, relative to other shorebirds, short-to-medium in length. After molting in late summer, this species is in a drab gray-and-white non-breeding plumage, typically held from September through April. In the non-breeding plumage, the knot might be confused with the omnipresent Sanderling. During this plumage, look for the knot’s prominent pale eyebrow and whitish flanks with dark barring. The Red Knot prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters. Primary prey items include coquina clam (Donax spp.) on beaches and dwarf surf clam (Mulinia lateralis) in bays, at least in the Laguna Madre. Wintering Range includes- Aransas, Brazoria, Calhoun, Cameron, Chambers, Galveston, Jefferson, Kennedy, Kleberg, Matagorda, Nueces, San Patricio, and Willacy. Habitat: Primarily seacoasts on tidal flats and beaches, herbaceous wetland, and Tidal flat/shore.

Federal Status: LT | State Status: T | SGCN: Y

BRAZOS COUNTY

BIRDS

Endemic: N | Global Rank: G4T2 | State Rank: S2N

swallow-tailed kite *Elanoides forficatus*

Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees

Federal Status: | State Status: T | SGCN: Y

Endemic: N | Global Rank: G5 | State Rank: S2B

western burrowing owl *Athene cunicularia hypugaea*

Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows

Federal Status: | State Status: | SGCN: Y

Endemic: N | Global Rank: G4T4 | State Rank: S2

white-faced ibis *Plegadis chihi*

Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status: | State Status: T | SGCN: Y

Endemic: N | Global Rank: G5 | State Rank: S4B

whooping crane *Grus americana*

Small ponds, marshes, and flooded grain fields for both roosting and foraging. Potential migrant via plains throughout most of state to coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties.

Federal Status: LE | State Status: E | SGCN: Y

Endemic: N | Global Rank: G1 | State Rank: S1N

wood stork *Mycteria americana*

Prefers to nest in large tracts of baldcypress (Taxodium distichum) or red mangrove (Rhizophora mangle); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960

Federal Status: | State Status: T | SGCN: Y

Endemic: N | Global Rank: G4 | State Rank: SHB,S2N

FISH

alligator gar *Atractosteus spatula*

From the Red River to the Rio Grande (Hubbs et al. 2008); occurs in the Trinity River upstream of Lake Livingston. Found in rivers, streams, lakes, swamps, bayous, bays and estuaries typically in pools and backwater habitats. Floodplains inundated with flood waters provide spawning and nursery habitats.

Federal Status: | State Status: | SGCN: Y

Endemic: N | Global Rank: G3G4 | State Rank: S4

BRAZOS COUNTY

FISH

american eel *Anguilla rostrata*

Originally found in all river systems from the Red River to the Rio Grande. Aquatic habtiats include large rivers, streams, tributaries, coastal watersheds, estuaries, bays, and oceans. Spawns in Sargasso Sea, larva move to coastal waters, metamorphose, and begin upstream movements. Females tend to move further upstream than males (who are often found in brackish estuaries). American Eel are habitat generalists and may be found in a broad range of habitat conditions including slow- and fast-flowing waters over many substrate types. Extirpation in upstream drainages attributed to reservoirs that impede upstream migration.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S4

blackspot shiner *Notropis atrocaudalis*

Occurs from the lower Brazos River to the Sabine River drainage; Red River drainage. Small to moderate size tributary streams in runs and pools over all types of substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S3

chub shiner *Notropis potteri*

Brazos, Colorado, San Jacinto, and Trinity river basins. Flowing water with silt or sand substrate

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4 State Rank: S2

sharpnose shiner *Notropis oxyrhynchus*

Range is now restricted to upper Brazos River upstream of Possum Kingdom Lake. May be native to Red River and Colorado River basins. Typically found in turbid water over mostly silt and shifting sand substrates.

Federal Status: LE State Status: E SGCN: Y
Endemic: Y Global Rank: G3 State Rank: S1S2

silver chub *Macrhybopsis storeriana*

Red River and Brazos River basins. Mainly restricted to large, often silty rivers. Ranges over gravel to silt substrates but found more commonly over silt or mud bottom.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

silverband shiner *Notropis shumardi*

In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

smalleye shiner *Notropis buccula*

BRAZOS COUNTY

FISH

Endemic to the Brazos River drainage; presumed to have been introduced into the Colorado River. Historically found in lower Brazos River as far south as Hempstead, Texas but appears to now be restricted to upper Brazos River system upstream of Possum Kingdom Lake. Typically found in turbid waters of broad, sandy channels of main stream, over substrate consisting mostly of shifting sand.

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S1S2

western creek chubsucker *Erimyzon claviformis*

Eastern Texas streams from the Red River to the San Jacinto drainage. Habitat includes silt-, sand-, and gravel-bottomed pools of clear headwaters, creeks, and small rivers; often near vegetation; occasionally in lakes. Spawning occurs in river mouths or pools, riffles, lake outlets, or upstream creeks. Prefers headwaters, but seldom occurs in springs.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

INSECTS

a caddisfly *Neotrichia mobilensis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: S1?

American bumblebee *Bombus pensylvanicus*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G3G4	State Rank: SNR

Comanche harvester ant *Pogonomyrmex comanche*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2G3	State Rank: S2

No accepted common name *Bombus variabilis*

Habitat description is not available at this time.

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G1G2	State Rank: SNR

MAMMALS

American badger *Taxidea taxus*

Generalist. Prefers areas with soft soils that sustain ground squirrels for food. When inactive, occupies underground burrow. Young are born in underground burrows.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

BRAZOS COUNTY

MAMMALS

big brown bat *Eptesicus fuscus*

Any wooded areas or woodlands except south Texas. Riparian areas in west Texas.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

big free-tailed bat *Nyctinomops macrotis*

Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore

Federal Status:	State Status:	SGCN: Y
Endemic:	Global Rank: G5	State Rank: S3

eastern red bat *Lasiurus borealis*

Found in a variety of habitats in Texas. Usually associated with wooded areas. Found in towns especially during migration.

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat *Lasiurus cinereus*

Known from montane and riparian woodland in Trans-Pecos, forests and woods in east and central Texas.

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G3G4	State Rank: S4

long-tailed weasel *Mustela frenata*

Includes brushlands, fence rows, upland woods and bottomland hardwoods, forest edges & rocky desert scrub. Usually live close to water.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

Mexican free-tailed bat *Tadarida brasiliensis*

Roosts in buildings in east Texas. Largest maternity roosts are in limestone caves on the Edwards Plateau. Found in all habitats, forest to desert.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

mink *Neovison vison*

BRAZOS COUNTY

MAMMALS

Intimately associated with water; coastal swamps & marshes, wooded riparian zones, edges of lakes. Prefer floodplains.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

mountain lion *Puma concolor*

Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2S3

plains spotted skunk *Spilogale putorius interrupta*

Generalist; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie

Federal Status:	State Status:	SGCN: N
Endemic: N	Global Rank: G4T4	State Rank: S1S3

southern short-tailed shrew *Blarina carolinensis*

Found in East Texas pine forests and agricultural land. May favor areas with abundant leaf litter and fallen logs (Baumgardner et al. 1992). Nest sites are probably under logs, stumps and other debris.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

thirteen-lined ground squirrel *Ictidomys tridecemlineatus*

Prefers short grass prairies with deep soils for burrowing. Frequently found in grazed ranchland, mowed pastures, and golf courses.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S5

tricolored bat *Perimyotis subflavus*

Forest, woodland and riparian areas are important. Caves are very important to this species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2G3	State Rank: S3S4

woodland vole *Microtus pinetorum*

Include grassy marshes, swamp edges, old-field/pine woodland ecotones, tallgrass fields; generally sandy soils.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

BRAZOS COUNTY

MOLLUSKS

Brazos Heelsplitter *Potamilus streckersoni*

Habitat description is not available at this time.

Federal Status:	State Status: T	SGCN: N
Endemic: Y	Global Rank: GNR	State Rank: SNR

Texas Fawnsfoot *Truncilla macrodon*

Occurs in large rivers but may also be found in medium-sized streams. Is found in protected near shore areas such as banks and backwaters but also riffles and point bar habitats with low to moderate water velocities. Typically occurs in substrates of mud, sandy mud, gravel and cobble. Considered intolerant of reservoirs (Randklev et al. 2010; Howells 2010o; Randklev et al. 2014b,c; Randklev et al. 2017a,b). [Mussels of Texas 2019]

Federal Status: C	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S2

REPTILES

eastern box turtle *Terrapene carolina*

Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enters pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

massasauga *Sistrurus tergeminus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3S4

slender glass lizard *Ophisaurus attenuatus*

Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

smooth softshell *Apalone mutica*

Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

BRAZOS COUNTY

REPTILES

Texas horned lizard *Phrynosoma cornutum*

Terrestrial: Open habitats with sparse vegetation, including grass, prairie, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive. Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4G5	State Rank: S3

timber (canebrake) rattlesnake *Crotalus horridus*

Terrestrial: Swamps, floodplains, upland pine and deciduous woodland, riparian zones, abandoned farmland. Limestone bluffs, sandy soil or black clay. Prefers dense ground cover, i.e. grapevines, palmetto.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S4

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box trutles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

western hognose snake *Heterodon nasicus*

Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

PLANTS

branched gay-feather *Liatris cymosa*

Somewhat barren grassland openings in post oak woodlands on tight clayey, chalky, or gravelly soils, often over Catahoula Formation; flowering July-October

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

bristle nailwort *Paronychia setacea*

Flowering vascular plant endemic to eastern southcentral Texas, occurring in sandy soils

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S2

BRAZOS COUNTY

PLANTS

Florida pinkroot *Spigelia texana*

Woodlands on loamy soils; Perennial; Flowering March-Nov; Fruiting April-Nov

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Navasota ladies'-tresses *Spiranthes parksii*

Openings in post oak woodlands in sandy loams along upland drainages or intermittent streams, often in areas with suitable hydrologic factors, such as a perched water table associated with the underlying claypan; flowering populations fluctuate widely from year to year, an individual plant does not flower every year; flowering late October-early November (-early December)

Federal Status: LE	State Status: E	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

Oklahoma grass pink *Calopogon oklahomensis*

Mesic, acidic, sandy to loamy prairies, pine savannas, oak woodlands, edges of bogs, and frequently mowed meadows (Goldman, Magrath & Catling 2002). Flowering March-July.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1S2

small-headed pipewort *Eriocaulon koernickianum*

In East Texas, post-oak woodlands and xeric sandhill openings on permanently wet acid sands of upland seeps and hillside seepage bogs, usually in patches of bare sand rather than among dense vegetation or on muck; in Gillespie County, on permanently wet or moist hillside seep on decomposing granite gravel and sand among granite outcrops; flowering/fruiting late May-late June

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2	State Rank: S1S2

Texas meadow-rue *Thalictrum texanum*

Mostly found in woodlands and woodland margins on soils with a surface layer of sandy loam, but it also occurs on prairie pimple mounds; both on uplands and creek terraces, but perhaps most common on claypan savannas; soils are very moist during its active growing season; flowering/fruiting (January-)February-May, withering by midsummer, foliage reappears in late fall(November) and may persist through the winter

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2Q	State Rank: S2

Texas sandmint *Rhododon ciliatus*

Open sandy areas in the Post Oak Belt of east-central Texas; Annual; Flowering April-Aug; Fruiting May-Aug

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G3	State Rank: S3

BRAZOS COUNTY

PLANTS

Texas sunnybell *Schoenolirion wrightii*

Rocky barrens in the Post Oak region near College Station, with a few disjunct populations on the Catahoula Formation of southeast Texas; Perennial; Flowering March-April; Fruiting March

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Texas windmill grass *Chloris texensis*

Sandy to sandy loam soils in relatively bare areas in coastal prairie grassland remnants, often on roadsides where regular mowing may mimic natural prairie fire regimes; flowering in fall

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

tree dodder *Cuscuta exaltata*

Parasitic on various Quercus, Juglans, Rhus, Vitis, Ulmus, and Diospyros species as well as Acacia berlandieri and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

golder.com

Attachment IIF
Brazos Valley Council of Government (BVCOG) Correspondence

September 19, 2024

Candilyn McLean
Program Manager, Solid Waste Program
Brazos Valley Council of Governments
P.O. Drawer 4128
Bryan, Texas 77805-4128

Re: Brazos Valley Council of Governments Location Restrictions Review
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

Dear Ms. McLean:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, Brazos County, Texas. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**. **Attachment 1** is a project summary and site location maps.

In order to comply with the current Texas Administrative Code 30 TAC §330.61(p), we are requesting a review from the Brazos Valley Council of Governments' (BVCOG) for the development of the Facility and a subsequent rendering from BVCOG that the development is consistent with regional plans, policies and review criteria.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps

4759.0001H000

ATTACHMENT 1

Attachment 1
Project Summary

1. Introduction

Brannon Industrial Group, LLC (“BIG”) is preparing a Registration Application (RA) to be submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division for an operation of the BVR Waste and Recycling Transfer Station (“Facility” or “Site”), a Type V Transfer Station. The Facility is located with the extraterritorial jurisdiction of City of College Station, Brazos County, Texas.

BVR Waste and Recycling Transfer Station occupies 4.419 acres of a 10-acre tract owned by BIG. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

2. Facility Location

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

The Facility is located on the property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

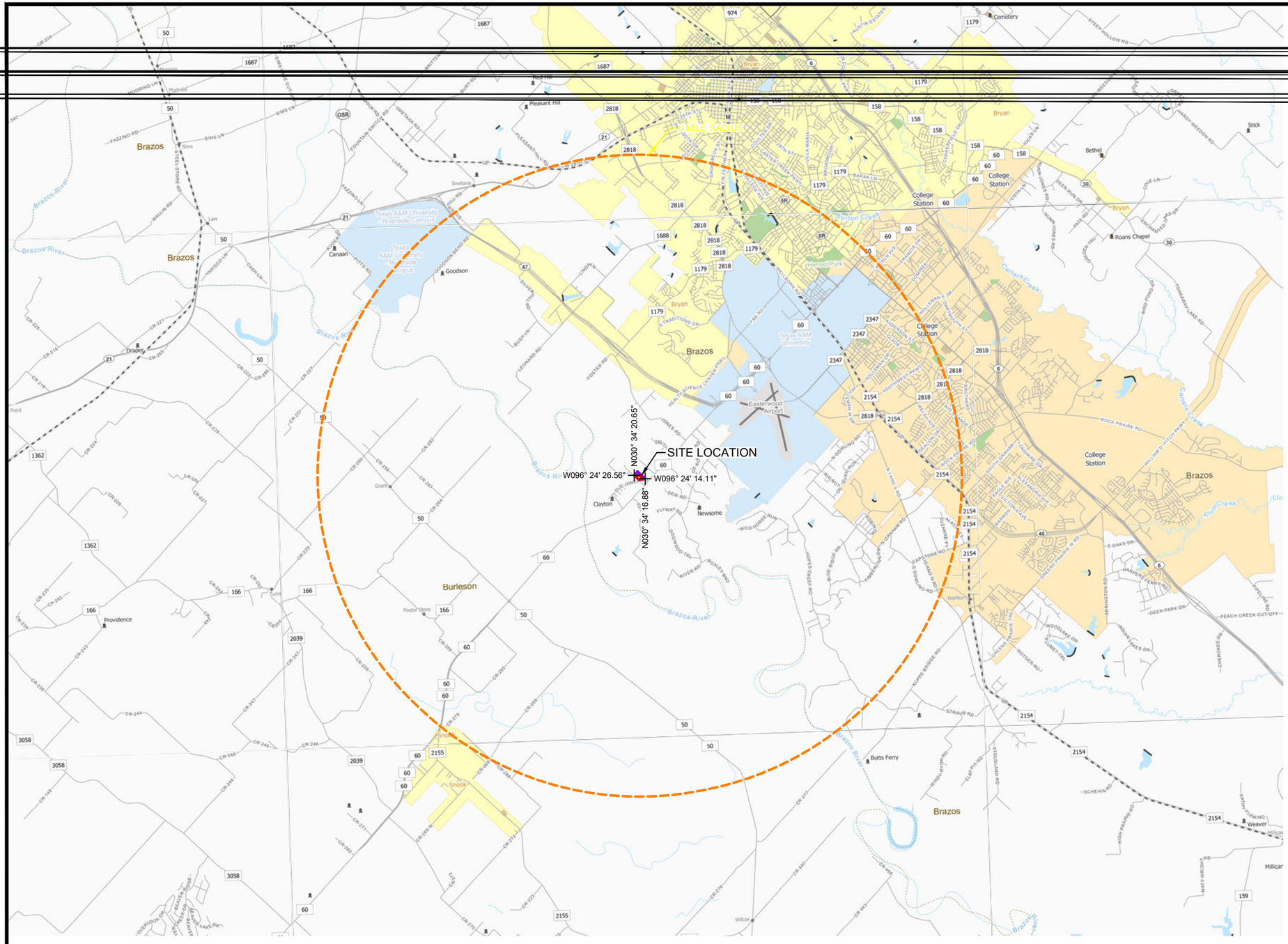
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
84557
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

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Title:
GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG		

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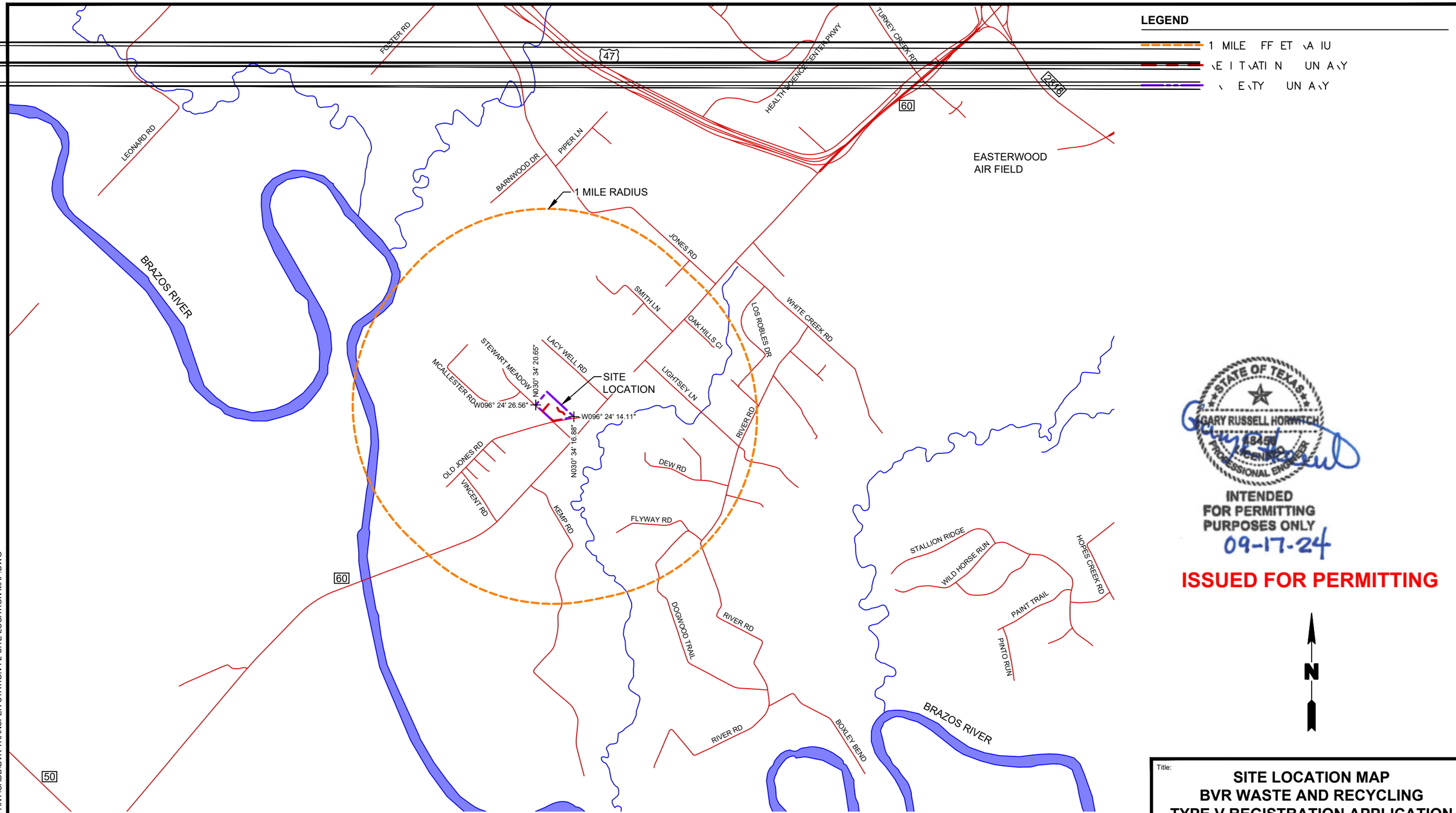

STATE OF TEXAS
GARY RUSSELL HORWITCH
84458
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REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

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Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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STATE OF TEXAS
GARY RUSSELL HORWITCH
118456
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PROFESSIONAL ENGINEER

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09-17-24

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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

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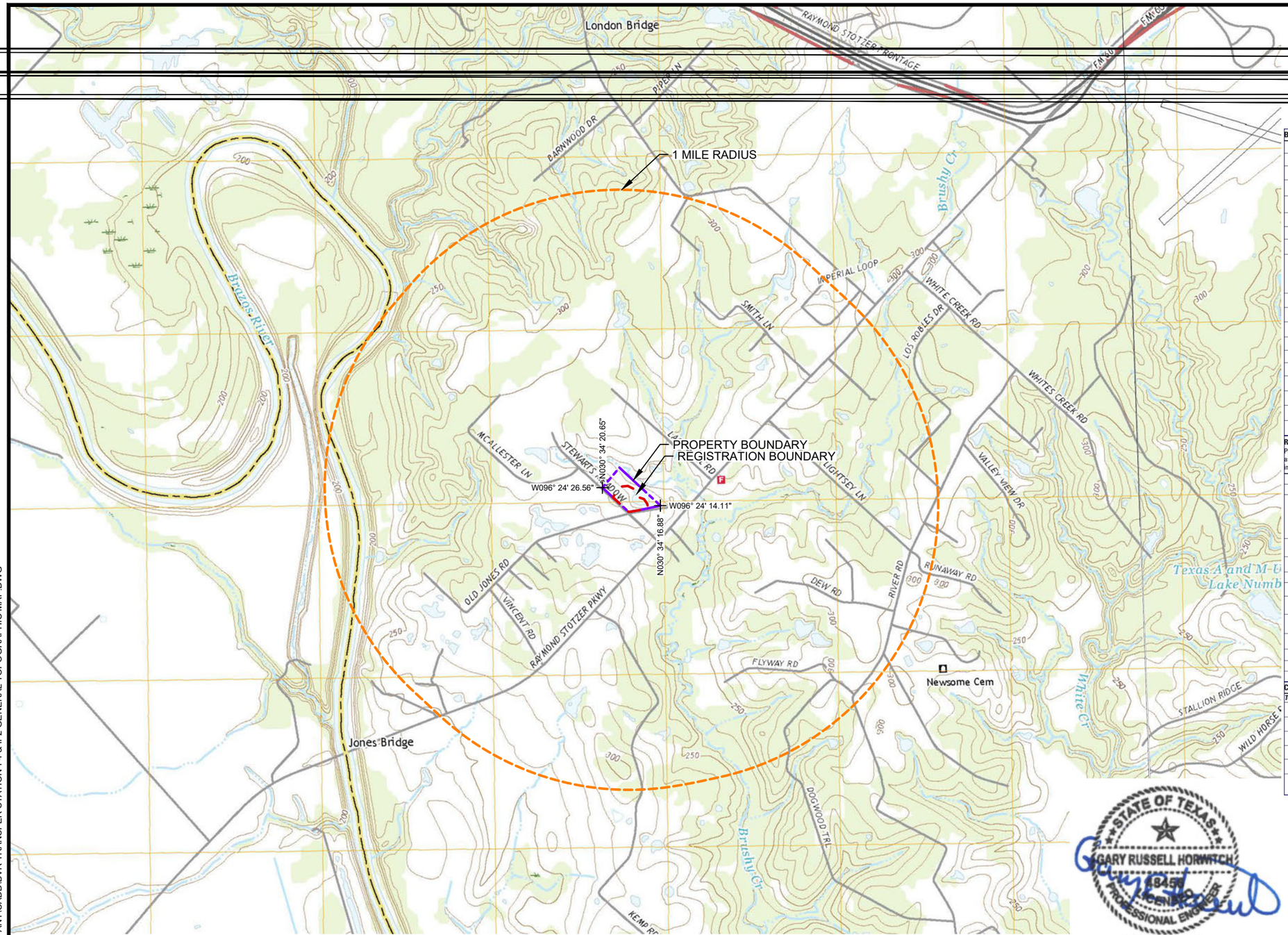

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ▭ 9134 BM △ 277)
- Third-order or better elevation, recoverable mark, no tablet (▭ 5628)
- With number and elevation (67 ▭ 4567)

Horizontal control

- Third-order or better, permanent mark (△ Neace Neace)
- With third-order or better elevation (BM △ 62 Pike BM393)
- With checked spot elevation (△ 1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (69)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

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STATE OF TEXAS
GARY RUSSELL HORWITCH
84558
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	I-4
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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Attachment IIG
TPDES Stormwater General Permit

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Texas Pollutant Discharge Elimination System
Stormwater Multi-Sector General Permit

The Notice of Intent (NOI) for the facility listed below was received on July 13, 2023. The intent to discharge stormwater associated with industrial activity under the terms and conditions imposed by the Texas Pollutant Discharge Elimination System (TPDES) stormwater Multi-Sector General Permit (MSGP) TXR050000 is acknowledged. Your facility's unique TPDES MSGP stormwater authorization number is:

TXR05GD63

Coverage Effective: July 13, 2023
Sector: N Primary SIC code: 5093

TCEQ's stormwater MSGP requires certain stormwater pollution prevention and control measures, possible monitoring and reporting, and periodic inspections. Among the conditions and requirements of this permit, you must have prepared and implemented a stormwater pollution prevention plan (SWP3) that is tailored to your industrial site. As a facility authorized to discharge under the stormwater MSGP, all terms and conditions must be complied with to maintain coverage and avoid possible penalties.

Facility/Site Information:
RN105669931
Brazos Valley Recycling
8825 Stewarts Meadow
College Station, TX 77845
Brazos County

Operator:
CN603110115
Ccaa, L.L.C.
1555 Highway 36 N
Brenham, TX 77833

The MSGP and all authorizations expire on August 14, 2026, unless otherwise amended. If you have any questions related to your application, you may contact the Stormwater Processing Center by email at [redacted] or by telephone at (512) 239-3700. For technical issues, you may contact the stormwater technical staff by email at [redacted] or by telephone at (512) 239-4671. Also, you may obtain information on the TCEQ web site at https://www.tceq.texas.gov/goto/wq-dpa. A copy of this document should be kept with your SWP3.

Issued Date: July 13, 2023

FOR THE COMMISSION

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

July 13, 2023

Dear Applicant:

Re: TPDES Multi-Sector General Permit (MSGP, TXR050000)
Notice of Intent (NOI) Authorization

Your Notice of Intent (NOI) application for authorization under the general permit for discharge of stormwater associated with industrial activities has been received. Pursuant to authorization from the Executive Director of the Texas Commission on Environmental Quality (TCEQ), the Division Deputy Director of the Water Quality Division has issued the enclosed Certificate.

Please refer to the attached certificate for the authorization number that was assigned to your facility/site and the effective date. Please use this number to reference this facility/site for future communications with the TCEQ.

All authorizations that are active on September 1 of each year will be assessed an annual water quality fee. The billing statement will be mailed to the Operator in December/January and payment must be made within 30 days to avoid late fees. **It is the responsibility of the Operator to notify the TCEQ of any change in address supplied on the original NOI by submitting a Notice of Change (NOC).**

A Notice of Termination (NOT) must be submitted when permit coverage is no longer needed. **The NOT must be submitted to the TCEQ before September 1 to avoid the annual water quality fee assessment.**

All applications must be submitted online using TCEQ's ePermits (STEERS) system, unless the permittee requests and obtains an electronic reporting waiver.

For questions related to your application you may contact the Stormwater Processing Center by email at [redacted] or by telephone at (512) 239-3700. If you have any questions regarding coverage under the MSGP or other technical issues, you may contact the stormwater technical staff by email at [redacted] or by telephone at (512) 239-4671. Also, you may obtain information on the stormwater web site at https://www.tceq.texas.gov/permitting/stormwater. Permit and application status information can be found on the TCEQ web site at https://www.tceq.texas.gov/goto/wq-dpa.

Sincerely,

Robert Sadlier, Deputy Director

Water Quality Division

Attachment IIH
Federal Aviation Administration

Attachment IIH-1
Federal Aviation Administration Correspondence

September 19, 2024

Mr. Rob Lowe
Regional Administrator
Federal Aviation Administration
Southwest Region Headquarters, ASW-9
10101 Hillwood Pkwy.
Fort Worth, TX 76177
Main Phone: (817) 222-5009

Re: Airport Safety Certification
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

Dear Mr. Lowe:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

The Facility is located within the extraterritorial jurisdiction of the City of College Station, Brazos County, Texas. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**. **Figure II-9** is the Federal Aviation Administration (FAA) map that shows airports within six miles of the Facility. The nearest public use airport to the Facility is Easterwood Airport, located approximately 2.17 miles northeast of the proposed Facility. **Attachment 1** is a project summary and site location maps.

In order to comply with current Texas Administrative Code 30 TAC §330.545(b), we are submitting documentation of coordination with the FAA concerning airport location restriction with respect to the facility and notification of airports within 6 miles of a small airport or within 5 miles of a large commercial airport. We are requesting a letter from FAA indicating that the proposed Facility will not adversely affect airport safety in the vicinity of the Facility.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps

4759.0001H000

ATTACHMENT 1

Attachment 1
Project Summary

1. Introduction

Brannon Industrial Group, LLC (“BIG”) is preparing a Registration Application (RA) to be submitted to the Texas Commission on Environmental Quality (TCEQ) Waste Permits Division for an operation of the BVR Waste and Recycling Transfer Station (“Facility” or “Site”), a Type V Transfer Station. The Facility is located with the extraterritorial jurisdiction of City of College Station, Brazos County, Texas.

BVR Waste and Recycling Transfer Station occupies 4.419 acres of a 10-acre tract owned by BIG. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200, which receives non-putrescible solid waste, including construction and demolition debris and rubbish from municipal and commercial activities.

The waste will be sorted for recycle and reusable materials. The remaining unusable and non-recyclable materials will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. The Facility will accept waste from Brazos County and the counties included in the Brazos Valley Council of Governments (BVCOG).

2. Facility Location

The Facility is located within the extraterritorial jurisdiction of the City of College Station, north of the intersection of FM 60 (also known as Raymond Stotzer Parkway) and Old Jones Road on Stewarts Meadow. The Facility entrance is off of Old Jones Road, approximately 850-feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. Additionally, an aerial photograph showing the site is provided as **Figure I-3**, and the general topographic map is included as **Figure I-4**.

The Facility is located on the property that is owned and operated by BIG. The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

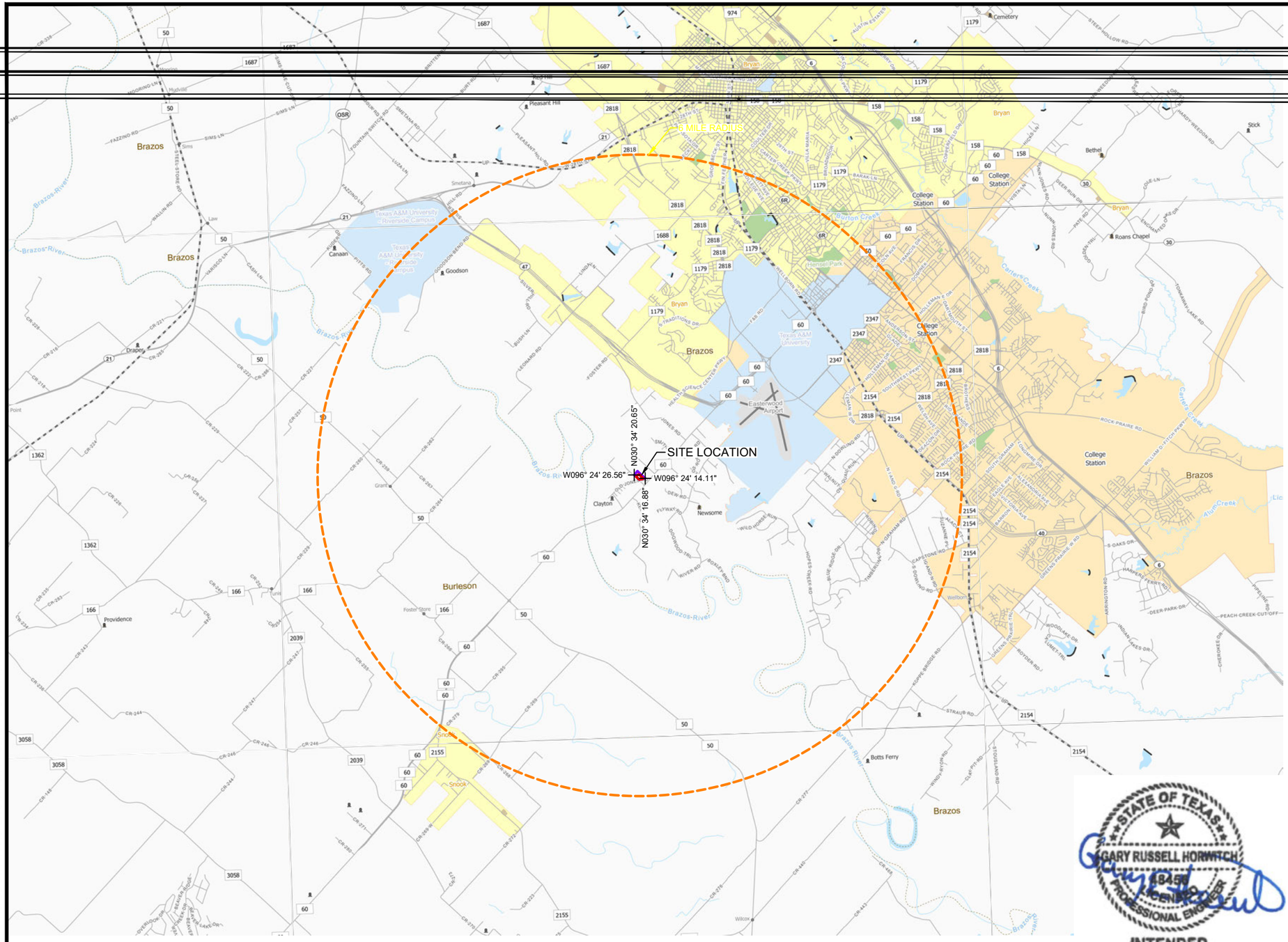
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

- ITE UN A Y FF ET A IU
- E I T ATI N UN A Y
- E TY UN A Y

COUNTY MAPBOOK 2018 LEGEND

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

ISSUED FOR PERMITTING

N

2 MILES 0 2 MILES

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

STATE OF TEXAS
GARY RUSSELL HORWITCH
68456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

Title:

GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

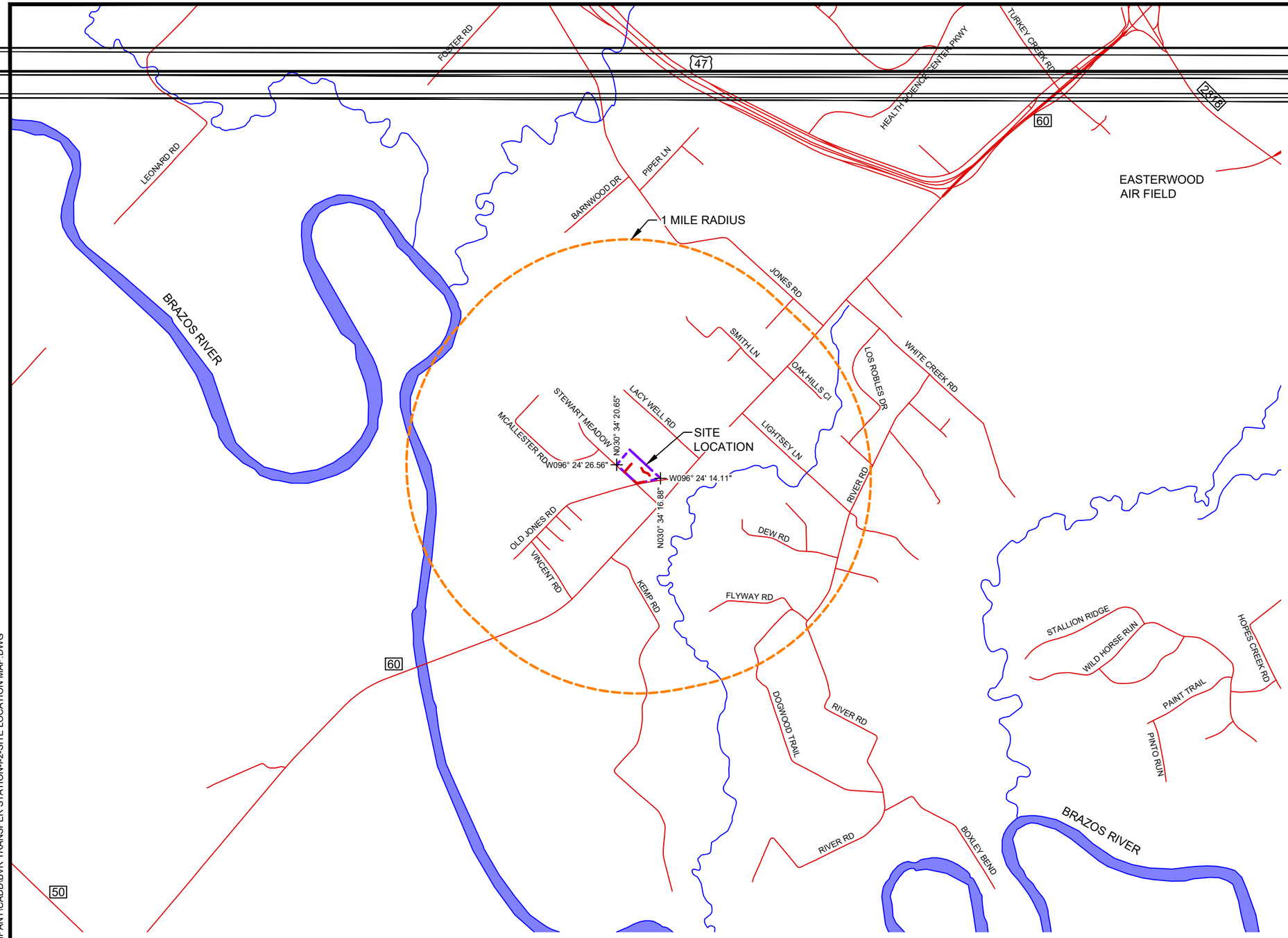
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



STATE OF TEXAS
GARY RUSSELL HORWITCH
68458
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG

LEGEND

- 1 MILE RADIUS
- REGISTRATION BOUNDARY
- PROPERTY BOUNDARY

GARY RUSSELL HORWITCH
68458
LICENSED
PROFESSIONAL ENGINEER
STATE OF TEXAS

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

N

2000' 0 2000'

Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

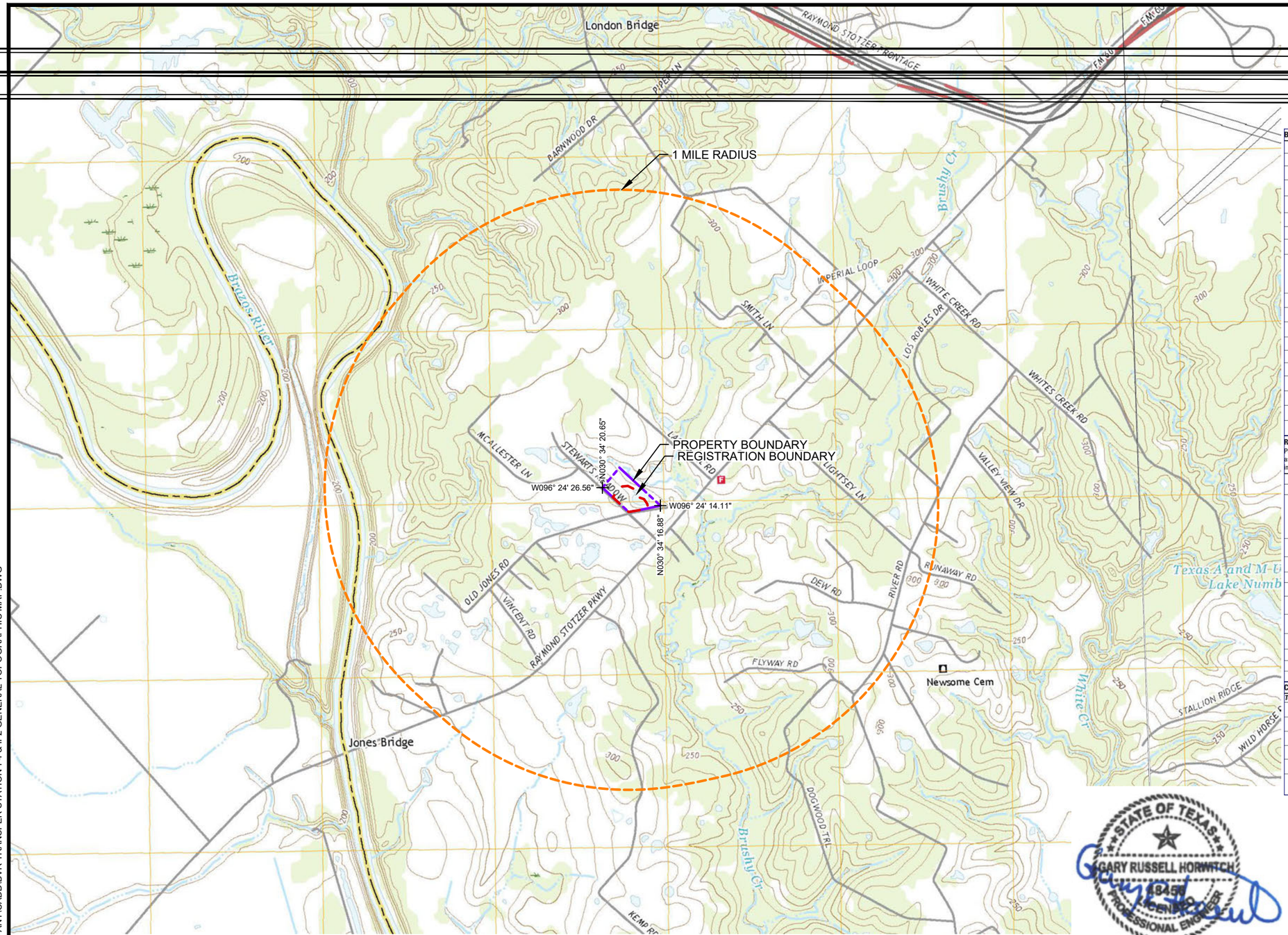
Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG



LEGEND

1 MILE FF ET \A IU

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ○ 9134 BM 277)
- Third-order or better elevation, recoverable mark, no tablet (5628)
- With number and elevation (67 5567)

Horizontal control

- Third-order or better, permanent mark (Neace Neace)
- With third-order or better elevation (BM 62 Pike BM393)
- With checked spot elevation (1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84458
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	I-4
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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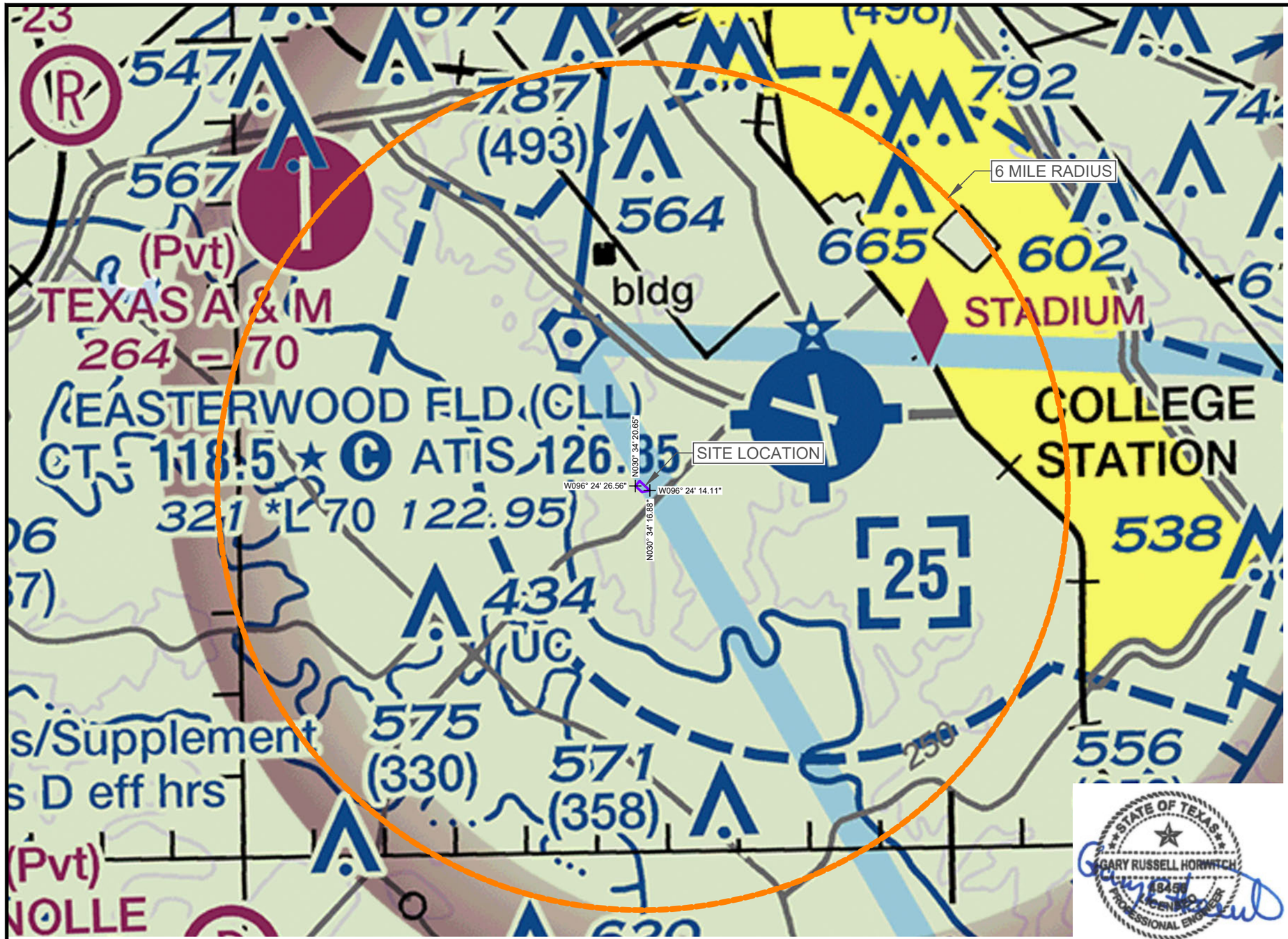

Airports having Control Towers are shown in Blue, all others in Magenta. Consult Chart Supplement for details involving airport lighting, navigation aids, and services. All times are local. For additional symbol information refer to the Chart User's Guide.

AIRPORTS

Other than hard-surfaced runways
Seaplane Base
Hard-surfaced runways 1500 ft. to 8069 ft. in length
Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.
Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, DME or VORTAC location.
All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.

ADDITIONAL AIRPORT INFORMATION

Private "(Pvt)" - Non-public use having landmark value
Military - Other than hard-surfaced; all military airports are identified by abbreviations AFB, NAS, AAF, etc.
Heliport Selected
Unverified
Abandoned - paved having landmark value, 3000 ft. or greater
Ultralight Flight Park Selected
Fuel availability indicated by use of tick marks around basic airport symbol. Consult Supplement for details and availability at airports with hard-surfaced runways greater than 8069 ft.
☆ Rotating airport beacon in operation Sunset to Sunrise
OBJECTIONABLE - Airport may adversely affect airspace use.

AIRPORT DATA

Box indicates FAR 93 Special Air Traffic Rules & Airport Traffic Patterns.
FSS — FAR 91
NO SVFR — Location Identifier
NAME (NAM) (PNAM) — ICAO Location Indicator
Runways with Right Traffic Patterns (public use) — CT - 118.3 ★ C ATIS 123.8
285 L 72 122.95
RP 23, 34 — shown outside contiguous U.S.
*RP Special conditions exist - see Supplement.
VFR Advsy 125.0 UNICOM
WX CAM — Weather Camera (AK)
FSS - Flight Service Station
AOE — Airport of Entry
NO SVFR - Fixed-wing special VFR flight is prohibited.
CT - 118.3 - Control Tower (CT) - primary frequency
★ - Star indicates operation part-time. See tower frequencies tabulation for hours of operation.
C - Follows the Common Traffic Advisory Frequency (CTAF)
ATIS 123.8 - Automatic Terminal Information Service
AFIS 135.2 - Automatic Flight Information Service (AK)
ASOS/AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS not available). Some ASOS/AWOS facilities may not be located at airports.
UNICOM - Aeronautical advisory station
VFR Advsy - VFR Advisory Service shown where full-time ATIS not available and frequency is other than primary CT frequency.
285 - Elevation in feet
L - Lighting in operation Sunset to Sunrise
*L - Lighting limitations exist; refer to Supplement.
72 - Length of longest runway in hundreds of feet; usable length may be less.
When information is lacking, the respective character is replaced by a dash. Lighting codes refer to runway edge lights and may not represent the longest runway or full length lighting.

AIRPORT TRAFFIC SERVICE AND AIRSPACE INFORMATION

Only the controlled and reserved airspace effective below 18,000 ft. MSL are shown.
Class B airspace
Class C Airspace (Mode C - see FAR 91.215/AIM.)
Class D Airspace
40 — Ceiling of Class D Airspace in hundreds of feet (A minus ceiling value indicates surface up to but not including that value.)
Class E (sfc) Airspace
CLASS G
Class E Airspace with floor 700 ft. above surface that laterally abuts Class G Airspace.
Class E Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E Airspace
Class E Airspace with floor 1200 ft. or greater above surface that laterally abuts Class G Airspace
2400 MSL / 4500 MSL — Differentiates floors of Class E Airspace greater than 700 ft. above surface.
Class E Airspace exists at 1200' AGL unless otherwise designated as shown above.
Class E Airspace low altitude Federal Airways and RNAV 2 Routes are indicated by center line. Intersection - Arrows are directed towards facilities which establish intersection.
132° — V 69 — 169 — Total mileage between NAVAIDs on direct Airways
T 319 — TK 313 (Helicopter Only) — RNAV Waypoint
Prohibited, Restricted, and Warning Areas
*Alert Area and Military Operations Area (MOA)
*Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas.
Special Airport Traffic Area (See FAR 93 for details.)
National Defense Airspace Temporary Flight Restriction Area
ADIZ - Air Defense Identification Zone
MODE C (See FAR 91.215/AIM.)
National Security Area
Terminal Radar Service Area (TRSA)
IR211 — MTR - Military Training Route

COMMUNICATION BOXES

122.1R 122.6 123.6 — OAKDALE A — 362* 378.6 OAK
Underline indicates no voice on frequency.
Crosshatch indicates Shutdown status.
★ - Operates less than continuous or On-Request.
A - ASOS/AWOS
122.6 — CHICAGO CHI
Heavy line box indicates Flight Service Station (FSS). Frequencies 122.2 and 255.4 (Conterminous U.S.) and 121.5, 122.2, 243.0 and 255.4 (Alaska) are available at many FSSs and are not shown above boxes. All other frequencies are shown.
R - Receive only
122.1R — MIAMI — FSS radio providing voice communication
Frequencies above thin line box are remoted to NAVAID site. Other FSS frequencies providing voice communication may be available as determined by altitude and terrain. Consult Supplement for complete information.

RADIO AIDS TO NAVIGATION

VHF OMNI RANGE (VOR)
VORTAC
VOR-DME
DME
Other facilities, i.e., FSS Outlet, RCO, WX CAM (AK) (see Supplement), etc.
Non-Directional Radio Beacon (NDB)
NDB - DME

OBSTRUCTIONS

1000 ft and higher AGL
Above 200 ft & below 1000 ft AGL (above 299 ft AGL in urban area)
Wind Turbine
Group Obstruction
Wind Turbine Farm
2894' UC — Elevation of the top above mean sea level
2049 (1149) UC — Height above ground — Under construction or reported; position and elevation unverified
Obstruction with high-intensity lights; may operate part-time
NOTICE: Guy wires may extend outward from structures.

MISCELLANEOUS

STADIUM — Intermittent TFR site (within 3 NM, up to & incl 3000' AGL)
Space Launch Activity Area
A - Aerobatic Practice Area (See Supplement.)
G - Glider Operations
H - Hang Glider Activity
U - Ultralight Activity
UA - Unmanned Aircraft Activity
Parachute Jumping Area (See Supplement.)
Marine Light
−1°E− Isogonic Line (2020 VALUE)
VPXYZ — VFR Waypoints
NAME (VPXYZ)

TOPOGRAPHIC INFORMATION

Power Transmission Line
Mountain Pass 11823 (Elevation of Pass)
Aerial Cable
Lookout Tower 618 (Elevation Base of Tower)
Pass symbol does not indicate a recommended route or direction of flight and pass elevation does not indicate a recommended clearance altitude. Hazardous flight conditions may exist within and near mountain passes.

STATE OF TEXAS
GARY RUSSELL HORWITCH
84458
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

N

8000' 0 8000'

REFERENCE(S)

1. HOUSTON SECTION AERONAUTICAL CHART TAKEN FROM FEDERAL AVIATION ADMINISTRATION (FAA), DATED 02-23-2023 DELIVERED IN FORMAT HTTP://WWW.FAA.GOV/AIR_TRAFFIC/FLIGHT_INFO/AERONAV/DIGITAL_PRODUCTS/VFR/

Title:
FAA MAP
BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-9
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-9-FAA MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-II-9-FAA MAP.DWG

Attachment IIH-2
Easterwood Airport Correspondence

ROUX

September 19, 2024

Easterwood Airport
1 Mckenzie Terminal Blvd, Suite 112
College Station, Texas 77845
Main Phone: (979) 775-9900

Re: Airport Safety Certification
BVR Waste and Recycling Transfer Station
Type V Municipal Solid Waste
Registration Application
Brannon Industrial Group, LLC
Brazos County, Texas

To Whom It May Concern:

Roux Associates, Inc. ("Roux"), on behalf of Brannon Industrial Group, LLC ("BIG"), is preparing a Registration Application ("RA") for the BVR Waste and Recycling Transfer Station ("Facility") Type V Municipal Solid Waste (MSW) for submittal to the Texas Commission on Environmental Quality (TCEQ) Permits Section, Waste Permits Division.

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In order to comply with current Texas solid waste regulation 30 TAC §330.545(b), we are submitting documentation of coordination with the FAA concerning airport location restriction with respect to the facility and notification of airports within 6 miles of a small airport or within 5 miles of a large commercial airport. Through submittal of this coordination letter, we are requesting a letter from Easterwood Airport indicating that the proposed Facility is compatible with the nearby public use airports.

If further information or documentation is required, please call the undersigned at (281) 397-3805 or via email at [redacted]

Sincerely,

ROUX ASSOCIATES, INC.

Annie Nguyen

Annie Nguyen, P.E.
Senior Engineer I

Gary Horwitch

Gary Horwitch, P.E.
Technical Director

Attachments: Attachment 1 – Project Summary and Site Location Maps

4759.0001H000

ATTACHMENT 1

Attachment 1
Project Summary

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BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group, LLC
8825 Stewarts Meadow
College Station, TX 77845

The geographic coordinates of the facility are:

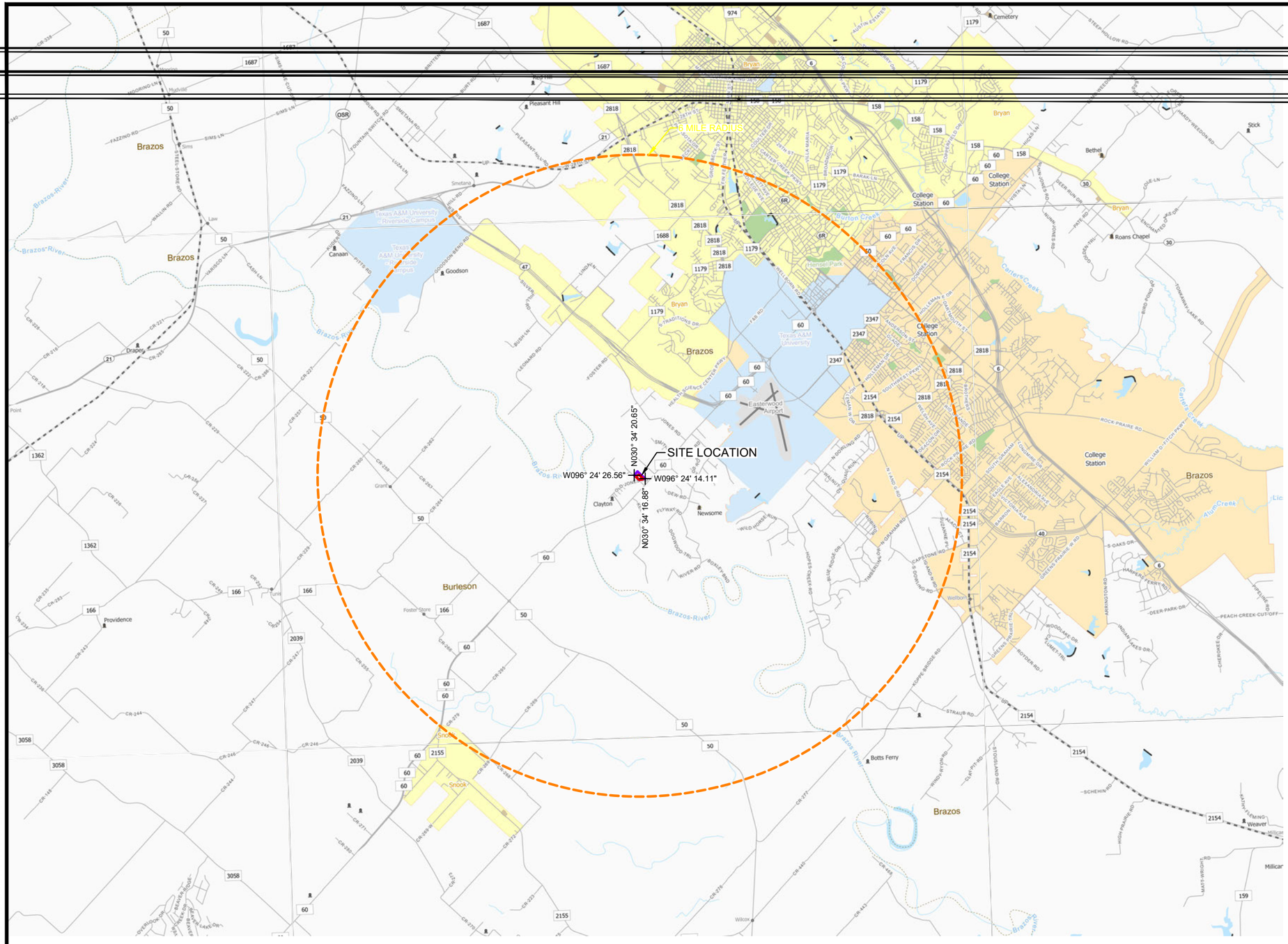
Latitude (degrees, minutes seconds): 30°34'18.37"N
Longitude (degrees, minutes seconds): 96°24'21.56"W

3. Design Summary

The following information presents a summary of the design and operations for the BVR Waste and Recycling Transfer Station:

- The Facility will receive non-putrescible solid waste and source-separated recyclable materials, including construction and demolition debris and rubbish from municipal and commercial activities.
- The Facility will recover a minimum of 10% or more by weight of the incoming waste stream.
- The Facility will be open for waste acceptance 24 hours per day, 7 days per week.
- The Facility can be accessed through three existing driveways from public roads. There is one entry point on Old Jones Road and two exits onto Stewarts Meadow. Vehicles transporting waste will travel via FM 60/ Raymond Stotzer Parkway, take the exit to Old Jones Road, and continue to the facility's primary entrance on Old Jones Road.
- Wastes will enter through the north-west side of the Waste Storage Processing Structure (WSPS) which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS.
- The unusable/non-recyclable material will be loaded for disposal at an approved off-site TCEQ permitted solid waste landfill within 50 miles of the Facility. The recyclables will be temporarily stockpiled pending shipping to recyclers. No waste sorting or disposal operation will occur outside of the WSPS.
- Once approved by the TCEQ, the facility will be operated in accordance with the TCEQ-approved site operating plan. This plan includes procedures that govern day-to-day operations of the facility as well as routine inspections and housekeeping to ensure compliance with the TCEQ regulations. As part of the operations, litter, dust, and odor control measures and procedures will be implemented.
- Properly trained personnel will operate the BVR Waste and Recycling Transfer Station to effectively serve the community. A detailed Site Operating Plan will be included in the RA. The SOP will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations.

ATTACHMENT 1 - FIGURES



LEGEND

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COUNTY MAPBOOK 2018 LEGEND

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

STATE OF TEXAS
GARY RUSSELL HORWITCH
48458
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09-17-24

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REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, COUNTY MAPBOOK 2018, PAGES 1440, 1441, 1442, 1493, 1494, 1495, 1544, 1545, 1546; DELIVERED IN PDF HTTP://WWW.DOT.STATE.TX.US.

2 MILES 0 2 MILES

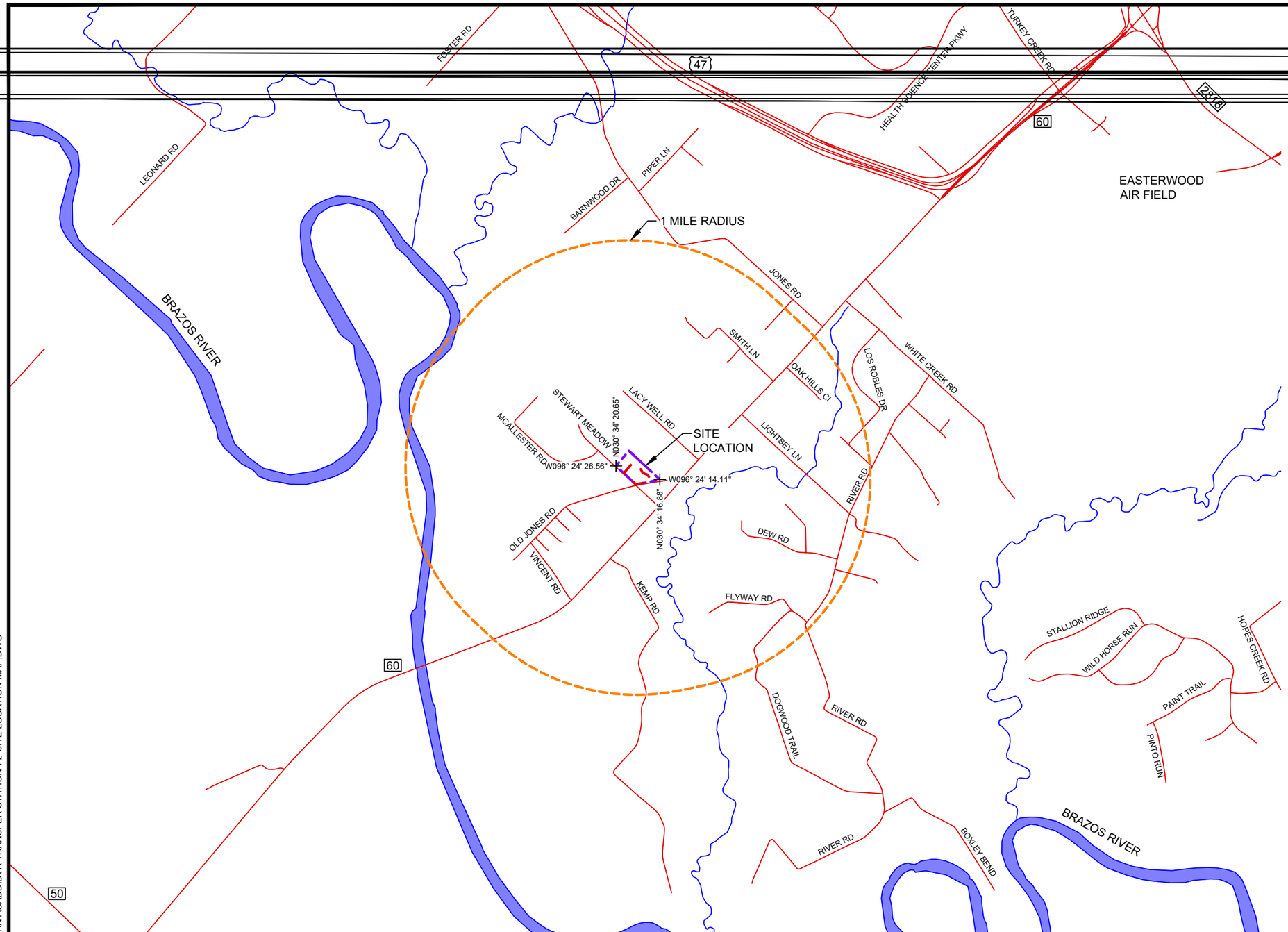
Title:
GENERAL LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-1-GENERAL LOCATION MAP.DWG



REFERENCE(S)

BASE MAP TAKEN FROM TEXAS DEPARTMENT OF TRANSPORTATION, TXDOT URBAN FILE 2018 FOR BRAZOS COUNTY, DOWNLOADED FROM TNRIS.ORG

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Title:

SITE LOCATION MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-2-SITE LOCATION MAP.DWG		

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LEGEND

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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH PRO DATED MARCH 2022.

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PROFESSIONAL ENGINEER
STATE OF TEXAS

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Title:

AERIAL PHOTOGRAPH
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-3 & II-3-AERIAL PHOTOGRAPH.DWG		

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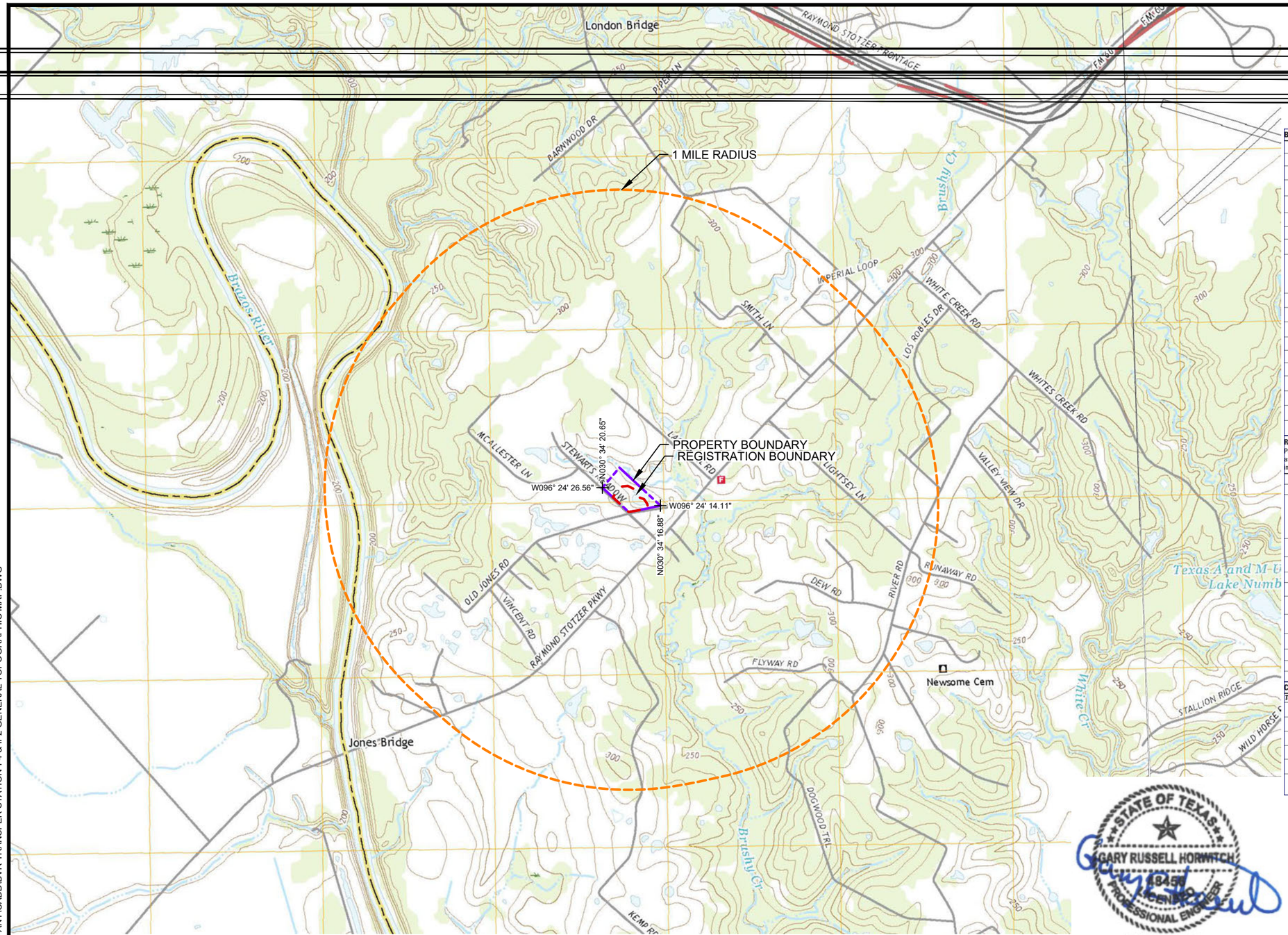

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BUILDINGS AND RELATED FEATURES

- Building
- School; house of worship
- Athletic field
- Built-up area
- Forest headquarters*
- Ranger district office*
- Guard station or work center*
- Racetrack or raceway
- Airport, paved landing strip, runway, taxiway, or apron
- Unpaved landing strip
- Well (other than water), windmill or wind generator
- Tanks
- Covered reservoir
- Gaging station
- Located or landmark object (feature as labeled)
- Boat ramp or boat access*
- Roadside park or rest area
- Picnic area
- Campground

ROADS AND RELATED FEATURES

Please note: Roads on Provisional-edition maps are not classified as primary, secondary, or light duty. These roads are all classified as improved roads and are symbolized the same as light duty roads.

- Primary highway
- Secondary highway
- Light duty road
- Light duty road, paved*
- Light duty road, gravel*
- Light duty road, dirt*
- Light duty road, unspecified*
- Unimproved road
- Unimproved road*
- 4WD road
- 4WD road*
- Trail
- Highway or road with median strip
- Highway or road under construction (Under Const)
- Highway or road underpass; overpass
- Highway or road bridge; drawbridge
- Highway or road tunnel
- Road block, berm, or barrier*
- Gate on road*

CONTOURS

Topographic

- Index (6000)
- Approximate or indefinite
- Intermediate
- Approximate or indefinite
- Supplementary
- Depression

RIVERS, LAKES, AND CANALS

- Perennial stream
- Perennial river
- Intermittent stream
- Intermittent river
- Perennial lake/pond
- Intermittent lake/pond
- Dry lake/pond (Dry Lake)
- Narrow wash
- Wide wash (Wash)
- Canal, flume, or aqueduct with lock
- Elevated aqueduct, flume, or conduit

MINES AND CAVES

- Quarry or open pit mine
- Gravel, sand, clay, or borrow pit

CONTROL DATA AND MONUMENTS

- Principal point** (3-20)
- U.S. mineral or location monument (USMM 438)
- River mileage marker (Mile 69)

Boundary monument

- Third-order or better elevation, with tablet (BM ▭ 9134 BM △ 277)
- Third-order or better elevation, recoverable mark, no tablet (▭ 5628)
- With number and elevation (67 ▭ 4567)

Horizontal control

- Third-order or better, permanent mark (△ Neace Neace)
- With third-order or better elevation (BM △ 62 Pike BM393)
- With checked spot elevation (△ 1012)
- Coincident with found section corner (Cactus Cactus)
- Unmonumented**

PROJECTION AND GRIDS

- Neatline (39°15′ 90°37′30″)
- Graticule tick (55′)
- Graticule intersection
- Datum shift tick

State plane coordinate systems

- Primary zone tick (640 000 FEET)
- Secondary zone tick (247 500 METERS)
- Tertiary zone tick (260 000 FEET)
- Quaternary zone tick (98 500 METERS)
- Quintary zone tick (320 000 FEET)

Universal transverse mercator grid

- UTM grid (full grid) (73)
- UTM grid ticks* (89)

REFERENCE(S)

BASE MAP INITIALLY DEVELOPED BY THE UNITED STATES GEOLOGICAL SURVEY (USGS) AND ENHANCED BY TEXAS NATURAL RESOURCE INFORMATION SYSTEM (TNRIS) USING CONTENT LAST UPDATED BY USGS IN 2019 FOR BRYAN EAST, BYRAN WEST, CHANCES STORE, CLAY, LYONS, MUMFORD, SNOOK, TUNIS, WELLBORN, TX.

N

2000’ 0 2000’

STATE OF TEXAS
GARY RUSSELL HORWITCH
85458
LICENSED
PROFESSIONAL ENGINEER

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09-17-24

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Title:

GENERAL TOPOGRAPHIC MAP
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/21/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	I-4
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-4 & II-2-GENERAL TOPOGRAPHIC MAP.DWG		

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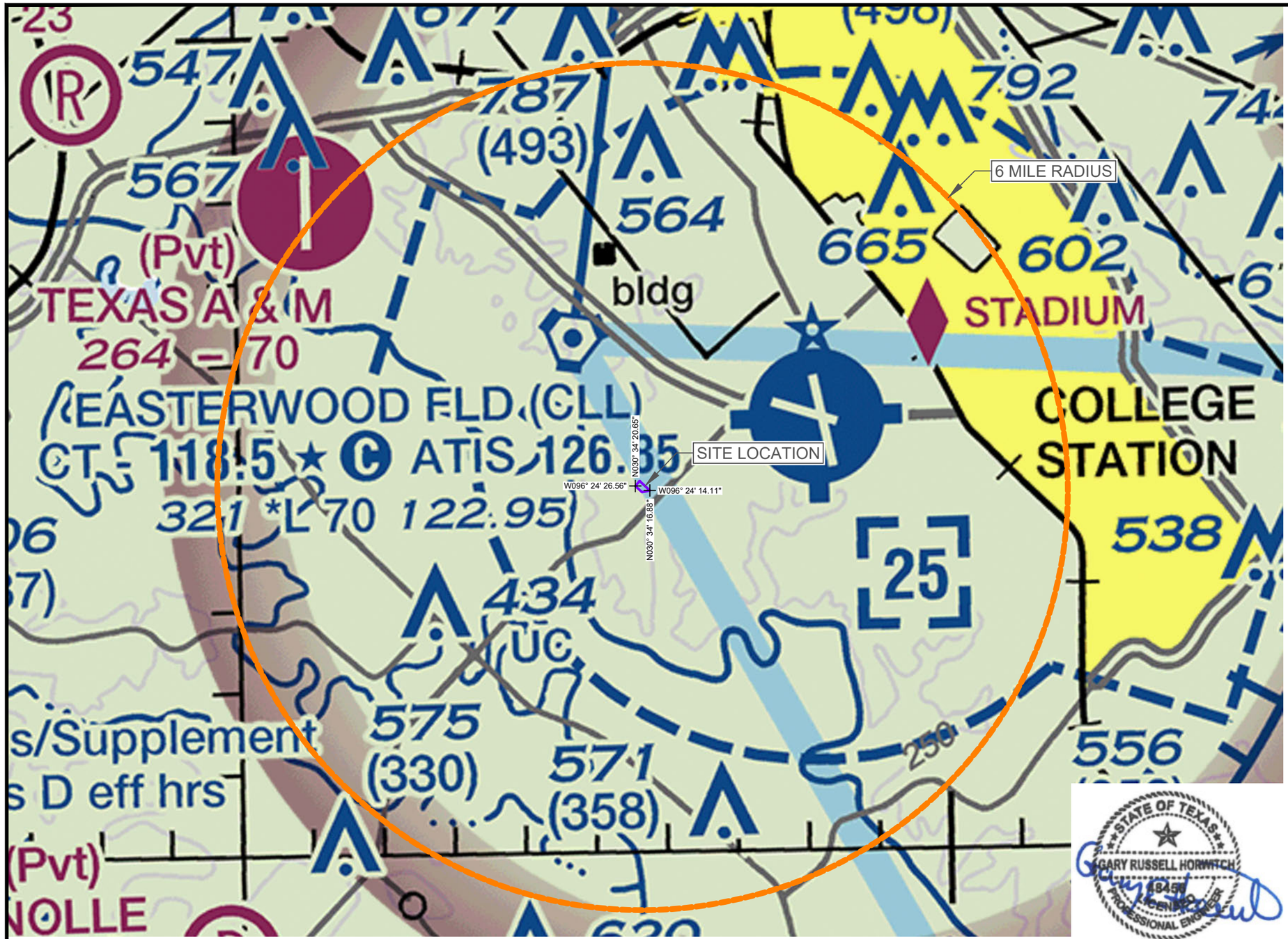

Airports having Control Towers are shown in Blue, all others in Magenta. Consult Chart Supplement for details involving airport lighting, navigation aids, and services. All times are local. For additional symbol information refer to the Chart User's Guide.

AIRPORTS

Other than hard-surfaced runways
Seaplane Base
Hard-surfaced runways 1500 ft. to 8069 ft. in length
Hard-surfaced runways greater than 8069 ft. or some multiple runways less than 8069 ft.
Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, DME or VORTAC location.
All recognizable hard-surfaced runways, including those closed, are shown for visual identification. Airports may be public or private.

ADDITIONAL AIRPORT INFORMATION

Private "(Pvt)" - Non-public use having landmark value
Military - Other than hard-surfaced; all military airports are identified by abbreviations AFB, NAS, AAF, etc.
Heliport Selected
Unverified
Abandoned - paved having landmark value, 3000 ft. or greater
Ultralight Flight Park Selected
Fuel availability indicated by use of tick marks around basic airport symbol. Consult Supplement for details and availability at airports with hard-surfaced runways greater than 8069 ft.
☆ Rotating airport beacon in operation Sunset to Sunrise
OBJECTIONABLE - Airport may adversely affect airspace use.

AIRPORT DATA

Box indicates FAR 93 Special Air Traffic Rules & Airport Traffic Patterns.
FSS — FAR 91
NO SVFR — Location Identifier
NAME (NAM) (PNAM) — ICAO Location Indicator
Runways with Right Traffic Patterns (public use) — CT - 118.3 ★ C ATIS 123.8; 285 L 72 122.95; RP 23, 34 — shown outside contiguous U.S.
*RP Special conditions exist - see Supplement.
VFR Advsy 125.0 UNICOM
WX CAM — Weather Camera (AK)
FSS - Flight Service Station
AOE — Airport of Entry
NO SVFR - Fixed-wing special VFR flight is prohibited.
CT - 118.3 - Control Tower (CT) - primary frequency
★ - Star indicates operation part-time. See tower frequencies tabulation for hours of operation.
C - Follows the Common Traffic Advisory Frequency (CTAF)
ATIS 123.8 - Automatic Terminal Information Service
AFIS 135.2 - Automatic Flight Information Service (AK)
ASOS/AWOS 135.42 - Automated Surface Weather Observing Systems (shown where full-time ATIS not available). Some ASOS/AWOS facilities may not be located at airports.
UNICOM - Aeronautical advisory station
VFR Advsy - VFR Advisory Service shown where full-time ATIS not available and frequency is other than primary CT frequency.
285 - Elevation in feet
L - Lighting in operation Sunset to Sunrise
*L - Lighting limitations exist; refer to Supplement.
72 - Length of longest runway in hundreds of feet; usable length may be less.
When information is lacking, the respective character is replaced by a dash. Lighting codes refer to runway edge lights and may not represent the longest runway or full length lighting.

AIRPORT TRAFFIC SERVICE AND AIRSPACE INFORMATION

Only the controlled and reserved airspace effective below 18,000 ft. MSL are shown.
Class B airspace
Class C Airspace (Mode C - see FAR 91.215/AIM.)
Class D Airspace
40 — Ceiling of Class D Airspace in hundreds of feet (A minus ceiling value indicates surface up to but not including that value.)
Class E (sfc) Airspace
CLASS G
Class E Airspace with floor 700 ft. above surface that laterally abuts Class G Airspace.
Class E Airspace with floor 700 ft. above surface that laterally abuts 1200 ft. or higher Class E Airspace
Class E Airspace with floor 1200 ft. or greater above surface that laterally abuts Class G Airspace
2400 MSL / 4500 MSL — Differentiates floors of Class E Airspace greater than 700 ft. above surface.
Class E Airspace exists at 1200' AGL unless otherwise designated as shown above.
Class E Airspace low altitude Federal Airways and RNAV 2 Routes are indicated by center line. Intersection - Arrows are directed towards facilities which establish intersection.
132° — V 69 — 169 — Total mileage between NAVAIDs on direct Airways
T 319 — TK 313 (Helicopter Only) — RNAV Waypoint
Prohibited, Restricted, and Warning Areas
"Alert Area and Military Operations Area (MOA)
*Alert Areas do not extend into Class A, B, C and D airspace, or Class E airport surface areas.
Special Airport Traffic Area (See FAR 93 for details.)
National Defense Airspace Temporary Flight Restriction Area
ADIZ - Air Defense Identification Zone
MODE C (See FAR 91.215/AIM.)
National Security Area
Terminal Radar Service Area (TRSA)
IR211 — MTR - Military Training Route

COMMUNICATION BOXES

122.1R 122.6 123.6 — OAKDALE A — 362* 378.8 OAK
Underline indicates no voice on frequency.
Crosshatch indicates Shutdown status.
★ - Operates less than continuous or On-Request.
A - ASOS/AWOS
122.6 — CHICAGO CHI
Heavy line box indicates Flight Service Station (FSS). Frequencies 122.2 and 255.4 (Conterminous U.S.) and 121.5, 122.2, 243.0 and 255.4 (Alaska) are available at many FSSs and are not shown above boxes. All other frequencies are shown.
R - Receive only
122.1R — MIAMI — FSS radio providing voice communication
Frequencies above thin line box are remoted to NAVAID site. Other FSS frequencies providing voice communication may be available as determined by altitude and terrain. Consult Supplement for complete information.

RADIO AIDS TO NAVIGATION

VHF OMNI RANGE (VOR)
VORTAC
VOR-DME
DME
Other facilities, i.e., FSS Outlet, RCO, WX CAM (AK) (see Supplement), etc.
Non-Directional Radio Beacon (NDB)
NDB - DME

OBSTRUCTIONS

1000 ft and higher AGL
Above 200 ft & below 1000 ft AGL (above 299 ft AGL in urban area)
Wind Turbine
Group Obstruction
Wind Turbine Farm
2894' UC — Elevation of the top above mean sea level
Height above ground
2049 (1149) UC — Under construction or reported; position and elevation unverified
Obstruction with high-intensity lights; may operate part-time
NOTICE: Guy wires may extend outward from structures.

MISCELLANEOUS

STADIUM — Intermittent TFR site (within 3 NM, up to & incl 3000' AGL)
Space Launch Activity Area
A - Aerobatic Practice Area (See Supplement.)
G - Glider Operations
H - Hang Glider Activity
U - Ultralight Activity
UA - Unmanned Aircraft Activity
Parachute Jumping Area (See Supplement.)
Marine Light
−1°E− Isogonic Line (2020 VALUE)
VPXYZ — VFR Waypoints
NAME (VPXYZ)

TOPOGRAPHIC INFORMATION

Power Transmission Line
Mountain Pass 11823 (Elevation of Pass)
Aerial Cable
Lookout Tower 618 (Elevation Base of Tower)
Pass symbol does not indicate a recommended route or direction of flight and pass elevation does not indicate a recommended clearance altitude. Hazardous flight conditions may exist within and near mountain passes.

REFERENCE(S)

1. HOUSTON SECTION AERONAUTICAL CHART TAKEN FROM FEDERAL AVIATION ADMINISTRATION (FAA), DATED 02-23-2023 DELIVERED IN FORMAT HTTP://WWW.FAA.GOV/AIR_TRAFFIC/FLIGHT_INFO/AERONAV/DIGITAL_PRODUCTS/VFR/

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STATE OF TEXAS
GARY RUSSELL HORWITCH
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09-17-24

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Title:
FAA MAP
BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	II-9
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-II-9-FAA MAP.DWG		

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Type V Transfer Station Registration Application, Part III Report

BVR Waste and
Recycling Transfer Station
College Station
Brazos County, Texas

Prepared for:

Brannon Industrial Group, LLC
1555 TX-36
Brenham, TX 77833

Prepared by:

Roux Associates, Inc.
19450 State Highway 249, Suite 260
Houston, Texas 77070

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SEPTEMBER 2024

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4769.0001H000R

Table of Contents

Figures

Table of Contents (Cont'd)

Attachments

1. Introduction

This **Part III Site Development Plan** (SDP) for the BVR Waste and Recycling Transfer Station ("Facility or Site") registration application has been developed in accordance with 30 TAC §330.63(a). This plan includes criteria in the design of the Facility that will provide for the safeguarding of the health, welfare, and physical property of the people and the environment through consideration of geology, soil conditions, drainage, land use, zoning, adequacy of access roads and highways, and other considerations for the Facility as dictated by the requirements of 30 TAC §330.63.

1.1 Site Location

The Facility is a proposed 4.419-acre Type V Transfer Station of the total 10.00-acres tract land owned by 16 Real Estate Holdings. The Facility is located at the intersection of Stewarts Meadow and Old Jones Rd, north of FM 60 (also known as Raymond Stotzer Parkway). The main recycling facility entrance is off Old Jones Road, approximately 850 feet from the intersection with FM 60 / Raymond Stotzer Parkway. The site location is shown on **Figures I-1 and I-2**. An aerial photograph showing the existing site is provided as **Figure I-3**. The proposed registration site is the location of an existing recycling facility, Brazos Valley Recycling, operated under a Notice of Intent (NOI) Municipal Solid Waste (MSW) number 100200.

BVR Waste and Recycling Transfer Station land is owned by 16 Real Estate Holdings and Facility is operated by Brannon Industrial Group, LLC ("BIG"). The mailing/physical address for the Facility property is:

BVR Waste and Recycling Transfer Station
c/o Brannon Industrial Group
8825 Stewarts Meadow
College Station, TX 77845

1.2 Land Use and Zoning

A land use analysis was performed for the Facility within a one-mile radius of the registration boundary. The majority of the land within a one-mile radius of the site is "open" area used for agriculture, pastureland, or roadways. The next largest component of the land is residential. A detailed analysis of the specific-use breakdown is included in **Part II** of this application.

Since the Facility is located within the extraterritorial jurisdiction (ETJ) of College Station and in an unincorporated area of Brazos County, there are no zoning restrictions for the Facility.

A Land Use Map is provided in **Figure II-7**, and a Zoning Map is provided in **Figure II-11**.

2. General Facility Design 30 TAC §330.63(b)

The general Facility design has been developed in accordance with 30 TAC §330.63(b) and is discussed in the following sections. The general Facility design includes descriptions of Facility access, waste movement, sanitation, water pollution control, and endangered species protection. The section of the SDP also includes a waste flow diagram and a schematic of waste processing and storage areas.

2.1 Facility Access 30 TAC §330.63(b)(1)

The Facility is located on the corner of Stewarts Meadow and Old Jones Road. There are three (3) existing driveways to the site. The main entrance is off of Old Jones Road. The other two auxiliary entrances are off of Stewarts Meadow. The site can be accessed via FM 60 / Raymond Stotzer Parkway.

2.1.1 Access Control

The BVR Waste and Recycling Transfer Station registration will limit access to the Facility by maintaining the existing perimeter fencing along Old Jones Road and Stewarts Meadow. The three (3) existing site access drives from the roadways are controlled by lockable gates. Vehicles carrying waste will come from FM 60 / Raymond Stotzer Parkway and take an exit to Old Jones Road and then use the main entrance at Old Jones Road to access the Facility. Entering the Facility, the vehicles will stop at the scale, then will use one of the five doors to enter the Waste Storage Processing Structure (WSPS) to unload the vehicle. The unloaded vehicles will leave the Facility using Stewarts Meadow Road.

During operation hours, the site entrance gates will be continuously monitored by site personnel to prevent any unauthorized entry to the Facility. Entry to the transfer station will be restricted to designated personnel, approved waste haulers, TCEQ personnel, County personnel, City of College Station personnel, and other individuals authorized by site management.

A conspicuous sign measuring a minimum of four feet by four feet will be maintained at the public entrance to the Facility. The sign states, in letters at least three inches high, the name of the site, type of site, the registration number issued by the TCEQ, hours and days of operation, an emergency 24-hour contact phone number(s), and the local emergency fire department phone number. The sign is visible and readable from the Facility entrance.

2.1.2 Adequacy of Access Roads and Highways

A more detailed traffic and road adequacy analysis is included in **Part II, Section 2.3**. In accordance with §330.61(i)(4), TxDOT was contacted for any traffic or location restrictions which may apply to the proposed facility. Copies of the related correspondence are included in **Part II, Attachment IIC**.

2.2 Waste Movement 30 TAC §330.63(b)(2)

Figure III-1, General Process Flow Schematic illustrates a generalized process design and working plan of the overall Facility. In general, wastes will enter through the north-west side of the WSPS which will be unloaded onto the WSPS. The wastes will be sorted, and recyclable materials will be removed and placed in roll-off boxes located outside of the east walls of the WSPS. Materials that are non-recyclable will be repacked into roll-offs/dumpster that pulled through on trucks along the southern side of the WSPS. The non-recyclable wastes will then be transported off-site and disposed of at a TCEQ approved waste disposal

facility within 50 miles from the Facility. The types of waste accepted at the Facility is discussed in detail in the **Part II** of this application.

2.2.1 Waste Flow Diagram 30 TAC §330.63(b)(2)(A)

Figure III-1 General Process Flow Schematic, developed in accordance with §330.63(b)(2)(A), is a flow diagram illustrating storage, processing, and disposal sequences for the types of waste accepted.

2.2.2 Schematic View Drawing 30 TAC §330.63(b)(2)(B)

Figure III-1 General Process Flow Schematic, developed in accordance with §330.63(b)(2)(B), is a schematic view showing the various phases of collection, separation, and processing for the types of waste accepted at the facility.

2.2.3 Ventilation and Odor Control Measures 30 TAC §330.63(b)(2)(C)

Ventilation will be provided in the transfer station building using either power roof ventilators or wall-mounted fans for both odor control and employee safety. Excessive dust and particulates that occur in the building will be controlled using water sprays, mist systems, or similar methods. The 45,000 cubic feet per minute exhaust vent, at least 16 feet above the ground level, will be installed on the roof of WSPS as per 30 TAC §106.534 (7)(B). A minimum 50-foot buffer will be provided between the transfer building and the Facility boundaries to prevent nuisance odors from leaving the boundary of the Facility. If, at any time, nuisance odors are found to be passing the Facility boundary, the operator will employ and properly maintain/operate odor control equipment. The Facility may be required to suspend operations until the nuisance has been properly abated. Solid waste processing operations will be conducted within the building to prevent nuisance odors from developing outside. The on-site drainage structures will be maintained to prevent accumulation outside of required detention, and thus minimize any nuisance odors associated with stagnant water.

2.2.4 Generalized Construction and Engineering Details 30 TAC §330.63(b)(2)(D)-(F)

The Facility property is comprised of an existing recycling building, a mechanic shop and office building, a storage building, a scale, paved service drives, crushed rock/gravel surfaced storage areas, a covered fuel area, and a portable building. The recycling building is a typical on-slab structure with at-grade unloading bays and tipping floor. The tipping floor dimensions are approximately 75 feet by 220 feet. The building contains an employee restroom, paper bailer, office, conveyor belt, and a dust/odor control system room. The building components were designed in accordance with the local requirements and were approved prior to the construction of the Facility. The building is enclosed on four sides with an approximate height on the entrance of 34 feet. The western side of the building facing Stewarts Meadow has five bay doors for the unloading trucks. The southern side of the building that faces Old Jones Road has one bay doors for loading waste for disposal at a TCEQ permitted solid waste landfill within 50 miles of the Facility. The registration boundary has a minimum of 4 feet chain link or equivalent fence with lockable gates.

Any wastes stored at the Facility will occur in covered roll-off boxes or within the limit of WSPS. The WSPS is a covered structure prohibiting stormwater collection in the waste processing area. The available storage on the tipping floor is 6,300 Cubic Yard (CY). The maximum rate of materials receipt is 3,150 CY/day.

2.2.5 Storage of Grease, Oil, and Sludge 30 TAC §330.63(b)(2)(G)

The Facility will not accept or store grease, oil, or sludge, therefore the requirements of §330.63(b)(2)(G) do not apply.

2.2.6 Disposition of Effluent 30 TAC §330.63(b)(2)(H)

Effluent from washing of the waste loading or waste processing areas will be collected from the on-site sumps located inside the WSPS via a vacuum truck, or other similar equipment. The liquids may be used for dust control within the WSPS during operations or disposed of at a TCEQ authorized facility.

2.2.7 Noise Pollution Control 30 TAC §330.63(b)(2)(I)

The Facility is designed and located to minimize the potential noise pollution and visual impact to neighboring landowners and the public. The direct impact to the neighboring properties is minimal. The Facility is an existing recycling Facility operating under NOI. Additionally, the land immediately surrounding the Facility is an open landfill property to the north, and the property that is located directly across Stewarts Meadow is currently vacant. Additionally, Stewarts Meadow is a dead end approximately 1650 feet north of the Facility property, limiting any passing through traffic. Stewarts Meadow crosses with McAllester Lane approximately 1,300 feet from the intersection of Stewarts Meadow and Old Jones Road, which is a dead-end road but does provide access to a few single-family residences on acreage. For additional noise reduction and screening, there is a buffer zone between the building and the registration boundary. The buffer is approximately 50 feet. Also, the storage areas are partly screened by the buildings.

2.3 Sanitation

2.3.1 Processing Areas Designed for Proper Cleaning and Surface Drainage Controls 30 TAC §330.63(b)(3)(A)

The Facility will be designed to facilitate proper cleaning. Unprocessed waste will only be handled inside the WSPS, on the tipping floor of the recycling building, which is fully enclosed. The surface of the tipping floor is concrete so that the floor can be hosed down and scrubbed for sanitation. The tipping floor is graded so that the wash water flows toward floor drains for collection and removal.

2.3.2 Construction Material Used That Can Be Cleaned 30 TAC §330.63(b)(3)(B)

The WSPS building is composed of metal and the floor composed of concrete, both of which can be easily cleaned utilizing a high-pressure washer.

2.3.3 Equipment for Cleaning with Water or Steam 30 TAC §330.63(b)(3)(C)

A high-pressure washer will be staged at the Facility or rented on an as necessary basis for cleaning purposes.

2.3.4 Floor Drains and/or Sumps AC §330.63(b)(3)(D)

Two sumps will be constructed within the WSPS: one within the Northwest side of WSPS and another on southwest side of WSPS of the tipping floor. Sumps will be constructed of concrete with the approximate dimensions of 3 feet by 3 feet x 2.25 feet and covered with grate. The details of drainage trench and sump is presented in **Figure III-2**, Detail of Processing Area Structure.

2.3.5 Water Pollution Control- Description of Proper Disposal of Liquids Resulting from Waste Processing, Details for Treatment of Wastewater 30 TAC §330.63(b)(4)

No wastewater treatment will occur at the Facility. If wastewater is generated as the result of waste processing, it will be collected in two sumps located within the WSPS and collected via a vacuum truck or similar equipment. The liquids may be used for dust control within the WSPS during operations or disposed

of off-site to the TCEQ permitted Wastewater Treatment Plant. Records will be maintained for any such occurrences for a minimum of three years.

2.4 Endangered Species Protection 30 TAC §330.63(b)(5)

A threatened and endangered species assessment was conducted for the proposed registration application. The objective of the assessment was to evaluate the potential for the existence of species and/or their habitat that are considered protected under the Endangered Species Act of 1973 and subsequent amendments and listings in accordance with the requirements of 30 TAC §330.61(n). Based on a field survey and available records, it was concluded that the Facility and the operation of the Facility is not expected to result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. A copy of the assessment is included in **Part II, Attachment IIE.**

3. Surface Water Drainage Report 30 TAC §330.63(c)

The Facility was designed, constructed, and is operated to comply with the requirements of §330.303. The drainage and floodplain criteria applicable to the proposed Facility are summarized in the following sections.

3.1 Drainage Analyses 30 TAC §330.63(c)(1)

The design of the Facility manages run-on and runoff during the peak discharge of a 25-year rainfall event and prevents the off-site discharge of waste and feedstock material, including, but not limited to, in-process and/or processed materials. Surface water drainage in and around the facility is controlled to minimize surface water running onto, into, and off the treatment area. The stormwater drainage calculation is included in **Attachment IIIC**.

3.2 Flood Control and Analyses 30 TAC §330.63(c)(2)

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) that includes the site area (Brazos County, Texas and Incorporated Areas, Panel 285 of 475, Map Number 48041C0285E, dated May 16, 2012) was reviewed and is included in **Figure II-13**. The figure shows the boundary of the proposed Facility registration on the FIRM.

The FIRM indicates that the Facility registration boundary is outside of the 100-year floodplain. Therefore, no additional floodplain information is required to be provided nor is a floodplain construction permit required.

4. Waste Management Unit Design 30 TAC §330.63(d)

Rules §330.63(d)(2), (3), (4), (5), (6), (7), and (9) pertaining to incineration units, surface impoundments, landfill units, arid exemption landfill application, Type V mobile liquid waste processing units, Type IX waste processing units, and Type VI waste processing demonstration facilities, respectively, are not applicable for the Facility. BVR Waste and Recycling Transfer Station is a Type V Recycling and Recovery unit.

4.1 Storage and Transfer Units

4.1.1 Efficient Waste Processing 30 TAC §330.63(d)(1)(A)

No nuisance odors, fly breeding areas, or disease vectors are thought to be created by the Facility due to facility design and the nature of the wastes accepted, and the limited time the waste will be stored at the Facility. All solid waste capable of creating public health hazards or nuisances will be processed or transferred promptly and shall not be allowed to result in nuisances or public health hazards.

4.1.2 Spill Containment 30 TAC §330.63(d)(1)(B)

Liquid wastes are not accepted at the Facility and waste material storage and processing will occur in the WSPS to prevent run-on to the process area. Water used in dust suppression and cleaning will be collected in the sumps as described above. This water will be collected via a vacuum truck for off-site disposal at a TCEQ approved waste management facility. As such this section is not applicable.

4.1.3 Maximum Storage Time 30 TAC §330.63(d)(1)(C)

The solid waste may be temporarily stored at the Facility for a period not to exceed 48 hours, except holidays and weekends. During holidays and/or weekends, the solid waste may be temporarily stored at the Facility not to exceed a time period of 72 hours. The average length of time that solid waste remains on-site will be 12 hours. If stored, the municipal solid waste will be in the building or in a securely covered transfer trailer, so as not to attract vectors and cause odors.

5. Facility Closure

5.1 Closure Plan 30 TAC §330.459

The Facility's Closure Plan, compliant with 30 TAC §330.449, outlines the procedures for waste removal from storage, processing units, contaminated water systems, and tipping areas. It details the complete removal of waste and the decontamination of the storage and processing units. All waste materials on-site will be transported and disposed of at a TCEQ-approved facility. Decontamination of the Facility, WSPS, and post-processing area will be conducted using a steam washer, with the full plan provided in **Attachment IIIA**.

Post-closure maintenance is not required by the current TCEQ rules.

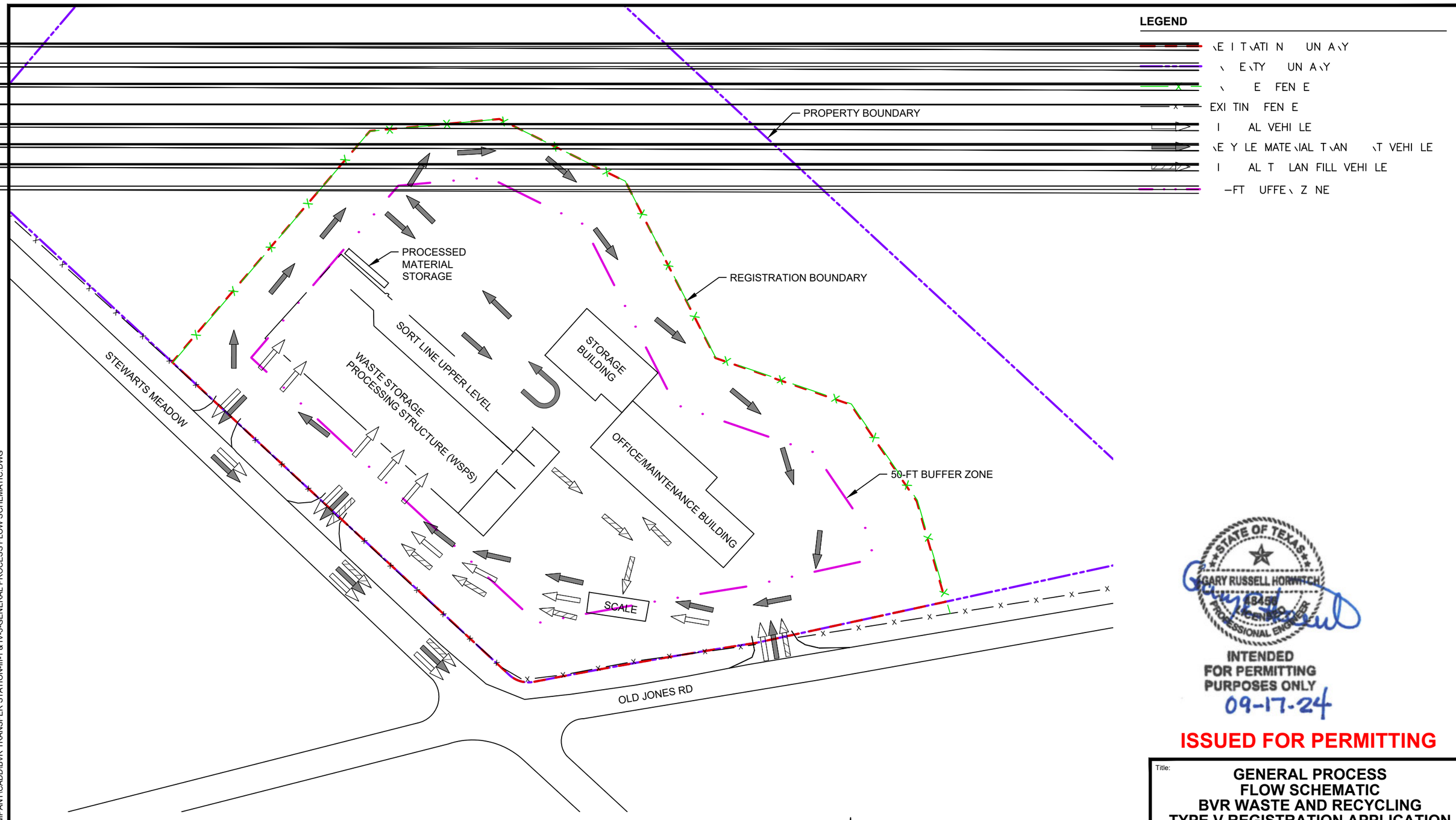
5.2 Cost Estimate for Closure 30 TAC §330.505

Closure Cost Estimates have been prepared in accordance with 30 TAC §330.505 and documentation required to demonstrate financial assurance as specified in 30 TAC §330.63(j), included as **Attachment IIIB**.

The estimated cost for closure is **$289,660.00** in 2024 dollars.

At any point in its active life, the maximum amount of waste that may be temporarily stored onsite at the facility and any processed and unprocessed combustible materials, if any, stored outdoors on site is conservatively assumed as 6,300 CY. A calculation for the engineering costs associated with the closure is included in **Attachment IIIB**. No dismantling of the concrete pad or drainage structures will be conducted at closure. No changes to the site elevations at closure will occur that will affect the final contour map.

PART III - FIGURES



S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-III-1 & IV-3-GENERAL PROCESS FLOW SCHEMATIC.DWG

STATE OF TEXAS
GARY RUSSELL HORWITCH
104550
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL PROCESS FLOW SCHEMATIC BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	III-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-III-1 & IV-3-GENERAL PROCESS FLOW SCHEMATIC.DWG		

COVERED FACILITY

PROCESSED MATERIAL STORAGE

DRAINAGE TRENCH
1 ft WIDTH X 0.75 ft DEPTH

92.4 ft

0.5%

1 / III-2 SUMP

WALL SEPARATING CONVEYOR

WASTE STORAGE PROCESSING STRUCTURE (WSPS)

DRAIN TO TRENCH

STEWARTS MEADOW

27.1 ft

68 ft

0.5%

DRAINAGE TRENCH
1 ft WIDTH X 0.75 ft DEPTH

1 / III-2 SUMP

STATE OF TEXAS
GARY RUSSELL HORWITCH
84456
LICENSED
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INTENDED FOR PERMITTING PURPOSES ONLY
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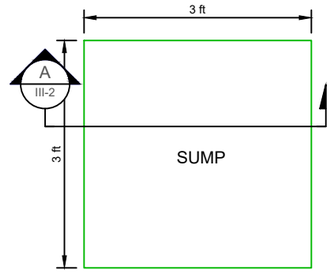
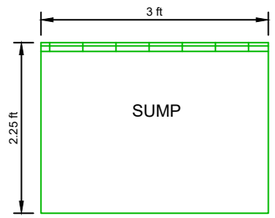
LEGEND

- EXISTING UNDERGROUND UTILITY
- EXISTING UNDERGROUND UTILITY
- CONCRETE WALL
- CONTAINMENT BERM
- MAIN TRENCH
- ASPHALT EDGE/ DEEP EDGE



SCALE NTS 1 / III-2 SUMP PLAN



SCALE NTS A / III-2 SUMP CROSS SECTION

ISSUED FOR PERMITTING

N

30' 0 30'

Title:

DETAIL OF PROCESSING AREA STRUCTURE
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	III-2
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-III-2 & IV-4-DETAIL OF PROCESSING AREA STRUCTURE.DWG		

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PART III - ATTACHMENTS

IIIA Closure Plan

IIIB Closure Cost Estimate

IIIC Stormwater Drainage Calculations

Attachment IIIA
Closure Plan

Table of Contents

1. Introduction 30 TAC §330.451

The applicability of closure and post-closure requirements in the 30 TAC Subchapter K is to all municipal solid waste (MSW) landfill units or MSW facilities as defined in §330.5.

Per §330.5(a)(3), an MSW facility – Type V is a solid waste processing facility that include processing plants that transfer, incinerate, shred, grind, bale, salvage, separate, dewater, reclaim, and/or provide other storage or processing of solid waste. The BVR Waste and Recycling Transfer Station is classified as a municipal solid waste facility under this definition.

The following Closure Plan for the facility has been prepared in accordance with the Closure Requirements for Municipal Solid Waste Storage and Processing Units.

2. Closure Requirements

The following sections of the Closure Plan summarize the steps by the Facility to ensure compliance with the closure requirements for the certifications of final Facility closure 30 TAC §330.461.

2.1 Notifications 30 TAC §330.461(a)

No later than 90 days prior to initiating final closure, Brannon Industrial Group, LLC ("BIG") will, through a public notice in the newspaper(s) of largest circulation in the vicinity of the Facility, provide public notice for final Facility closure. This notice will include the name, address, and physical location of the facility, the registration number, and the last day of intended receipt of materials at the Facility.

The Facility will also make available an adequate number of copies of the approved closure plan for public access and review. The owner or operator will also provide written notification to the executive director (ED) of the TCEQ no later than 90 days prior to the intent to close the Facility and place this Notice of Intent in the Facility's operating record.

2.2 Signage and Access Control 30 TAC §330.461(b)

Upon notification to the ED, the Facility will post a minimum of one sign at the main entrance and all other frequently used points of access for the Facility notifying all persons who may utilize the Facility of the date of closing for the entire Facility and the prohibition against further receipt of waste materials after the stated date.

Further suitable barriers at all gates or access points will be installed to adequately prevent the unauthorized dumping of solid waste at the closed Facility.

2.3 Implementation of Closure Plan 30 TAC §330.459(a)

The closure plan for the Facility is to remove all waste, all recovered materials, and decontaminate the process unit [Waste Storage Processing Structure (WSPS) and pad]. All waste materials on-site will be removed and disposed of at a TCEQ-authorized facility. The Facility, WSPS, and post-processing area will be decontaminated using a steam washer. At any point in its active life, the maximum amount of unprocessed materials (i.e. wastes) that may be temporarily stored on-site at the Facility is 6,300 cubic yards (CY). The closure activities will be completed within 180 days following the initiation of these final closure activities.

2.4 Waste and Material Removal and Disinfection 30 TAC §330.459(b)

A Site inspection and review of the Closure Plan and other applicable documents will be conducted prior to closure initiation to determine the necessary closure activities.

All materials on-site, whether in process or processed, will be moved to a TCEQ-authorized Facility by an authorized transporter. All units, tipping areas, WSPS building, and post-processing areas will be decontaminated. If required, vector control procedures will be implemented, such as treatment by pest control.

2.5 Evidence of Release 30 TAC §330.459(c)

The facility and its operations are designed to minimize any releases by the facility. However, if there is evidence of a release from the facility, the ED of the TCEQ may require an investigation into the nature and extent of the release and an assessment of measures necessary to correct an impact to groundwater.

Any waste that is not readily identifiable as garbage, trash, or refuse will be sampled, tested, and classified. Verification re-sample and laboratory analyses will be performed, as necessary.

2.6 Combustible Material 30 TAC §330.459(d)(1) and (2)

The Closure Plan for the Facility is to remove all waste, all recovered materials, including all combustible materials, and transport those materials for recycling or disposal at a TCEQ-approved Facility. After removal of all materials, the WSPS building, and post-processing area will be decontaminated using a steam washer. BIG will provide for the closure plan to be implemented (if combustible material is stored outdoors) and completed within 180 days following the most recent acceptance of processed or unprocessed materials.

3. Certification of Final Facility Closure 30 TAC §330.461(c)

The following submittals will be made to the executive director of the TCEQ by registered mail within 10 days after the completion of all final closure activities for the Facility.

The owner or operator will submit for review and approval, a certification, signed by an independent licensed professional engineer, verifying that final Facility closure has been completed in accordance with the approved closure plan. The submittal will include all applicable documentation necessary for certification of final Facility closure.

The owner or operator will submit a request for voluntary revocation of the Facility registration in accordance with 30 TAC §330.461(c)(3) and place a copy in the Facility's operating record.

Per §330.457(f)(6), following receipt of the required final closure documents, as applicable, the commission's regional office will conduct an inspection and provide a report verifying proper closure of the Facility according to the approved Closure Plan before termination of operation and closure of the Facility will be acknowledged and the Facility deemed properly closed.

4. Post-Closure Land Use 30 TAC §330.63(b)

All wastes and waste residues will be removed from the Facility upon closure. At the time of closure, the ED will be provided with documentation of waste removal and a request will be made that there be no restrictions to the post-closure use of the Facility related to its previous use as a municipal solid waste transfer station facility.

Attachment IIIB
Closure Cost Estimate

Table of Contents

Tables

1. Closure Cost Estimate 30 TAC §330.505

1.1 Introduction

The Closure Cost Estimate has been prepared in accordance with 30 TAC §330.505. Current TCEQ rules do not require post-closure maintenance for the facility.

The estimated cost for closure is **$289,660.00** in 2024 dollars.

1.2 Description of Closure Cost Estimate Activities §330.63(j) Chapter 37, Subchapter R

A copy of the financial assurance will be submitted to the TCEQ within sixty days prior to the receipt of waste under this Registration Application (RA). A closure cost estimate for the Facility is provided in **Table III B-1**. The closure cost estimate assumes third party closure of the Facility including removal and disposal of two days of waste received at Facility at the maximum daily volume anticipated. Decontamination of Waste Storage Processing Structure (WSPS) and post-processing area will be conducted. The cost closure estimate assumes third party rental of all equipment for closure purposes. It is understood that the cost estimate and financial assurance must be increased if conditions change which increase the closure cost during life of the Facility. Also, the value of the cost closure estimate must be annually adjusted for inflation per 30 TAC §37.131, and the value of this adjustment will be provided to the TCEQ within thirty days after the annual anniversary date of the insurance of the registration document for the Facility. Additionally, it is understood that financial assurance must be maintained until closure is approved by the executive director (ED). A reduction in the closure cost estimate and the amount of financial assurance, in accordance with 30 TAC §330.505(a)(4), may be applied for provided written detailed justification for the closure cost estimate and the reduced amount of financial assurance is submitted to the ED. For BVR Waste and Recycling Transfer Station, this reduction in the cost estimate and financial assurance will be considered a modification.

1.2.1 Cost Estimate to Closure Recycling Facility Stores Combustible Materials Outdoors §330.505(a)(1)

The Closure Cost Estimate provided in **Table III B-1** includes the cost for removal and disposal of combustible materials.

1.2.2 Closure Cost Estimate Equals Costs of Closure of Facility, Including Disposition of Maximum Inventories, Processed and Unprocessed Combustible Materials Stored Outdoors §330.505(a)(2)(A)

The Closure Cost Estimate provided in **Table III B-1** assumes disposal of two days of waste received at Facility at the maximum daily volume anticipated, and decontamination of the WSPS building.

1.2.3 Closure Cost Estimate Based on Costs of Hiring a Third Party, and Per Cubic Yard and/or Short Ton Measure for Collection and Disposition Costs §330.505(a)(2)(B –C)

The Closure Cost Estimate assumes third-party closure of the Facility including removal and disposal of two day of waste received at Facility at the maximum daily volume anticipated, and decontamination of the WSPS building and pad. The Closure Cost Estimate assumes third-party rental of all equipment for closure purposes.

1.3 Financial Assurance

Continuous financial assurance coverage for closure must be provided until all requirements of the Closure Plan are completed and the site is determined to be closed in writing by the TCEQ.

The estimated closure cost based on the above considerations is **$289,660.00** in 2024 dollars. A copy of the required documentation to demonstrate financial assurance shall be submitted prior to the new process and storage provisions of this permit amendment being implemented.

1.3.1 Closure Cost Estimate & Financial Assurance to Be Increased During Active Life of Facility §330.505(a)(3)

It is understood that the cost estimate and financial assurance must be increased if conditions change which increase the closure cost during life of the Facility. Also, the value of the closure cost estimate must be annually adjusted for inflation per 30 TAC §37.131, and the value of this adjustment will be provided to the TCEQ within thirty days after the annual anniversary date of the issuance of the permit document for the Facility.

1.3.2 Reduction in Closure Cost Estimate and Amount of Financial Assurance §330.505(a)(4)

A reduction in the Closure Cost Estimate and the amount of financial assurance, in accordance with 30 TAC §330.505(a)(4), may be applied for provided written detailed justification for the Closure Cost Estimate and the reduced amount of financial assurance is submitted to the ED. For BVR Waste and Recycling Transfer Station, this reduction in the cost estimate and financial assurance will be considered a permit modification.

1.3.3 Maintenance of Financial Assurance for Recycling Facilities Store Combustible Materials Outdoors §330.505(b)(1)

It is understood that financial assurance must be maintained until closure is approved by the ED.

1.3.4 Maintenance of Financial Assurance until Closure is Approved §330.505(b)(2)

Additionally, it is understood that financial assurance must be maintained until closure is approved by the ED.

Table IIIB-1 Closure Cost Estimate

Item	Description	Quantity	Unit	Unit Cost	Extended Cost	Notes
A	**State Administration of Site Closure**					
1	Site survey and review files to determine closure activities	1	L.S.	$3,610.00	$3,610.00	
2	Prepare engineering plans and specifications	40	Hr.	$130.00	$5,200.00	Jr. Engineer
3	Procurement of bids	24	Hr.	$130.00	$3,120.00	Jr. Engineer
4	Contract award and administration of contract	1	L.S.	$10,190.00	$10,190.00	Equal to 5% of all other costs
B	**Dismantling and Removal of Site Equipment**					
1	Partial and full dismantling of processing units, including clean-up and decommisioning (equipment will be rendered unsable) of process equipment and facility	70	Hr.	$90.00	$6,300.00	Assumes two days for a crew of a foreman and two day laborors @ $90/hrs.
C	**General Cleanup of Site and Process Units**					
1	Cleanup and removal of wastes stored on-site	15	Days	$470.00	$7,050.00	Laborer and equipment (includes front end loader and operator)
2	Transport of wastes by an authorized transporter	15	Days	$2,060.00	$30,900.00	
3	Disposal of wastes at a TCEQ authorized facility	6,300	C.Y.	$20.00	$126,000.00	Maximum two days of waste storage to be disposed to the TCEQ Permitted facility.
4	General cleanup to include washdown and disinfection of Facility. To include removeal, transport, treatment, and disposal of all washdown waters and media.	1	L.S.	$15,450	$15,450.00	
5	Removal, treatment, and disposal of any contraminated soils, concrete, storm water, or any other contaminated materials on-site.	1	L.S.	$6,700.00	$6,700.00	
6	Vector control procedures	1	L.S.	$2,060.00	$2,060.00	
D	**Secure Site**					
1	Install locks and sign stating that the Facility is closed. Make any needed repairs to fence and gates. Secure all buildings and fences/gates.	1	L.S.	$2,060.00	$2,060.00	
E	**Certification of Abandonment and Completion of Cleanup**					
1	Sampling/testing/classification of wastes (ash, liquids, sludge, and other wastes not readibly identifiable as garbage, trash, refuse). To include lab reports, chain of custody documentation, and quality assurance and quality control.	1	L.S.	$4,120.00	$4,120.00	
2	Perform site inspection and prepare certification of closure.	1	L.S.	$3,090.00	$3,090.00	
				Subtotal	$225,850.00	
			Sales Tax (8.25%)		$18,632.63	
F	**Contingency Cost**		Contingency (20%)		$45,170.00	
				Total	**$289,652.63**	
				Total, Say	**$289,660.00**	

Attachment IIIC
Stormwater Drainage Calculations

Stormwater Time of Concentration Calculations													
Facility Drainage Conditions													
	Area (AC)	Sheet Flow (Top Slope)[1]				Shallow Concentrated (Paved)			Ditch[3]			Calc. Tc (min)	Applicable Tc (min)[4]
		L (ft)	Slope (ft/ft)	n	T_1 (min)	Length (ft)	Slope (ft/ft)	T_2 (min)	L (ft)	V (fps)	T_3 (min		
Existing Roadside West Ditch	1.77	100	0.007	0.01	1.8	218.0	0.01	2.21	476	3	2.6	6.6	**10.0**
Proposed East Side Ditch	2.61	100	0.024	0.01	1.1	63.0	0.02	0.42	723	3	4.0	5.5	**10.0**

Notes:

1 Sheet Flow equation (eq. 3-3, TR-55):

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5} s^{0.4}} \qquad \text{[eq. 3-3]}$$

where:

T_t = travel time (hr),
n = Manning's roughness coefficient (table 3-1)
L = flow length (ft)
P_2 = 2-year, 24-hour rainfall (in)
s = slope of hydraulic grade line (land slope, ft/ft)

Sheet Flow flow length is capped at a maximum distance of 100 feet in calculations. (Refer TxDOT HDM)

2 Travel Time Equation (eq. 3-1, TR-55):

$$T_t = \frac{L}{3600V} \qquad \text{[eq. 3-1}$$

where:

T_t = travel time (hr)
L = flow length (ft)
V = average velocity (ft/s)
3600 = conversion factor from seconds to hours.

3 A conservative perimeter ditch velocity of 3 fps, and swale velocity of 2 fps are used in the travel time

4 Minimum time of concentration used for computation of rainfall intensity is 10 minutes. If the time of concentration computed for the drainage area is less than 10 minutes, then 10 minutes should be adopted for rainfall intensity computations. (Texas Department of Transportation, Hydraulic Design Manual, Section 12: Rational Method)

STATE OF TEXAS
ANNIE T. NGUYEN
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PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09/17/2024

Created by: ATN
Checked by: GRH
Approved by: GRH

Weighted Runoff Coefficient Calculation

Runoff Curve Number (CN)			
Cover Description	CN	Area (acre)	CN x Area
Existing Roadside West Ditch			
paved	0.95	1.28	1.213
Roof	0.95	0.38	0.361
Grass	0.3	0.11	0.034
	Total	1.77	1.6

CNW = 0.9
S (in) = 1101.11

Runoff Curve Number (CN)			
Cover Description	CN	Area (acre)	CN x Area
Proposed East Side Ditch			
paved	0.95	0.54	0.512
Roof	0.95	0.56	0.534
Gravel/Earth	0.5	1.51	0.756
	Total	2.61	1.8

CNW = 0.7
S (in) = 1418.57

Peak Flow Calculations - Rational Method						
Drainage Area	Structure	Total Area (AC)	Tc (min)[1]	I_{25} (in/hr)[2]	$_{C}$ [3]	Q_{25} (cfs)
Existing Roadside West Ditch	Roadside Ditch	1.77	10.0	8.27	0.90	13.2
Proposed East Side	East Fenceline Swale	2.61	10.0	8.27	0.70	15.1

[1] The Time of Concentration, Tc (min), calculated using the NRCS TR-55 method.
[2] The intensity, I (in/hr), value interpolated using the tabulated Atlas 14 values local to project site and dependent on the calculated Tc (min) as storm duration.
[3] The weighted runoff coefficient, C, calculated using C = 0.95 for roof and concrete, 0.5 for gravel, 0.3 for earth.

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Checked by: GRH
Approved by: GRH

25-Yr, 24 Hr- East Side Ditch CH:0+723 HydraFlow Express Input	
Section Type	Traingular
Bottom Width (ft)	0
Side Slope, z:1	3
Tot Depth (ft)	1.5
Slope (%)	0.5
n-value	0.015
Known Q (cfs)	15.2

25-Yr, 24 Hr- East Side Ditch CH:0+350 (Halfway) HydraFlow Express Input	
Section Type	Traingular
Bottom Width (ft)	0
Side Slope, z:1	3
Tot Depth (ft)	1.3
Slope (%)	0.5
n-value	0.015
Known Q (cfs)	7.6

25-Yr, 24 Hr- East Side Ditch CH:0+723 HydraFlow Express Output	
	Q25
Depth (ft)	0.99
Q (cfs)	15.2
Area (sqft)	2.94
Veloc (ft/s)	5.17
Wp (ft)	6.26
Top Width (ft)	5.94
Freeboard Calculation	
Freeboard (ft)	0.51

25-Yr, 24 Hr- East Side Ditch CH:0+350 (Halfway) HydraFlow Express Output	
	Q25
Depth (ft)	0.76
Q (cfs)	7.60
Area (sqft)	1.733
Veloc (ft/s)	4.39
Wp (ft)	4.81
Top Width (ft)	4.56
Freeboard Calculation	
Freeboard (ft)	0.54

Tipping Floor Drainage Calculation

Area of Tipping Floor	L (ft)	B (ft)	Area (ft2)
	220	75	16,500

	L (ft)	B (ft)	H (ft)	V (cu.ft)
North Trench	90	1	0.5	45
South Trench	65	1	0.5	32.5
Sump North	3	3	1.5	13.5
Sump South	3	3	1.5	13.5

Total Provied Capacity= 104.5 Cu.ft

Assume 2.3 gallons/min for 120 minutes is required to clean the tipping floor

Total Gallion of water needed used to clean tipping floor= 276 Gal of Water

36.90 Cu.ft < 104.5 Cu.ft

OK

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09/17/2024

Created by: ATN
Checked by: GRH
Approved by: GRH

NOAA Atlas 14, Volume 11, Version 2
Location name: College Station, Texas, USA*
Latitude: 30.572°, Longitude: -96.4057°
Elevation: m/ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**5.54** (4.20-7.32)	**6.36** (4.88-8.38)	**7.74** (5.92-10.2)	**8.86** (6.65-11.8)	**10.3** (7.46-14.1)	**11.4** (8.03-16.0)	**12.5** (8.59-18.0)	**13.6** (9.18-20.3)	**15.3** (9.95-23.5)	**16.6** (10.5-26.2)
10-min	**4.41** (3.34-5.83)	**5.07** (3.89-6.68)	**6.19** (4.72-8.14)	**7.08** (5.31-9.43)	**8.27** (5.99-11.3)	**9.13** (6.45-12.8)	**9.99** (6.89-14.4)	**10.9** (7.33-16.2)	**12.1** (7.87-18.6)	**13.0** (8.25-20.5)
15-min	**3.71** (2.81-4.90)	**4.24** (3.26-5.59)	**5.16** (3.94-6.79)	**5.88** (4.42-7.84)	**6.85** (4.95-9.34)	**7.53** (5.31-10.6)	**8.22** (5.67-11.9)	**8.99** (6.05-13.4)	**10.1** (6.55-15.5)	**10.9** (6.92-17.2)
30-min	**2.62** (1.98-3.46)	**2.98** (2.30-3.94)	**3.61** (2.76-4.76)	**4.11** (3.08-5.47)	**4.76** (3.44-6.49)	**5.22** (3.68-7.32)	**5.69** (3.92-8.23)	**6.23** (4.19-9.26)	**7.01** (4.56-10.8)	**7.66** (4.85-12.0)
60-min	**1.71** (1.29-2.25)	**1.96** (1.50-2.58)	**2.38** (1.82-3.14)	**2.73** (2.05-3.63)	**3.18** (2.30-4.33)	**3.50** (2.47-4.91)	**3.83** (2.64-5.55)	**4.23** (2.85-6.29)	**4.80** (3.12-7.39)	**5.28** (3.34-8.32)
2-hr	**1.04** (0.792-1.35)	**1.22** (0.942-1.58)	**1.52** (1.17-1.97)	**1.76** (1.34-2.32)	**2.10** (1.53-2.84)	**2.35** (1.67-3.27)	**2.62** (1.82-3.75)	**2.94** (1.99-4.31)	**3.40** (2.22-5.17)	**3.80** (2.41-5.89)
3-hr	**0.757** (0.583-0.983)	**0.906** (0.702-1.16)	**1.15** (0.886-1.48)	**1.35** (1.03-1.76)	**1.63** (1.20-2.19)	**1.85** (1.32-2.55)	**2.09** (1.45-2.96)	**2.36** (1.60-3.44)	**2.77** (1.81-4.17)	**3.11** (1.98-4.80)
6-hr	**0.437** (0.340-0.561)	**0.537** (0.417-0.673)	**0.691** (0.540-0.879)	**0.827** (0.638-1.07)	**1.02** (0.762-1.36)	**1.19** (0.855-1.62)	**1.36** (0.956-1.91)	**1.57** (1.07-2.25)	**1.87** (1.23-2.78)	**2.12** (1.36-3.23)
12-hr	**0.244** (0.192-0.310)	**0.308** (0.238-0.375)	**0.400** (0.315-0.501)	**0.486** (0.379-0.622)	**0.617** (0.465-0.814)	**0.729** (0.532-0.988)	**0.857** (0.606-1.19)	**1.00** (0.688-1.42)	**1.23** (0.809-1.80)	**1.42** (0.907-2.12)
24-hr	**0.137** (0.109-0.172)	**0.176** (0.137-0.210)	**0.231** (0.184-0.286)	**0.284** (0.224-0.360)	**0.367** (0.280-0.480)	**0.440** (0.325-0.591)	**0.525** (0.374-0.717)	**0.621** (0.428-0.867)	**0.764** (0.506-1.10)	**0.885** (0.569-1.31)
2-day	**0.078** (0.062-0.096)	**0.101** (0.079-0.118)	**0.133** (0.107-0.162)	**0.164** (0.131-0.205)	**0.213** (0.165-0.277)	**0.258** (0.193-0.343)	**0.309** (0.221-0.416)	**0.363** (0.251-0.499)	**0.440** (0.292-0.625)	**0.502** (0.324-0.732)
3-day	**0.056** (0.046-0.070)	**0.073** (0.058-0.085)	**0.096** (0.078-0.117)	**0.119** (0.095-0.147)	**0.154** (0.120-0.198)	**0.185** (0.139-0.244)	**0.220** (0.159-0.295)	**0.257** (0.179-0.351)	**0.309** (0.206-0.436)	**0.351** (0.227-0.507)
4-day	**0.045** (0.037-0.056)	**0.058** (0.046-0.068)	**0.076** (0.062-0.092)	**0.094** (0.075-0.116)	**0.120** (0.094-0.154)	**0.144** (0.108-0.189)	**0.170** (0.123-0.226)	**0.198** (0.138-0.269)	**0.237** (0.159-0.333)	**0.269** (0.174-0.386)
7-day	**0.030** (0.025-0.036)	**0.038** (0.031-0.044)	**0.049** (0.040-0.058)	**0.059** (0.048-0.072)	**0.074** (0.058-0.094)	**0.087** (0.066-0.113)	**0.102** (0.074-0.134)	**0.117** (0.082-0.158)	**0.140** (0.094-0.194)	**0.158** (0.103-0.225)
10-day	**0.023** (0.019-0.028)	**0.029** (0.024-0.034)	**0.037** (0.031-0.044)	**0.044** (0.036-0.054)	**0.055** (0.043-0.069)	**0.064** (0.048-0.082)	**0.074** (0.054-0.096)	**0.085** (0.060-0.113)	**0.100** (0.068-0.138)	**0.113** (0.074-0.160)
20-day	**0.015** (0.013-0.018)	**0.018** (0.015-0.021)	**0.023** (0.019-0.027)	**0.027** (0.022-0.032)	**0.033** (0.026-0.040)	**0.037** (0.028-0.047)	**0.042** (0.031-0.054)	**0.047** (0.033-0.062)	**0.054** (0.037-0.074)	**0.060** (0.039-0.084)
30-day	**0.012** (0.010-0.014)	**0.014** (0.012-0.017)	**0.018** (0.015-0.021)	**0.021** (0.017-0.025)	**0.025** (0.020-0.030)	**0.028** (0.021-0.035)	**0.031** (0.023-0.039)	**0.034** (0.024-0.044)	**0.038** (0.026-0.052)	**0.042** (0.028-0.058)
45-day	**0.010** (0.009-0.012)	**0.012** (0.010-0.014)	**0.014** (0.012-0.017)	**0.016** (0.014-0.019)	**0.019** (0.015-0.023)	**0.021** (0.016-0.026)	**0.023** (0.017-0.029)	**0.025** (0.018-0.033)	**0.028** (0.019-0.037)	**0.030** (0.020-0.041)
60-day	**0.009** (0.008-0.010)	**0.010** (0.009-0.012)	**0.012** (0.011-0.014)	**0.014** (0.012-0.016)	**0.016** (0.013-0.019)	**0.018** (0.014-0.022)	**0.019** (0.014-0.024)	**0.021** (0.015-0.027)	**0.022** (0.015-0.030)	**0.024** (0.016-0.032)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves
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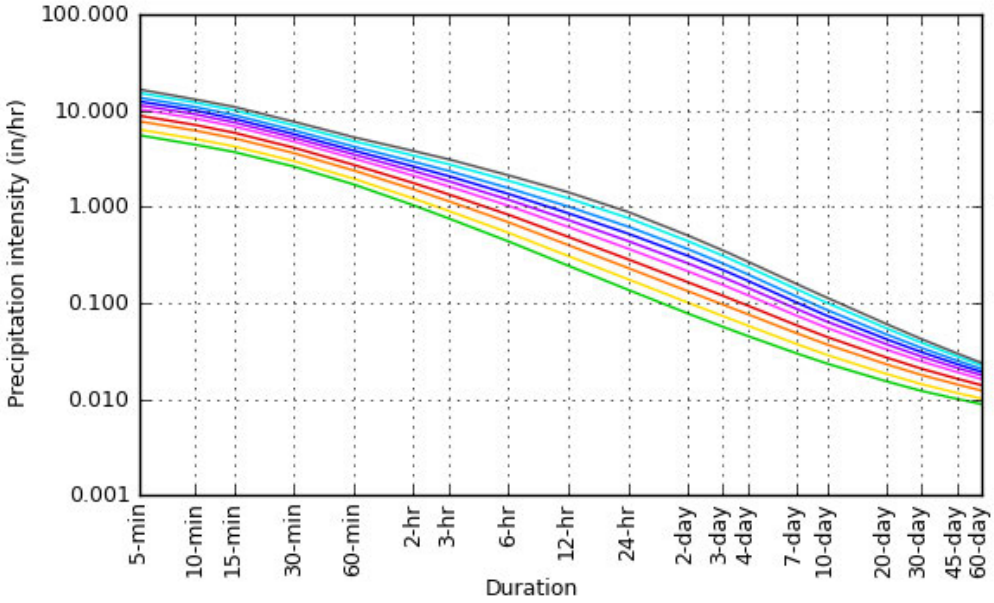

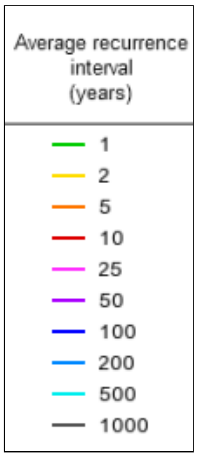

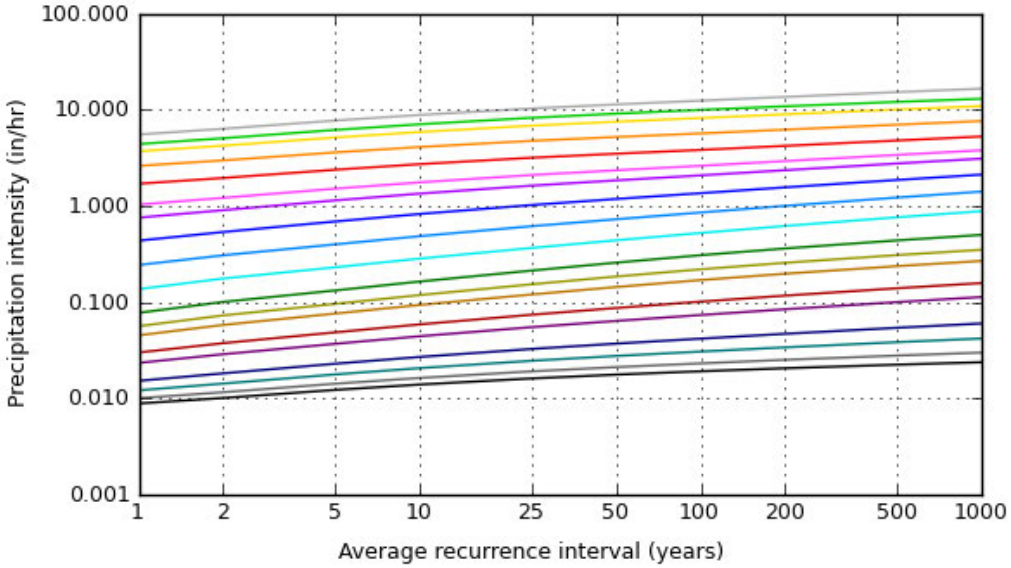

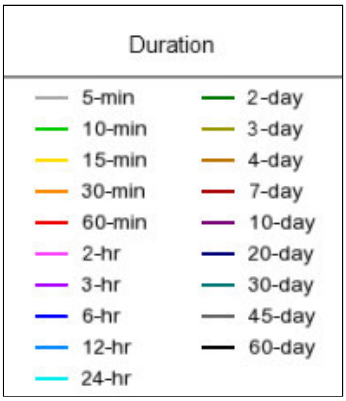

NOAA Atlas 14, Volume 11, Version 2

Created (GMT): Sun Apr 16 17:00:36 2023

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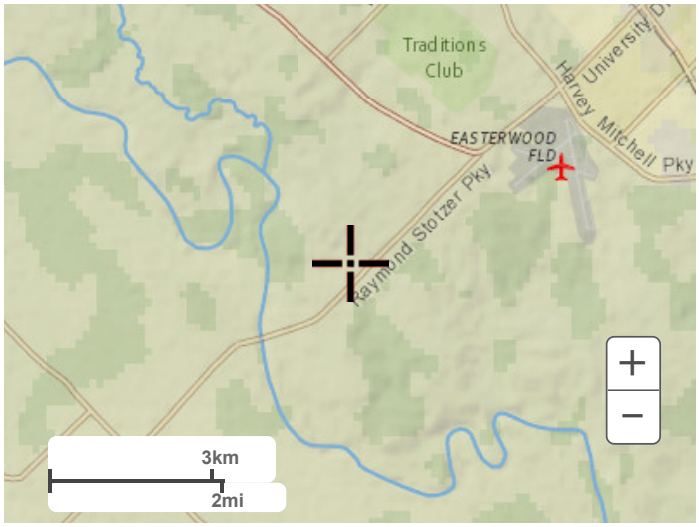
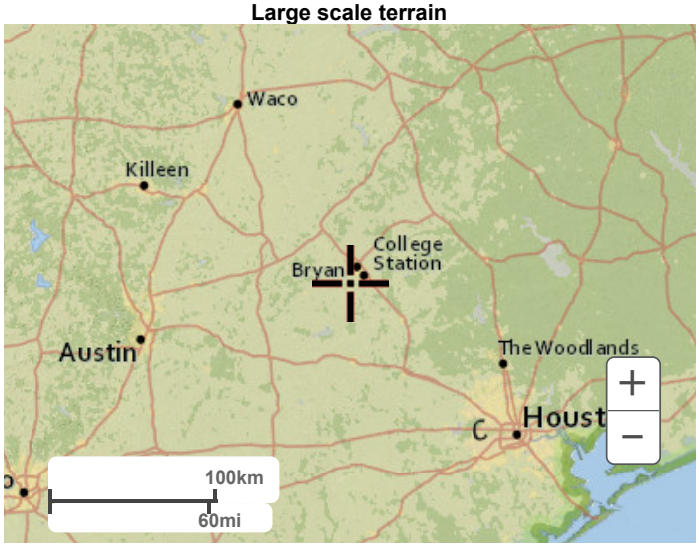
Maps & aerials

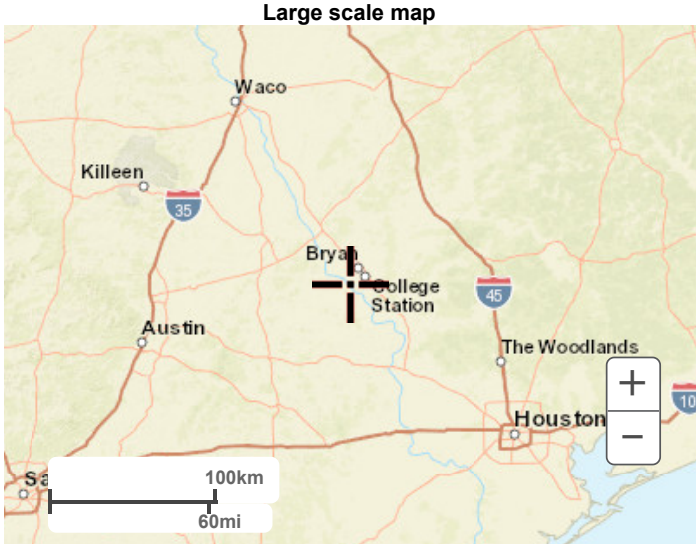
Small scale terrain



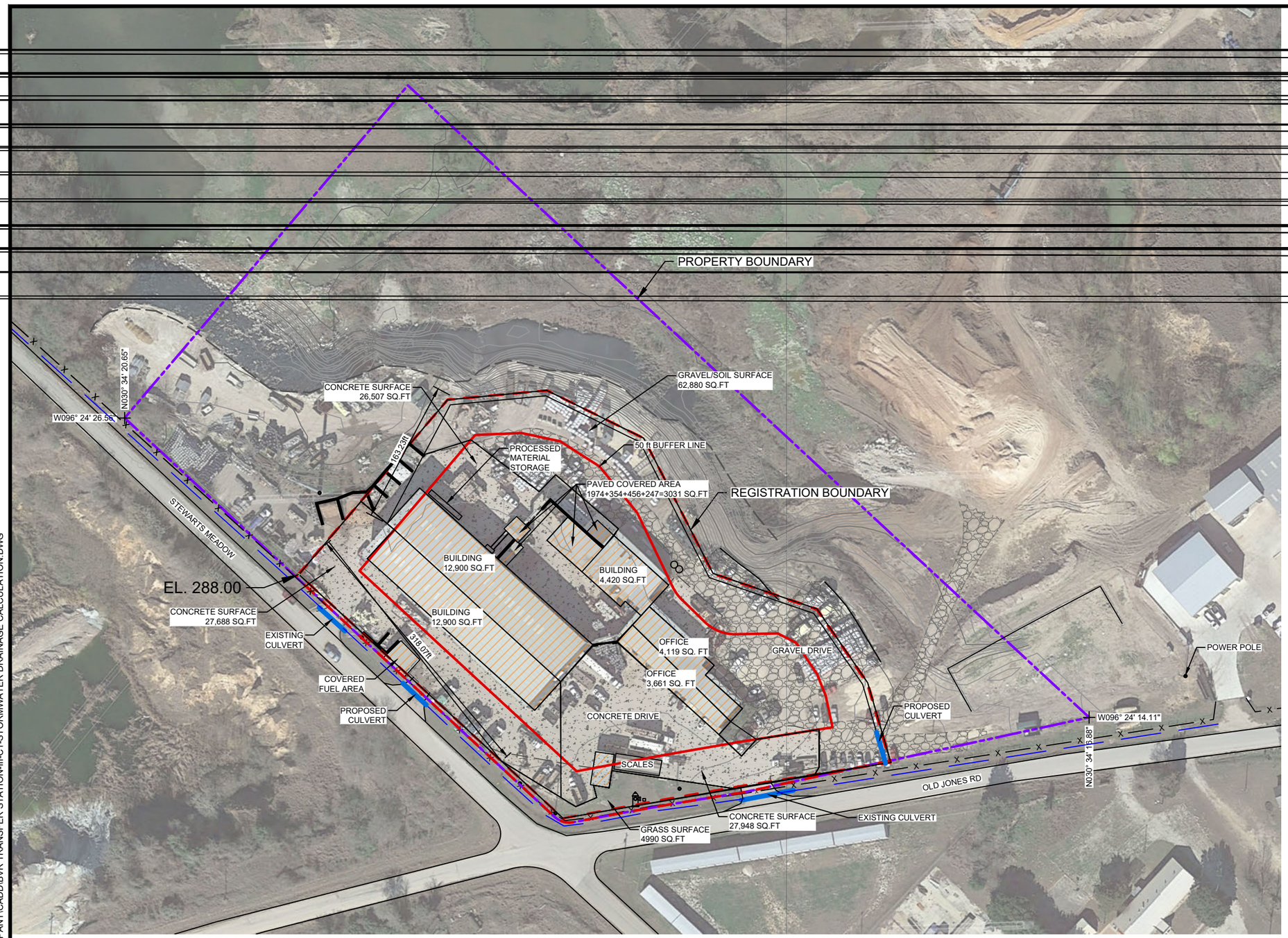
Large scale terrain



Large scale map



Large scale aerial



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REFERENCE

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

N

120’ 0 120’

STATE OF TEXAS
ANNIE T. NGUYEN
140335
LICENSED
PROFESSIONAL ENGINEER

INTENDED
FOR PERMITTING
PURPOSES ONLY
09/17/2024

ISSUED FOR PERMITTING

Title:

STORMWATER DRAINAGE CALCULATION
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	III-C1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-III-C1-STORMWATER DRAINAGE CALCULATION.DWG		

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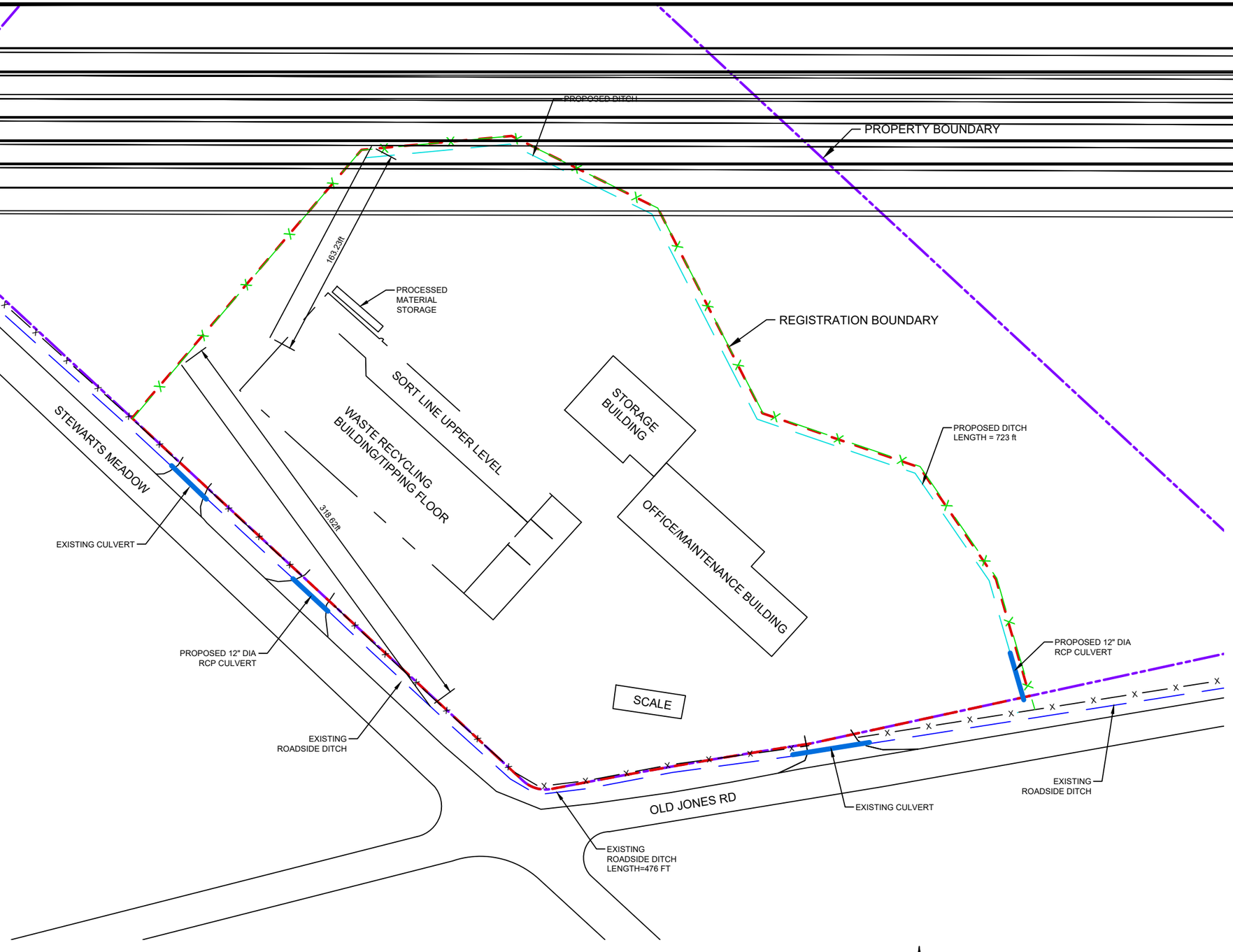

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ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	III-C2
Project Mgr: ATN	Project: 4759.0001H000	
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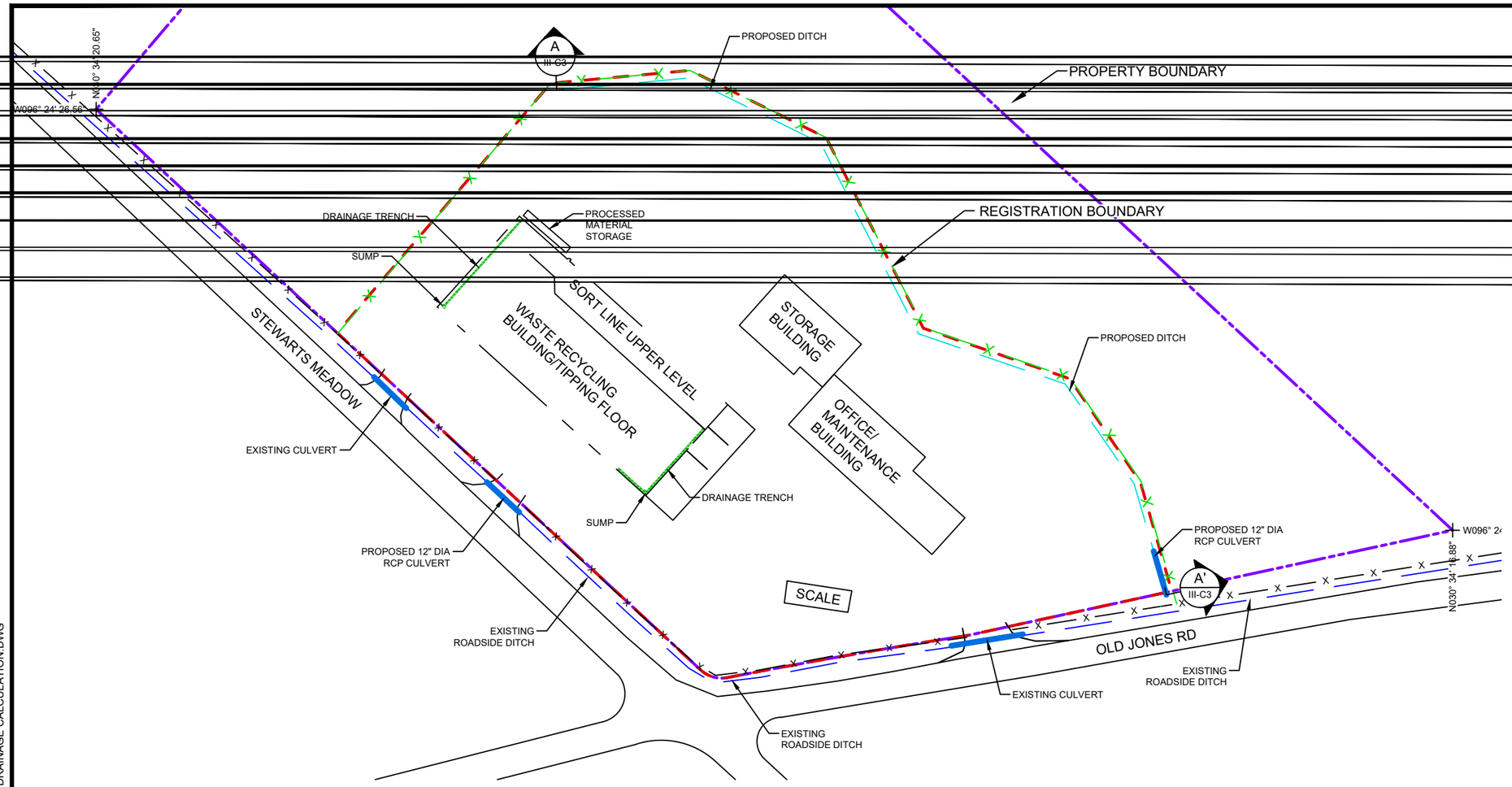

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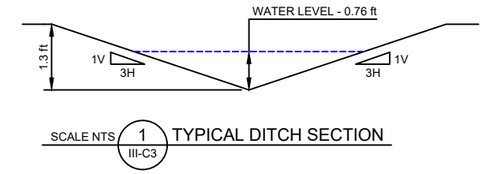

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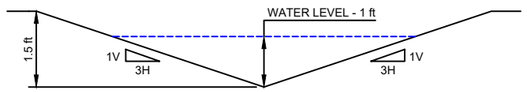

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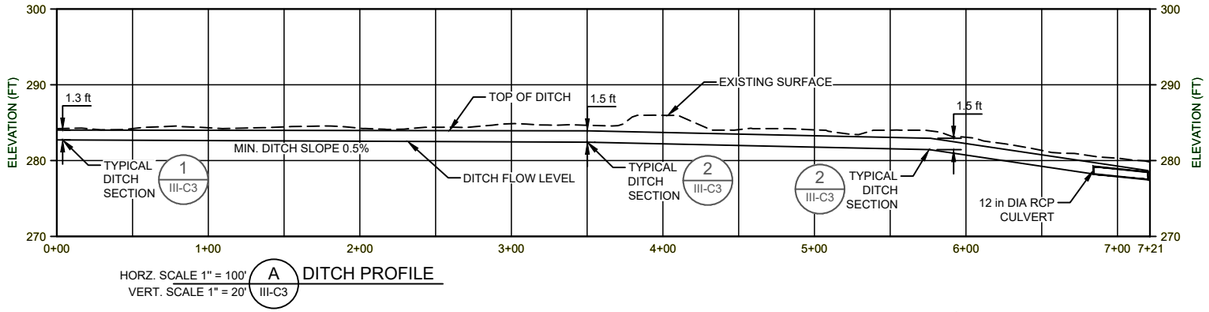

HORZ. SCALE 1" = 100'
VERT. SCALE 1" = 20'
A III-C3 DITCH PROFILE

N

100' 0 100'

STATE OF TEXAS
ANNIE T. NGUYEN
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Title:
STORMWATER DRAINAGE CALCULATION
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	III-C3
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Type V Transfer Station Registration Application, Part IV Report

BVR Waste and
Recycling Transfer Station
College Station
Brazos County, Texas

Prepared for:

Brannon Industrial Group, LLC
1555 TX-36
Brenham, TX 77833

Prepared by:

Roux Associates, Inc.
19450 State Highway 249, Suite 260
Houston, Texas 77070

INTENDED FOR PERMITTING PURPOSES ONLY

SEPTEMBER 2024

STATE OF TEXAS
GARY RUSSELL HORWITCH
68458
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INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

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& Management
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4769.0001H100/R

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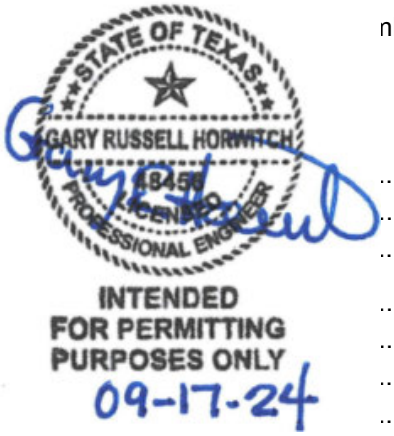

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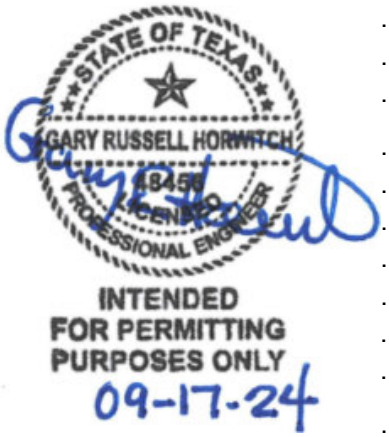

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Tables

Figures

1. Introduction to Part IV 30 TAC §330.65(a)

The BVR Waste and Recycling Transfer Station ("Facility" or "Site") will be a Type V recycling and recovering solid waste facility operated by Brannon Industrial Group, LLC ("BIG"). In accordance with Title 30 of the Texas Administrative Code (30 TAC) Chapter 330, Subchapter B, §330.65, Contents of Part IV of the Application, a Site Operating Plan (SOP) is being submitted for the Facility. Regulatory citations noted throughout the SOP narrative refer to corresponding sections of the 30 TAC.

Per §330.65(a), this SOP has been prepared based on 30 TAC Chapter 330, Subchapter D & E, relating to Operational Standards for Municipal Solid Waste Landfill Facilities and Operational Standards for Municipal Solid Waste (MSW) Storage and Processing Units. The plan will provide general instruction to facility management and operating personnel for day-to-day operations of the facility. The SOP must be retained during the active life of the Facility. This document provides an operating guide for Facility management to maintain the Facility in compliance with the applicable regulatory requirements of the Texas Commission on Environmental Quality (TCEQ) or appropriate successor agency, to protect human health and the environment, and to prevent nuisances.

1.1 Reporting Requirements 30 TAC §330.675

Failure to achieve the minimum 10% recycled rate in any two quarters in a one-year period will cause a change in the facilities status and require the owner to obtain a permit to continue Facility operations.

The Facility shall submit an annual report to the Executive Director (ED) by November 10 of each year summarizing the recycling activities and percent of incoming solid waste that was recycled during the past calendar fiscal year. The fiscal year begins on September 1 and concludes on August 31. The report shall be a form furnished by the ED or reproduced from a form furnished by the ED. Reports may also be submitted by an electronic form or format furnished by the ED. A new form will be furnished by the ED annually, prior to the due date. Reports shall include, at a minimum:

- Facility operator's name, address, and phone number;
- Permit number, permit application number, or permit number;
- Facility type, size, and capacity;
- Volume of waste received reported in short tons or in cubic yards received at the gate;
- Percent solids;
- Method of determining the percent solids that have been processed, disposed, and recycled or reused;
- Method used to achieve at least 10% recycling or reuse of incoming materials; and

Reconciliation of volume of waste with amounts documented on manifests, shipping documents, and/or trip tickets, and indicate where the recyclable material was taken for recycling.

1.2 Other Requirements 30 TAC §330.65(d)

The Facility does not accept or process grit trap wastes or sludges, and will not be a grease trap waste, grit trap waste, or septage processing facility. Therefore, the requirements of this rule do not apply.

2. Waste Acceptance and Analysis 30 TAC §330.203

2.1 Waste Source and Characteristics 30 TAC §330.203(a)

This BVR Waste and Recycling Transfer Station will be authorized to receive permitted wastes as defined below. Waste acceptance and subsequent processing for re-use is based upon the types of wastes that make up the incoming waste stream. General operations will be conducted in a manner that allows the prompt and efficient unloading of waste. The waste will be discharged from the collection vehicles onto the Facility processing floor (tipping floor) within the Waste Storage Processing Structure (WSPS). It is expected that a maximum of 6,300 Cubic Yard (CY) of solid waste and recyclable materials will be stored at the Facility at any time; this will consist of the materials in the tipping floor and materials in the various stages of processing and recycling within the WSPS.

Based on this historical estimate of the solid waste data for the Facility, it is expected that a typical unit of non-recyclable solid waste arriving at Facility would, at a maximum, remain on Facility for approximately two days. The average length of time solid waste will remain on Facility is one day. This includes the time for waste processing and the time to fill a container for transportation to an off-site TCEQ permitted disposal facility or to a third-party recycler.

2.1.1 Acceptable Wastes

The composition of permitted waste the Facility has received for material recovery consists of the following types of materials:

- Untreated Lumber – Untreated lumber includes boards, strip lumber, plywood, particleboard, and paneling;
- Untreated Sheetrock – Untreated sheetrock will be recycled; any painted or chemically treated sheetrock will not be recycled;
- Cardboard;
- Clean Wood and Clean Brush Debris – Clean wood and clean brush debris includes trees, branches, limbs, leaves, grass cuttings, brush, and other organic vegetation;
- Inert Fill Materials – Inert fill materials include bricks, stones, concrete, soil, gravel, sand, and dirt;
- Treated Lumber – Treated lumber includes boards and strip lumber that has been treated with chemical agents. Also included in this category is lumber, plywood, or other process wood materials with painted surfaces;
- Durable Plastics and Metals – Durable plastics and metals include polyvinyl chloride (PVC), high density polyethylene (HDPE), and linear low density polyethylene (LLDPE) pipe, metal pipe and frames, sheet metal, and other similar materials. This material usually comes in the form of pipes, fittings, buckets, and sheet metal;
- Source-Separated Recyclable Materials: Source-separated materials consisting of bottles, cans, containers from specific strategic located locations that are solely designated for recycle; and
- Other – Miscellaneous debris includes paper, glass, plastic sheeting, felt, shingles, paint cans, tubes, e-waste, ballast, fluorescent light fixtures, or other spent construction related products or containers.

These wastes are referred to as permitted wastes in the remainder of this RA.

In accordance with 30 TAC 330.203(a), the source of these waste streams shall be from residential and commercial construction and demolition sites within the counties included within the Brazos Valley Council of Governments.

Limiting Parameters

There are no limiting parameters such as TPH, metal concentrations, etc. for this application for a Type V transfer station.

Special Waste Receipt

This Facility will not accept special waste. Therefore, this section does not apply to the Facility.

Receipt of Industrial Waste

This Facility will not accept industrial waste. Therefore, this section does not apply to the BVR Waste and Recycling Transfer Station.

2.1.2 Prohibited Wastes

The Facility will not accept the following wastes:

- Household garbage;
- Putrescible wastes;
- Liquid wastes;
- Special wastes;
- Special waste from health-care-related facilities;
- Municipal waste water treatment plant sludges, other types of domestic sewage treatment plant sludges, and water-supply treatment plant sludges;
- Septic tank pumping's;
- Grease and grit trap wastes;
- Wastes from commercial or industrial waste water treatment plants; air pollution control facilities; and tanks, drums, or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 Code of Federal Regulations (40 CFR), Part 261, Appendix VIII but has not been listed as a commercial chemical product in 40 CFR, §261.33(e) or (f);
- Slaughterhouse wastes;
- Dead animals;
- Pesticide (insecticide, herbicide, fungicide, or rodenticide) containers in accordance with 30 TAC §330.136(b)(5);
- Discarded materials containing asbestos;
- Incinerator ash;
- Soil contaminated by petroleum products, crude oils, or chemicals;
- Hazardous waste;
- PCB waste;
- Radioactive waste;
- Unknown chemical or containerized waste;

- White goods containing chlorinated fluorocarbons (CFCs);
- Used oil filters;
- Used oil;
- Class 1 non-hazardous industrial waste;
- Class 2 non-hazardous industrial waste; and
- Regulated Asbestos Containing Materials (RACM).

2.2 Waste Acceptance Rate, Storage, and Recovery 30 TAC §330.203(b)

2.2.1 Waste Acceptance Rate

This Facility is authorized to receive permitted wastes as defined in **Section 2.1.1**. Waste acceptance and subsequent processing for re-use is based upon the types of wastes that make up the incoming waste stream. The maximum daily volume of incoming waste material is approximately 3,150 cubic yards (CY). The solid waste will remain in containers until ready for processing. It is expected that a maximum of 6,300 CY of solid waste will be stored on Facility; this will consist of the materials in the containers and materials in the various stages of processing and recycling within the waste processing area.

2.2.1.1 Waste Acceptance by Waste Type

The waste amounts by waste types listed in **Table IV-1** are only estimates and are not intended to be a limitation or constraint on waste acceptance at the site.

Table IV-1. Waste Acceptance by Waste Type

Waste Type	Estimated Daily Amount (as a percentage of Waste)
Mixes materials	15%
Untreated Lumber	10%
Untreated Sheetrock	10%
Cardboard	5%-20%
Clean Wood and Brush	15%
Inert Materials	25%
Durable Plastic and Metals	5% - 20%
Other Materials	10%
Total Waste	***100%***

2.2.2 Waste Storage and Processing

The maximum amount of waste to be stored at any one point in time at the Facility is 6,300 CY. All waste storage or holding will occur within the WSPS or within an enclosed container. No storage of waste materials will occur outside of the WSPS or enclosed container. The average time waste is anticipated to be stored on Facility is one day and the maximum time waste is anticipated to be stored on Facility is two days. The

wastes will be processed for recyclable materials and re-containerized. The recyclable materials will be sent to a recycling facility and the wastes will be sent to a TCEQ-authorized waste disposal facility within 50 miles of the Facility.

2.2.3 Waste Recovery Rate 30 TAC § 330.203(b) & 30 TAC §330.9(e)

Types of materials that the Facility will recover and recycle include, but are not limited to, the following:

- Untreated Lumber – Usable boards, strip lumber, sheet lumber, and wood products will be collected and transported off-site to a landfill within 50 miles of this Facility or to a third-party recycler. (Treated lumber will be sorted and placed in a container for proper waste disposal at a landfill within 50 miles of this Facility or recycled);
- Metal Products – Any sheet metal, pipes, framing, and/or other large, heavy, or bulky metal are sorted out of the incoming waste stream, and transported off-site to a landfill within 50 miles of this Facility or transported to a metal recycler. No CFC-containing appliances will be accepted unless the refrigerant system has been evacuated prior to arrival on-site.
- Recyclable Sheetrock – Recyclable sheetrock will be sorted and stored on-site in containers. Recyclable sheetrock includes sheetrock that has not been painted or chemically treated in any manner. Recyclable sheetrock will be transported off-site to a landfill within 50 miles of this Facility or transported to a third-party recycler;
- Cardboard – Cardboard boxes are sorted from the incoming waste stream, stockpiled. Cardboard will be placed in containers transported to a landfill within 50 miles of this Facility or recycled;
- Plastics – Plastic pipe, other plastic waste products, and fittings are sorted from the waste stream and placed in containers. Periodically, the stockpiled plastics will be transported off-site to a landfill within 50 miles from the Facility or recycled;
- Bricks, Stones, and Concrete – Durable inert material such as bricks, stones, and concrete will be sorted and placed in containers and transported off-site to a landfill within 50 miles of this Facility or to a third-party recycler;
- Wood and Brush – Clean wood and clean brush that is accepted by the Facility will be sorted and transported to an off-site third-party recycler or to a landfill within 50 miles from the Facility;
- Source-Separated Recyclable Materials: Source-separated materials consisting of bottles, cans, containers from specific strategic located locations that are solely designated for recycle; and
- Other – Miscellaneous debris includes paper, glass, plastic sheeting, felt, shingles, paint cans, tubes, e-waste, ballast, fluorescent light fixtures, or other spent construction related products or containers, will be sorted and placed in containers for transport to an off-site third-party recycler.

Unusable and Non-Recycled Materials

The following materials are expected to be unusable and/or non-recycled, once the waste stream has been processed through the Facility:

- Treated Lumber – Any lumber, plywood, or other processed wood materials, including boards and strip lumber that have been chemically-treated and/or painted will be collected and transported off-site to a landfill within 50 miles from the Facility;
- Treated Sheetrock – Painted or chemically-treated sheetrock will be collected and transported off-site to a landfill within 50 miles of the Facility;
- Miscellaneous Debris – Miscellaneous debris includes paper, glass, plastic bags and sheeting, felt, shingles, paint cans, tubes, or other spent construction related products or containers. This material will be collected and transported off-site to a landfill within 50 miles from the Facility; and

- All Other Wastes – All other wastes remaining after the waste stream has been processed by the Facility and is not categorized as either of the above categories, will be transported off-site to a landfill within 50 miles from the Facility.

2.2.3.1 Waste Recovery Quarterly Report 30 TAC §330.9(g)(1)

BIG will provide quarterly reports showing the recovery percentages of the incoming waste for each quarter. The reports will include volumes of wastes received and a summary of wastes processed, disposed, recycled or reused.

Records will be kept for solids and recyclable materials leaving the Facility in the form of manifests, shipping documents, or trip tickets. The quarterly report must include manifests, shipping documents, or trip tickets to show where the recyclable material was taken for recycling, and the recycled material must be reconciled with the volume of waste received.

Fats, oils, and greases recovered is considered to be part of the 10% recovery of material for beneficial use. The recovery of water is not to be considered. Any material such as lime, polymer, or flocculent added as part of the recycling process is not allowed to be considered as part of the 10% recovery of material from the waste stream and must be subtracted from the material considered as recycled. Any material diverted from the waste stream without processing is not considered as part of the 10% recovery of material.

Failure to achieve the relevant 10 percent recycling rate in any two quarters within any one-year period will cause a registration to terminate and will require the owner or operator of the Facility to obtain a permit to continue facility operations.

3. Facility Operation Requirements

3.1 Facility-Generated Waste 30 TAC §330.205(a)

3.1.1 Characteristics and Concentrations of Wastes Generated by Facility 30 TAC §330.205(a)

The only Facility-generated waste is wastewater (i.e., wash water resulting from washing the tipping floor). This wastewater will be handled as described in **Section 4.6.3**.

The intended destination of the solid waste generated by the Facility (if any) is an authorized solid waste management facility. All wash water will be removed from the sumps and trench drains using vacuum trucks or similar equipment on an as-needed basis. The liquids will be used for dust control within the WSPS and/or disposed at an appropriately permitted facility or otherwise disposed in accordance with 30 TAC §330.207, and any other applicable local, state, or federal rules and regulations concerning polluted waters. The Facility will maintain documentation in the operating record that all wastes leaving the Facility are being adequately managed by other licensed or permitted facilities. All wastes generated by the Facility will be processed or disposed of at an authorized solid waste management facility.

3.1.2 Manage Waste 30 TAC §330.205(b)

All wastes generated by the Facility will be processed or disposed of at an authorized solid waste management facility.

3.1.3 Manage Wastewater 30 TAC §330.205(c)

Two sumps will be provided for the collection of all wash, quench, or other contaminated water generated within the WSPS. Potentially contaminated runoff is minimized by covering the processing area in this matter. Polluted wash or quench waters generated by the Facility operations will be collected within the sumps. All liquids will be removed from the sumps using vacuum trucks or similar equipment on an as-needed basis, but in no case will water within the confines of the WSPS remain for more than 24 hours when operational. The liquids will be used for dust control within the WSPS and/or disposed at an appropriately permitted facility or otherwise disposed in accordance with 30 TAC §330.207, and any other applicable local, state, or federal rules and regulations concerning polluted waters. Off-site discharge of non-contaminated stormwater or polluted waters will only occur after approval under the Texas Pollution Discharge Elimination System (TPDES) authority per 30 TAC §330.207.

3.1.4 Design and Operation of Facility for Produced Sludges 30 TAC §330.205(d)

No sludges will be produced by the Facility; therefore, this section is not applicable.

3.1.5 Contaminated Water Management-Water pollution Control 30 TAC §330.207(a)

The Facility will take the necessary steps to control and prevent the discharge of contaminated water from the Facility.

Surface drainage in and around the Facility will be controlled to minimize surface water running onto, into, and off the working areas. All solid waste processing will be conducted within the WSPS (see **Figures IV-3 and IV-4**). Two sumps will be provided for the collection of all wash, quench, or other contaminated water generated within the WSPS. Potentially contaminated runoff is minimized by covering the processing area in this matter. Additionally, all active storage boxes for recycled materials will also be located on the east side

of the WSPS. Polluted wash or quench water generated by the Facility operations will be collected within the sumps. All liquids will be removed from the sumps using vacuum trucks or similar equipment on an as-needed basis, but in no case will water within the confines of the WSPS remain for more than 24 hours when operational. The liquids will be used for dust control within the WSPS and/or disposed at an appropriately permitted facility or otherwise disposed in accordance with 30 TAC §330.207, and any other applicable local, state, or federal rules and regulations concerning polluted waters. Off-site discharge of contaminated stormwater or polluted waters will only occur after approval under the TPDES authority per 30 TAC §330.207.

3.1.6 Collect and Manage Contaminated Water 30 TAC §330.207(b)

Surface drainage in and around the Facility will be controlled to minimize surface water running onto, into, and off the waste storage and process structure (WSPS). All solid waste processing will be conducted within a WSPS (see **Figures IV-3 and IV-4**). Two sumps will be provided for the collection of all wash, quench, or other contaminated water generated within the WSPS. Additionally, all active storage boxes for recycled materials will also be located outside on east sides of the WSPS. Polluted wash or quench waters generated during tipping floor cleaning will be collected within the sumps. All liquids will be removed from the sumps using vacuum trucks or similar equipment on an as-needed basis, but in no case will water within the confines of the WSPS remain for more than 24 hours when operational. The liquids will be used for dust control within the WSPS and/or disposed at an appropriately permitted facility or otherwise disposed in accordance with 30 TAC §330.207, and any other applicable local, state, or federal rules and regulations concerning polluted waters. Off-site discharge of contaminated stormwater or polluted waters will only occur after approval under the TPDES authority per 30 TAC §330.207.

Wastewater discharged from the Facility will be disposed to a treatment facility permitted under the Texas Water Code, Chapter 26 must comply with the requirements of 330.207(f). The WSPS foundation, floor slab, and containment systems are constructed on a clay rich compacted soil grade fill that will act as a contiguous clay liner beneath the concrete floor slab, foundation units and secondary retaining walls within the confines of the WSPS. The combined sumps and trench drains within the WSPS have a storage capacity of 104.5 cubic feet of storage for the collection of contaminated water and leachate from within the WSPS as follows:

- Tipping floor North trench drain – 45 cubic feet (ft^3)
- Tipping floor South trench drain – 32.5 ft^3
- Tipping floor Northwest sump – 13.5 ft^3
- Tipping floor Southwest sump – 13.5 ft^3
- Total – 104.5 ft^3

As part of the operations of the WSPS, either dry adsorbent or a dedicated high-pressure washer will be used to clean the surface of the floor. The estimate volumes of contaminated wash water and contaminated leachate from this cleaning operation, using a high-pressure steam cleaner (2.3 gallons/minute for 120 minutes) for the tipping floor area produces approximately 276 gallons of fluid (or 37 ft^3) for the cleaning of the tipping floor slab. The volume of the combined sump and trench drains is approximately 104.5 ft^3, therefore, there is an excess storage in the sumps of approximately 67.5 ft^3 within the tipping floor trench drain and floor slab.

All fluids from tipping floor will be drain to their respective sumps at all times. The on-site sumps will be observed on a daily basis and emptied using the vacuum trucks or similar equipment, thus allowing these areas to drain to their respective sumps at all times. Since the WSPS is covered, it is not necessary to design

the overall system for one foot of freeboard over the 25-year, 24-hour stormwater event. As discussed earlier, these volumes are considered conservative in nature, since it is the intent of the Facility to use dry adsorbent to clean the tipping floor slab area. Wet cleaning will only be used on an as-needed basis to augment the dry-cleaning process.

Surface water outside the tipping floor will drain into the adjacent drainage swales via surface run-off as shown on **Figure IV-1**. The processing and waste storage areas of the Facility will be protected from on-site run-on with 1 feet ramp at the entrance of the unloading areas. The Facility is outside the 100-year flood plain.

Additionally, the Facility has obtained the TPDES Stormwater General Permit no. TXR05GD63 on July 13, 2023, to discharge off-site contaminated stormwater or polluted waters. A copy of the TPDES Stormwater General Permit No. TXR05GD63is included in **Part III, Attachment IIIC**.

3.1.7 Clay or Synthetic liner Collection Units under 30 TAC §330.331(b) and 30 TAC §330.207(b)

Since this is an application for a Type V transfer station, this section is not applicable.

3.1.8 One Foot of Freeboard for 25-Year, 24-Hour Rainfall Event for Contaminated Water 30 TAC §330.207(b)

The WSPS building is designed to contain water that may have contacted waste. Since the WSPS is a covered structure, it is not necessary to install a trench and sump for containment of the 24-hour, 25-year rainfall event with 1 foot of free board. The trench and sump are only designed to capture the water during high pressure steam cleaning of the tipping floor.

3.1.9 Septic System 30 TAC §330.207(d)

The Facility will not discharge into a septic system.

3.1.10 Discharge Contaminated Water after Approval under Texas Pollution Control Discharge Elimination System Authority 30 TAC §330.207(e)

The Facility has obtained the TPDES Stormwater General Permit no. TXR05GD63 on July 13, 2023, to discharge off-site contaminated stormwater or polluted waters. A copy of the TPDES Stormwater General Permit No. TXR05GD63 is included in **Part III, Attachment IIIC**.

3.1.11 Acknowledgement Discharge Wastewater Comply with 40 Code of Federal Regulations Part 403 30 TAC §330.207(f)(1)

The Facility/Transfer Station has obtained the TPDES Stormwater General Permit no. TXR05GD63 on July 13, 2023, to discharge off-site contaminated stormwater or polluted waters. Wastewater discharged from the site to a treatment Facility permitted under the Texas Water Code, Chapter 26 must comply with the requirements of 330.207(f). A copy of the TPDES Stormwater General Permit No. TXR05GD63 is included in **Part III, Attachment IIIC**.

3.1.12 Effluent Standard for Oil and Grease Concentration 30 TAC §330.207(g)

No grease, oil, or sludge will be accepted by the Facility; therefore, this section is not applicable.

3.2 Storage Requirements

3.2.1 Solid Waste Storage 30 TAC §330.209(a)

The Facility is authorized to receive permitted wastes as identified in **Section 2.1.1**. Trucks transporting waste proceed through the Facility's gated entrance off of Old Jones Road and traverse the Facility until they reach the WSPS. A schematic of the WSPS is shown on **Figure IV-3**. All solid wastes received and processed at the Facility are stored such that it does not constitute a fire safety or health hazard.

Material storage areas will be inspected monthly for ponded water and the harborage vectors. Vectors will be discouraged by maintaining a clean, neat area, and by removal of items once sufficient quantities are available for off-site transport.

Trained personnel will monitor all incoming loads of waste and will be trained to become familiar with the rules and regulations governing the various types of waste that can or cannot be accepted by this Facility. Solid waste unloading will be limited to the concrete surfaced waste processing area. Prior to sorting, Site personnel will relocate any wastes unloaded in unauthorized areas, to the waste processing area.

3.2.2 On-Site Storage Area for Source Separated or Recyclable Materials 30 TAC §330.209(b)

All materials that are recycled from the WSPS will be placed into a temporary storage area adjacent to the waste processing area. Some of the recycled materials will be bailed and stacked and some will be stored on containers. The stocking area will be maintained in a clean condition, so they do not constitute a nuisance and to retard the harborage, feeding, and propagation of vectors. All containers to be emptied manually will be capable of being serviced without the collector coming into physical contact with the solid waste and all containers that are mechanically handled are designed to prevent spillage or leaking during storage, handling and transport.

Salvaged materials will be removed from the Facility often enough to prevent the items from becoming a public nuisance, to preclude the discharge of any pollutants from the area, and to prevent an excessive accumulation of the material on Facility. The Facility will not accumulate recyclable materials in quantities that cannot be processed within such time as to avoid the creation of adverse conditions such as odors, windblown waste, insect breeding, or harborage of other vectors. If such accumulations occur, additional solid waste will not be received until the adverse conditions are corrected.

The Facility will not attempt to recycle large items (i.e., household appliances, etc.); rather, this material will be immediately transferred to a container destined to an off-site TCEQ approved landfill within 50 miles of the Facility for disposal or recycled.

3.2.3 Putrescible or Liquid Waste 30 TAC §330.209(c)

No putrescible or liquid waste will be accepted by the Facility; therefore, this section is not applicable.

3.3 Approved Containers

3.3.1 Container Design 30 TAC §330.211

Some of the recyclable materials from the WSPS will be placed into containers, and some will be bailed and stacked adjacent to the waste processing area. Non-recyclable materials (solid wastes) that were not immediately transported off-site for disposal, at an off-site TCEQ approved landfill, will be placed into

containers and stored within the WSPS. Containers with processed non-recyclable solid waste will not remain on Facility longer than one day. Non-reusable containers will be of suitable strength to minimize animal scavenging or rupturing during collection operations. Reusable containers will be maintained in a clean condition, so they do not constitute a nuisance and to retard the harborage, feeding, and propagation of vectors. All containers to be emptied manually will be capable of being serviced without the collector coming into physical contact with the solid waste and all containers that are mechanically handled are designed to prevent spillage or leaking during storage, handling and transport.

Existing processed/recycled materials (segregated wood, woodchips, cardboard, and concrete) associated with previous Facility operations, which are not considered a solid waste, may remain on Facility indefinitely, but not to the extent that the materials become a nuisance.

Windblown waste and litter resulting from Facility operations will be collected at least twice per week to minimize unsightly conditions and fire hazards. The Facility will maintain the 4-foot-high perimeter fence as a screening tool to minimize windblown materials.

3.3.2 Non-Reusable Containers 30 TAC §330.211(1)

Non-reusable containers will be of suitable strength to minimize animal scavenging or rupturing during collection operations.

3.3.3 Reusable Containers 30 TAC §330.211(2)

Reusable containers will be maintained in a clean condition, so they do not constitute a nuisance and to retard insect breeding and the harborage, feeding, and propagation of vectors.

3.3.4 Emptied Containers 30 TAC §330.211(2)(A)

All containers to be emptied manually will be capable of being serviced without the collector coming into physical contact with the solid waste.

3.3.5 Design Containers to Prevent Spillage/Leakage during Storage, Handling, and Transport 30 TAC §330.211(2)(B)

All containers that are mechanically handled are designed to prevent spillage or leaking during storage, handling, and transport.

3.4 Citizen's Collection Stations 30 TAC §330.213(a)-(b)

The Facility does not serve as a Citizen's Collection Station. Therefore, the requirements of §330.213 do not apply to this Registration Application.

3.5 Stationary Compactors 30 TAC §330.215(1) and (2)

The Facility does not have any stationary compactors; therefore, this section is not applicable.

4. Recordkeeping and Reporting Requirements 30 TAC §330.219

4.1 General Requirements

4.1.1 Maintain Copy of Permit/Registration/Application in Site Operating Record 30 TAC §330.219(a)

During the operating life of the Facility, the Operations Manager, Maintenance and Administrative Supervisors, or Maintenance and Administrative Supervisors designees will maintain a written Operating Record. Consistent with §330.219, copies of documents that are part of the approved permit process that are considered part of the Operating Record are listed in **Table IV-2**.

All information contained in the Operating Record will be made available during normal working hours for inspection by the ED of the TCEQ or his/her representatives. The Operating Record will be maintained at the Facility during Facility operations and will be made available for inspection by any officer, employee, or a representative of the TCEQ. Similar access to these records, plans, and data will be granted to duly authorized representatives of local governmental agencies acting under specific statutory authority with respect to this Facility (e.g., Brazos County personnel).

4.1.2 Operating Record 30 TAC §330.219(b) (1) – (7)

The Facility, in accordance with §330.219(b), will promptly record and retain in the Operating Record for items listed in **Table IV-2**.

Table IV-2. Operating Record – 30 TAC §330.219(b)

Records to be Maintained in the Site Operating Record	Frequency	Rule Citation
MSW Registration No. *****	Once	§330.219(a)
Approved RA for MSW Registration No. *****	Updated as permit modifications are approved	§330.219(a)
SOP	As updated	§330.219(a)
Other required plans or related documents	As updated	§330.219(a)
Location restriction demonstrations	As updated	§330.219(b)(1)
Inspection records and training procedures	Per occurrence	§330.219(b)(2)
Closure plans and any monitoring, testing, or analytical data relating to closure requirements	As required	§330.219(b)(3)
Cost estimates and financial assurance documentation relating to closure	Annually	§330.219(b)(4)
Correspondence and responses relating to Facility operation, registration modifications, approvals, and technical assistance	Per occurrence	§330.219(b)(5)
Other documents specified in the registration or by the Executive Director	As required	§330.219(b)(7)
Trip tickets as required by §312.145(b)(2)	Per occurrence (retained for 5 years)	§330.219(b)(8)
Dates, times, and durations of alternative operating hours	As required	§§330.219(g) and 330.229(d)
Inspection records and training procedures relating to fire prevention and Facility safety	As needed	§330.221(c)
Personnel training records and detailed job descriptions	As needed	§330.219(b)(2)
Records to justify on a quarterly basis that the relevant percentage of the incoming waste is processed to recover recycled products	Quarterly and Annually	§330.219(b)(9)
Load inspection records	Per occurrence	§330.203
Personnel operator licenses	As needed	§330.219(b)(2)
All Site inspection and maintenance documentation – Facility Inspection and Maintenance Schedule	As required	§330.223 – §330.243
A record of each unauthorized material removal event	Per occurrence	§330.225
Documentation that all wastes leaving the Facility are being adequately managed by other licensed or permitted facilities	As needed	§330.205(a)
An as-built set of construction plans and specifications	After completion of construction	§330.219a)

4.1.3 Signatory for Report 30 TAC§330.219 (c)(1)(A) – (C)

The Facility personnel will sign all reports and other information requested by the ED as described in §305.44(a) or by an authorized representative of the Facility. For a person to be an authorized representative of the Facility, the authorization must:

1. Be made in writing as described in §305.44(a),
2. Specify either an individual or a position having responsibility for the overall operation of the Facility, and
3. Submitted in writing to the ED.

If an authorization is no longer accurate because of a change in individuals or position, a new authorization must be submitted to the ED prior to or with any submittal to be signed by an authorized representative. Any person signing a report will make the certification included in §305.44(b).

4.1.4 Submit Authorization to Sign No Longer Accurate New Authorization 30 TAC§330.219 (c)(2)

If an authorization is no longer accurate because of a change in individuals or position, a new authorization must be submitted to the ED prior to or with any submittal to be signed by an authorized representative.

4.1.5 Certification in 30 TAC §305.44(b) by Person Signing Report 30 TAC§330.219 (c)(3)

Any person signing a report will make the certification included in §305.44(b).

4.1.6 Notification 30 TAC§330.219 (e)

The Facility, in accordance with §330.219(e), will furnish the Operating Record to the ED upon request and will be made available at all reasonable times at the Facility for inspection by the ED.

4.1.7 Record Retention 30 TAC§330.219 (f)

In accordance with §330.219(f), the Facility will retain all information contained within the Operating Record of the Facility and all plans required for the Facility for the life of the Facility until after certification of closure.

4.1.8 Alternative Schedules 30 TAC§330.219 (g)

The ED, in accordance with §330.219(g), may set alternative schedules for recordkeeping and notification requirements as specified in §330.219(g).

4.2 Personnel Training Records

Personnel training records will include the following information, at minimum:

- The job title for each position at the facility related to waste management and the name of the employee filling each job
- A written job description for each position related to waste management with education, or other qualifications, and duties of employees assigned to each position
- A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position related to waste management
- Records that document that the training or job experience required has been given to, and completed by, facility personnel.

Training records on current personnel must be kept until facility closure and training records on former employees must be kept for at least three years from the date the employee last worked at the facility.

5. Fire Protection 30 TAC §330.221

Per §330.221, the following requirements must be met for proper fire protection at the facility:

- An adequate supply of water under pressure must be available for firefighting purposes.
- Firefighting equipment must be readily available.
- A fire protection plan shall be established, and all employees shall be trained in its contents and use. This fire protection plan shall describe the source of fire protection (a local fire department, fire hydrants, fire extinguishers, water tanks, water well, etc.), procedures for using the fire protection source, and employee training and safety procedures. The fire protection plan shall comply with local fire codes.

The fire protection plan will be discussed in **Section 5.1**.

5.1 Fire Protection Plan 30 TAC §330.221(c)

The following steps will be taken regularly by designated Site personnel to prevent fires:

- Open burning of waste is prohibited;
- Burning waste from incoming waste loads will be prevented from being unloaded within the Facility. The Facility Operators will be alert for signs of burning waste such as smoke, steam, or heat being released from incoming waste loads. The vehicle will be directed to an area away from and not adjacent to the building, where waste can be safely discharged and the fire extinguished. Upon extinguishing the fire, the waste will be immediately moved to the compactor;
- Equipment used at the Facility will be routinely cleaned through the use of water or steam cleaners. The water or steam cleaning will remove combustible waste and caked material which can cause equipment overheating and increase fire potential;
- Fuel spills will be contained and cleaned up immediately;
- Smoking is not allowed in the working areas of the Facility. Smoking is confined to designated areas only, away from the receiving area, fuel stations, and other fire-sensitive areas; and
- The Facility is equipped with at least two strategically placed fire extinguishers. Each fire extinguisher will be fully-charged and ready for use at all times. Each extinguisher will be inspected on an annual basis and recharged, as necessary. These inspections will be performed by a qualified service company, and all extinguishers will display a current inspection tag. Inspection and recharging will be performed following each use. At a minimum, the office and applicable equipment will have fire extinguishers.
- The on-site water is supplied by community water system at a minimum pressure of 40 psi. this water source will be adequate for most small fires; and
- On-site hoses.

The fire protection plan is in compliance with local fire codes.

5.1.1 Procedures in the Event of a Fire 30 TAC §330.221(c)

The following general procedures will be taken in response to fires at the Facility:

1. Contact the Fire Department by calling 911. The City of College Station Fire Department would respond if necessary;
2. Alert other Facility personnel;
3. Assess the extent of the fire, the possibility for the fire to spread, and alternatives for extinguishing

the fire;

4. If it appears that the fire can be safely fought with available fire-fighting devices, attempt to contain or extinguish the fire until arrival of the Fire Department;
5. Upon arrival of the Fire Department, direct them to the fire, and provide assistance, if requested;
6. Do not attempt to fight a fire alone;
7. Do not attempt to fight a fire without adequate personal protective equipment (PPE);
8. Be familiar with the use and limitation of fire-fighting equipment; and
9. Fire-fighting methods include smothering the fire with soil, separating burning material from other waste, using on-site fire extinguishers, and the on-site water supplied by community water system. If detected soon enough, a small fire may be fought with a hand-held extinguisher. Fire extinguishers will be located at the main office and on major operating equipment i.e., track hoe. For small fires, the fire area should be watered or otherwise controlled to ensure that the fire is out or does not spread to adjacent areas.

Specific Fire-Fighting Procedures

The following procedures will be followed in the event of a fire:

1. If a fire is observed on stationary vehicle or piece of equipment, the first priority will be worker safety and getting all personnel safely away from the fire.
2. If the fire is on moving equipment, if possible, the vehicle or piece of equipment should be brought to a stop at a location away from any fuel supplies, solid wastes, and/or other vehicles. The driver will shut off the engine, engage the brake, or use some other appropriate method to prevent subsequent movement of the vehicle. In extenuating emergency circumstances, a driver may abandon the vehicle before it is safely secure. The Facility primary safety concern is worker safety.
3. If a small fire is discovered in the waste processing area,
    a. An attempt to isolate the burning waste should be implemented quickly prior to attempting to extinguish the fire;
    b. Apply water from the on-site source, and/or use the on-site fire extinguisher to attempt to fight the fire.
    c. If any of these options are not possible or is considered unsafe, the area should be cleared of personnel and a path cleared for the Fire Department.

5.1.2 Availability of Water for Firefighting Purposes 30 TAC §330.221(a)

The on-site water is supplied by the community water system at a minimum of 40 psi. The water source will be adequate for most small fires.

5.1.3 Fire Fighting Equipment 30 TAC §330.221(b)

Fire-fighting equipment provided at the Facility includes fire extinguishers. A minimum of 2 fire extinguishers will be provided at the Facility. Fire extinguishers will be fully charged and ready for use at all times. Each extinguisher will be inspected and recharged, if necessary, as recommended by the manufacturer. A qualified service company will perform these inspections, and all extinguishers will display a current inspection tag. Inspection and recharging will also be performed following each use. At a minimum, the main building, and all heavy equipment and vehicles, will be equipped with fire extinguishers.

5.1.4 Fire Protection Training 30 TAC §330.221(c)

This training will involve the Operations Manager, Maintenance and Administrative Supervisors, and Equipment Operators. The purpose of the training is to review fire-fighting procedures, equipment, fire prevention methods, and PPE.

This training should help the Site personnel become familiar with the Facility operations and special techniques in preventing and minimizing the spread of fires. The following topics will be addressed:

- Fire Prevention;
- Fire Safety; and
- Fire Fighting Procedures; and
- Fire Extinguisher Use and Capabilities.

5.1.5 TCEQ Notification

After any fire (related to waste management activities that cannot be extinguished within 10 minutes of discovery) occurs, the TCEQ regional office will be contacted. The notification to the regional office will include:

- Contracting by telephone as soon as possible, but no later than 4 hours following fire discovery, and
- Providing a written description of the cause and extent of the fire and the resulting fire response within 14 days of fire detection.

The Facility will provide the appropriate TCEQ regional office as much as information as possible regarding the fire and fire-fighting efforts, as soon as possible after fire occurs. The fire prevention and fire control procedures for the Facility will be revisited following the occurrence of a significant fire to determine if modifications are warranted.

5.2 Access Control

Access to the Facility will be limited to the entrance gate located on Old Jones Road. Vehicles entering the Facility property can be observed by the gatehouse attendant.

5.2.1 Facility Security 30 TAC §330.223(a)

Public access to the Facility will be limited to the gated Facility entrance. The Site Operator controls access and monitors vehicles entering and exiting the Facility. The Facility is fenced with a 4-foot chain linked or equivalent fence with a lockable gate.

Entrance to the Facility is monitored by Site personnel during Facility operating hours. Outside operating hours, the gate will be locked. Entry to the Facility will be restricted to designated personnel, appropriate subcontractors, approved waste haulers, TCEQ personnel, and properly identified persons whose entry is authorized by Facility management. Visitors may be allowed in the Facility only when accompanied by a Facility representative.

The Facility will comply with schedule and notification requirements in **Table IV-3** for any access breach.

Table IV-3. Schedule and Notification Requirements for Access Breach

Requirements	Access Breach Repaired within 8 hours	Access Breach Not Permanently Repaired in 8 hours
Notify regional office of breach and repair schedule	not required	within 24 hours
Make temporary repairs	not required	within 24 hours
Make permanent repairs	within 8 hours	within schedule submitted to regional office in initial notice
Notify regional office when permanent repair completed	not required	within schedule submitted to regional office in initial notice

5.2.2 Access Road from Public Road 30 TAC §330.223(b)

Access to the Facility is from Old Jones Rd. The entrance to the Facility is located on the North side of Old Jones Rd. The two-lane paved entrance has a gate that will be opened and unlocked during operating hours. Arriving trucks will enter through this gate and proceed down the concrete Pavement towards the processing area for material segregation and recovery.

Within the Facility, signs will be placed along the entrance road at a frequency adequate to guide users to the proper transfer station areas and which roads are to be used. Roads not being used for access will be blocked or otherwise marked for no entry. An open area just inside the Facility's entrance is wide enough to accommodate trucks/vehicles and their turning radii prior to dumping/unloading.

5.2.3 Vehicle Parking 30 TAC §330.223(b)

Vehicle parking for employees and visitors is provided inside of the Registration Boundary. No vehicles or equipment will be parked within the 50-foot buffer zone

5.2.4 Perimeter Control Fencing 30 TAC §330.223(c)

Facility security measures are designed to prevent unauthorized persons from entering the Facility, to protect the Facility and its equipment from possible damage caused by trespassers, and to prevent disruption of Facility operations caused by unauthorized Facility entry.

Unauthorized entry into the Facility is minimized by controlling access to the Facility with the perimeter fence and a locking gate at the entrance. The Facility is fenced with a 4-foot chain link or equivalent with a lockable gate. The gate will be locked when the Facility is not accepting waste.

5.3 Unloading of Waste Unloading Areas 30 TAC §330.225(a)

The Facility is authorized to receive permitted wastes as identified in **Section 2.2.1**. Trucks transporting waste proceed through the Facility's gated entrance off of Old Jones Road and traverse the Facility until they reach the covered WSPS. The schematics of the existing Facility, along with the Site Development Plan, are depicted on **Figure IV-1 and IV-2**. Loaded trucks with tarped loads may be staged outside of the WSPS for short periods of time awaiting access to the tipping floor or for adequate free capacity in waste processing area to develop such that they may unload.

Trained personnel will monitor all incoming loads of waste and will be trained to become familiar with the rules and regulations governing the various types of waste that can or cannot be accepted by this Facility. Solid waste unloading will be limited to the concrete surfaced waste processing area. Prior to sorting, Site personnel will relocate any wastes unloaded in unauthorized areas to the waste processing area.

Upon completion of the unloading operation, the transportation vehicles will immediately leave the WSPS. Facility personnel will direct traffic, as necessary, to expedite the safe movement of vehicles. Signs and barricades will prevent waste unloading in undesignated areas. Equipment Operators or other Facility personnel will observe the unloading of solid waste to ensure that prohibited wastes are not allowed and accepted by the Facility. If prohibited waste is observed in a waste load, the prohibited waste will be immediately returned to the transporter or generator of the waste. The general process flow schematic is shown in **Figure IV-3**.

A skid steer and excavator are primarily used to sort and segregate components of the incoming waste stream. Sorting takes place via excavator first flattening out loads after unloading. Once the load has been flattened sufficiently, a skid steer is used to sort the waste.

A preliminary sort of material will be performed to separate concrete and metal materials. Smaller materials will be placed on a conveyor for a final sort. The wood material will be grinded for use as mulch or shavings. The Facility will not attempt to recycle large items (i.e., household appliances, etc.); rather, this material will be immediately transferred to a container destined to an off-site TCEQ approved landfill within 50 miles of the Facility for disposal or recycled.

5.3.1 Prevention of Indiscriminate Dumping 30 TAC §330.225(a)

Arriving trucks/vehicles will be directed to the WSPS area by signs. These vehicles will deposit their loads and depart the Facility. No private or commercial solid waste vehicles will be allowed access to any other areas of the Facility other than the waste processing area and drop-off point designated by the Maintenance and Administrative Supervisors for each workday. Site personnel will provide traffic directions as necessary to expedite the safe movement of vehicles. No solid waste unloading, storage, or Facility operations will occur within 50 feet of the registration boundary.

Within the Facility, signs will be placed along the road at a frequency adequate for users to be able to understand where the waste processing area is and which roads are to be used. Roads not being used for access to the waste processing area will be blocked or otherwise marked for no entry.

All Facility roadways are routinely swept to control dust and mud accumulation.

5.3.2 Unacceptable Waste 30 TAC §330.225(a)

The WS/EO at the WSPS will visually inspect all incoming loads. Should any indication of prohibited wastes be detected, the Maintenance and Administrative Supervisors will be immediately summoned to conduct a more thorough evaluation of the load. Should any prohibited waste be confirmed or suspected, the entire load will be refused and the driver will be instructed to depart the Facility. The Facility reserves the right to reject any load, regardless of the waste composition and without need of any justification or analytical support.

In addition to the above procedure, the inspection of incoming loads will be documented on a random basis. The Maintenance and Administrative Supervisors will be responsible for documenting the inspections, at a minimum of one inspection per week and a maximum of one inspection per day.

The Maintenance and Administrative Supervisors is required to maintain and include in the Facility Operating Record the following:

1. Load Inspection Reports;
2. Records of hazardous or PCB waste notifications (if detected)
3. Personnel training records.

Load Inspection Reports will be completed for each inspected load. The reports will include, at a minimum, the date and time of inspection, the name and address of the hauling company and driver, the type of vehicle, the size and source of the load, contents of the load, indicators of prohibited waste, and results of the inspection. A sample of the Inspection Report Form titled Monthly Inspection Report is included **as Figure IV-5**.

TCEQ notification is required whenever hazardous or PCB waste is detected. Records of the notifications will be kept in the Facility Operating Record and will include the date and time of notification, the individual contacted, and the information reported.

Personnel training records will be maintained in the Facility Operating Record and will include evidence of successful completion of the training, type of training received, and the name of the instructor.

5.3.3 Waste in Unauthorized Areas 30 TAC §330.225(b)

The unloading of solid waste in unauthorized areas is prohibited. Solid waste unloading will be controlled to prevent dumping in locations other than those specified by Facility management. Prior to sorting, Site personnel will relocate any wastes unloaded in unauthorized areas, to the waste processing area.

5.3.4 Detention and Prevention of Unloading or Processing of Prohibited Waste 30 TAC §330.225(c)

The prohibited Waste Detection and Exclusion Program at the Facility include, at a minimum, the following steps:

1. Random inspections of incoming loads;
2. Certification by the hauler "Load Contains No Prohibited Wastes";
3. Records of all inspections;
4. Training for Facility personnel to recognize regulated hazardous and PCB waste;
5. Notification sent to the TCEQ of any incident involving the acceptance of prohibited waste at the Facility;
6. Copies of the records for remediation of the incident by the hauler, the waste generator and/or the Facility; and
7. Sufficient security measure to prevent the unauthorized entry and dumping of wastes.

5.3.5 Managing of Prohibited Waste 30 TAC §330.225(c)

Prohibited wastes detected during the inspection will not be accepted by the Facility and will be returned immediately to the generator. If the hauler is not available, the waste will be safely stored in an enclosed container until provisions for removal can be arranged. The prohibited waste will be isolated to prevent its mixture with waste accepted by the Facility. TCEQ notification is required whenever hazardous or PCB waste is detected.

If hazardous or PCB wastes are detected and the hauler is not available, a hazardous waste specialty contractor will be retained. The hazardous waste specialty contractor will characterize the waste and notify the hauler to remove the waste from the Facility. As soon as is practical, the hauler will be required to remove the hazardous or PCB waste from the Facility. Prior to removal, the hauler must obtain a United States Environmental Protection Agency (USEPA) identification number, package the waste in accordance with Texas Department of Transportation (TxDOT) regulations, and properly manifest the waste designating a permitted facility to treat, store, or dispose of the hazardous or PCB waste.

5.4 Spill Prevention and Control 30 TAC §330.227

Stormwater will be managed and controlled in accordance with Brazos County regulations and conveyed to the drainage ditch running along the western and southern boundary of the Facility which drains into east side along the Old Jonas Road. The stormwater management system layout and design consider that stormwater from a 25-year, 24-hour event within the operations area will be contained, and will be properly managed as described in the drainage calculation included **Part III, Attachment IIIC**.

Stormwater within the non-paved portions of the operations area will be managed by allowing these areas to drain to the Facility drainage system. It is not anticipated that stormwater will collect in the processing and waste storage areas as these activities will occur in the roofed WSPS. Because the processing area will be covered and all waste sorting and storage operations will be conducted under cover, the generation of potentially contaminated stormwater is greatly minimized.

In addition, Facility personnel will handle any sudden and non-sudden releases or spills as indicated in **Section 6.20**.

5.5 Site Operating Hours

5.5.1 Facility Operating Hours 30 TAC §330.229(a)

The Facility will receive and process waste at a maximum 24 hours per day, 7 days per week. Hours of operation may vary slightly, within the above referenced hours, depending on incoming waste volumes. **Figure IV-6** illustrates the Facility signage.

5.5.2 Waste Acceptance Hours and Operating Hours for Operating Heavy Equipment and Transporting Materials 30 TAC §330.229(a)

The Facility will receive and process waste at a maximum of 24 hours per day, 7 days per week. Hours of operation may vary slightly, within the above referenced hours, depending on incoming waste volumes. **Figure IV-6** represents the Facility signage.

5.5.3 Alternative Operating Hours 30 TAC §330.229(b)

The Facility will receive and process waste at a maximum of 24 hours per day, 7 days per week. Hours of operation may vary slightly, within the above referenced hours, depending on incoming waste volumes.

5.5.4 Site Operating Record of Alternative Operating Hours 30 TAC §330.229(d)

The section is not applicable since the Facility will receive and process waste at a maximum of 24 hours per day, 7 days per week.

5.5.5 Additional Temporary Operating Hours 30 TAC §330.229(c)

The section is not applicable since Facility will receive and process waste at a maximum of 24 hours per day, 7 days per week.

5.6 Facility Sign 30 TAC §330.231

An entrance sign will be displayed at the entrance gate to the Facility off of Old Jones Road (see **Figure IV 6**). This sign will measure at least 4 feet by 4 feet and will have lettering of at least 3 inches in height, which states the name of the Facility, type of TCEQ MSW site, hours and days of operation, the name of the applicant, and the TCEQ registration number, emergency 24-hour contact number, and emergency fire department contact number.

At the entrance of the Facility, three informative signs will be installed. The first sign will display the site rules, as detailed in **Figure IV-7**. Adjacent to it, there will be a sign indicating the types of waste prohibited at the Facility, referencing **Figure IV-8**. Lastly, a sign specifying the waste permitted at the Facility will be placed, corresponding to **Figure IV-9**. Additional traffic signs will be placed at locations within the Facility to adequately inform users of the location of the waste processing area and site rules.

5.7 Control of Windblown Material and Litter

5.7.1 Collect Windblown Waste and Litter 30 TAC §330.233(a) and a(2)

Windblown waste and litter resulting from operation will be collected at least once per day to minimize unsightly conditions and fire hazards on Old Jones Rd and Stewarts Meadow. Any noted waste materials that may have spilled from the waste hauling vehicles traveling to the Facility will be cleaned-up. The Maintenance and Administrative Supervisors will consult with the TxDOT concerning the clean-up of state highways and rights-of-way.

5.7.2 Control of Windblown Waste 30 TAC §330.233(a)(1)

Windblown wastes and litter will be controlled by combining several of the following means:

- All waste transportation vehicles using this Facility will be required to have adequate covers or other means of containment for the wastes they transport (tarpaulins, nets, etc.). The adequacy of covers or containment methods for the incoming waste shipments will be checked at the Facility entrance. The Facility will take actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges or other similar measures if untarped vehicles are observed entering the Facility. Windblown waste will be minimized by limiting and rejecting loads with too much loose material.
- Processing operations will occur under a covered structure of the WSPS to minimize windblown materials.
- Windblown waste and litter resulting from operation will be collected at least once per day to minimize unsightly conditions and fire hazards on Old Jones Rd and Stewarts Meadow. Any noted waste

materials that may have spilled from the waste hauling vehicles traveling to the Facility will be cleaned-up. The Maintenance and Administrative Supervisors will consult with the TxDOT concerning the clean-up of state highways and rights-of-way.

- The Facility will provide a wire or other type of fencing or screening when necessary to minimize windblown materials.

5.7.3 Minimize Windblown Waste 30 TAC §330.233(b)

The Facility will provide a wire or other type of fencing or screening when necessary to minimize on-site windblown materials.

5.8 Material Along Route to the Facility 30 TAC §330.235

The Facility will take steps to encourage vehicles hauling waste to the Facility are enclosed or properly covered with a tarpaulin, net, or other means to properly secure the load. The adequacy of covers or containment methods for the incoming waste shipments will be checked at the Facility entrance. The Facility will take actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges or other similar measures if untarped vehicles are observed entering the Facility.

The Facility will provide for the cleanup of waste materials spilled along and within the right-of-way of Old Jones Rd and Stewarts Meadow. Cleanup for the spilled materials will be performed at least once per day when the Facility is in operation. The Facility will consult with TxDOT, county, and/or local government officials concerning cleanup of roads and rights-of-way consistent with §330.235.

5.9 Facility Access Roads Weather Access Road 30 TAC §330.237(a)

Access to the Facility is from Old Jones Road, which will be accessed from FM 60 (also known as Raymond Stotzer Parkway). The entrance to the Facility is located on the north side of Old Jones Rd. The entrance has a gate that will be opened and unlocked during operating hours. Arriving trucks will enter through this gate and proceed down the Concrete Pavement roadway towards the processing area for material segregation and recovery. An open area just inside the Facility's entrance is wide enough to accommodate trucks/vehicles and their turning radii prior to dumping/unloading.

Arriving trucks/vehicles will be directed to the WSPS by signs. These vehicles will deposit their loads and depart the Facility. No private or commercial solid waste vehicles will be allowed access to any other areas of the Facility other than the waste processing area and drop-off point designated by the Maintenance and Administrative Supervisors for each workday. Site personnel will provide traffic directions as necessary to expedite the safe movement of vehicles.

All on-site roadways will be maintained on a regular basis to minimize depressions, ruts, and potholes. Within the Facility, signs will be placed along the road at a frequency adequate for users to be able to understand where the waste processing area is, and which roads are to be used. Roads not being used for access to the waste processing area will be blocked or otherwise marked for no entry. All Site roadways are routinely swept to control dust and mud accumulation.

5.9.1 Dust Control 30 TAC §330.237(b)

All Site roadways are routinely swept to control dust and mud accumulation.

5.9.2 Depression, Ruts, and Potholes 30 TAC §330.237(c)

All on-site roadways will be maintained on a regular basis to minimize depressions, ruts, and potholes.

5.10 Noise Pollution and Visual Screening 30 TAC §330.239

All Facility operations are screened behind perimeter fencing. The actual processing area of the Facility is located in the covered structure, which minimizes visual and noise pollution.

5.11 Overloading and Breakdown 30 TAC §330.241

5.11.1 Design Capacity 30 TAC §330.241(a)

The design capacity of the solid waste processing Facility will not be exceeded during operation. The Facility will not accumulate solid waste in quantities that cannot be processed within such a time as to avoid the creation of adverse conditions such as odors, insect breeding, or harborage of other vectors. If such accumulations occur, additional solid waste will not be received until the adverse conditions are abated.

In the event that the Facility becomes inoperable for periods longer than 24 hours the Facility will restrict the receipt of solid waste to the Facility and the incoming waste stream will be diverted to another Type V Transfer Station registered with the state or sent to a permitted landfill for disposal. If the work stoppage is anticipated to last long enough to create objectionable odors, insect breeding, or harborage of vectors, steps shall be taken to remove the accumulation of solid waste from the Facility to an approved backup processing or disposal facility.

5.11.2 Restriction, Diversion or Removal Waste if Work Stoppage 30 TAC §330.241(b)

If such accumulations occur, additional solid waste will not be received until the adverse conditions are abated.

5.11.3 Inoperable Facility 30 TAC §330.241(c)

If the transfer station operation becomes inoperable for a period greater than 24 hours, all collection vehicles and private individual's vehicles will be directed to proceed directly to another Type V Transfer Station registered with the state or sent to a permitted landfill to deposit solid waste at that location. If the work stoppage is anticipated to last long enough to create objectionable odors, insect breeding, or harborage of vectors, steps shall be taken to remove the accumulation of solid waste from the Facility to another Type V Transfer Station registered with the state or sent to a permitted landfill.

5.12 Sanitation 30 TAC §330.243

5.12.1 Inoperable Facility 30 TAC §330.243(a)

The waste receiving area will be cleaned on a daily basis at the completion of processing during the Transfer Station operations. Cleaning operation will consist of shaping waste to remain on Facility to as small area as practical and sweeping the area with a broom. The WSPS, where the incoming waste is unloaded, will be washed down at least twice weekly.

5.12.2 Accumulation of Wash Water 30 TAC §330.243(b)

Wash down liquids will be collected within confines of the WSPS for proper handling to prevent the creation of odor or attraction to vectors, as indicated in **Section 3.1.5**

5.12.3 Collection and Disposal of Wash Water 30 TAC §330.243(c)

Wash water will be collected and handled as indicated in **Section 3.1.5**.

5.13 Ventilation and Air Pollution Control Air Emissions 30 TAC §330.245(a)

5.13.1 Air Emissions 30 TAC §330.245(a)

No significant air pollution emissions are expected to result from operations of the Facility. In accordance with 30 TAC §330.245(a), air emissions will not cause or contribute to a condition of air pollution as defined in the Texas Clean Air Act.

5.13.2 Obtain Required Authorizations under Chapter 116 or Subchapter U from Air Permits Divisions 30 TAC §330.245(b)

In accordance with 30 TAC §330.245(b), the Air Permits Division of the TCEQ will be contacted to obtain the necessary Standard Air Permits.

5.13.3 Odor-Retaining Containers and Vessels 30 TAC §330.245(c)

All waste processing will occur within the WSPS. Since the WSPS is an enclosed facility, special ventilation is required as per 30 TAC §106.534 (7) (B). In addition, the Facility will only accept wastes that do not include household garbage, liquid wastes, or other solid wastes that may cause odor problems; therefore 30 TAC §330.245(c) is not applicable.

5.13.4 Ventilation and Nuisance Odors 30 TAC §330.245(d)

In accordance with 30 TAC §330.245(d), the Facility will be designed and operated to provide adequate ventilation for odor control and employee safety. The 45,000 cubic feet per minute exhaust vent, at least 16 feet above the ground level, will be installed on the roof of WSPS as per 30 TAC §106.534 (7)(B). The operator will prevent nuisance odors from leaving the boundary of the Facility. If nuisance odors are found to be passing the Facility boundary, the Facility will immediately take action to abate the nuisance. The Facility may be required to suspend operations until nuisance odors are abated. Odors are controlled by limiting waste management operations to within the concrete paved and curbed processing area. Water systems may be used to suppress odors, if needed.

5.13.5 Air Pollution Emission 30 TAC §330.245(e)

No air pollution control devices will be required because no emissions will result from the transfer station operations. Thus, rules 30 TAC §330.245(e) is not applicable.

5.13.6 Measure/Equipment to Control Odor 30 TAC §330.245(f)(1) – (4)

Odors are controlled by limiting waste management operations to within the WSPS. The WSPS is located to provide a buffer zone from the property boundary in accordance with 30 TAC §330.245(f)(2). All other sections of 30 TAC §330.245(f) are not applicable. In the event that unacceptable odors do occur, the following procedures may be implemented:

- The Operations Manager, Maintenance and Administrative Supervisors will stop incoming loads of odor causing waste when detected;
- Install odor control system; or
- Retain an independent odor control specialist.

5.13.7 Process Areas 30 TAC §330.245(g)

Rules 30 TAC §330.245(g) is not applicable.

5.13.8 Reporting Emissions Events 30 TAC §330.245(j)

Reporting of emissions shall be made in accordance with §101.201 and reporting of scheduled maintenance shall be made in accordance with §101.211.

5.13.9 Ponded Water 30 TAC §330.245(k)

As part of routine Facility inspections, areas with ponded water will be remedied by draining or backfilling, as appropriate, in accordance with 30 TAC §330.245(k).

5.14 Employee Sanitation Facilities 30 TAC §330.249

Potable water and sanitary facilities will be provided for all employees and visitors. These facilities will be made available at the BVR Waste and Recycling Transfer Station. This facility will be made available at the dispatch office.

6. Health and Safety Plan 30 TAC §330.247

Training for Facility personnel will include health and safety training.

Safety training for all personnel will be provided routinely and will be the responsibility of the operator. The operator will enforce safety rules and policies and will promptly investigate and report all accidents. Operators will wear personal protective equipment, such as hard hats, safety glasses, and dust masks, when appropriate.

Detailed procedures that comprise the Health and Safety Plan for the facility are discussed below.

6.1 Emergency Preparedness

Preparedness and preventive measures will be implemented at the Facility to minimize both the frequency and severity of accidents and emergency situations threatening human health. These measures will largely depend on the attentiveness and state of readiness of facility personnel. All personnel will undergo in-house training to introduce the measures below.

6.1.1 General Measures

The following general measures will be implemented for the Facility:

- Employee breaks or rest periods will be provided to minimize employee fatigue factor, improve alertness, and thereby reduce accident potential.
- Access controls will prevent entry of unauthorized personnel.
- Routine preventive equipment maintenance will be provided.
- Appropriate personnel safety equipment will be maintained onsite in good condition.
- Adequate turning areas for vehicles will be provided.
- Scavenging will not be allowed, and individuals will be required to stay close to their vehicles for their protection.
- Unloading will be restricted to designated areas only.
- Facility personnel will be alert for possible prohibited wastes entering the Facility.
- Prohibited wastes will be controlled or contained and removed, as necessary.

6.1.2 Measures for the Unloading and Receiving Area

The following measures will be implemented within the unloading/receiving area of the Facility:

- Trained personnel will observe waste discharge and randomly inspect loads according to procedures set forth in this SOP.
- Observation of incoming vehicles will be performed for evidence of improper operation, faulty equipment, or other conditions that could be detrimental to the Facility personnel or other persons onsite.
- Emergency equipment will be available, and a first-aid kit maintained in the Facility.
- Emergency telephone numbers will be displayed.
- Signs will be displayed warning transporters that hazardous wastes and PCB, radioactive, and other prohibited wastes are not accepted.

6.2 Emergency and Contingency Procedures

Emergency and contingency procedures will be implemented at the Facility in the event of accidents or environmentally significant releases of waste or waste constituents to air, soil, surface water, or groundwater. These procedures constitute an initial response by Facility staff that will be supplemented, as necessary, by outside emergency services. Emergency assistance requests will be handled through conventional means (calling 911).

The following situation-specific procedures are initially proposed and are subject to amendments, as required, based on experience gained with time.

6.2.1 Accidents

The procedures to address various types of accidents are discussed in the following sections.

6.2.1.1 General Procedures

For an incident involving a spill or release that requires notification, Facility personnel should:

1. Notify the appropriate federal or state agency affected by the release and report the following information:
   A. Caller's name and telephone number.
   B. Name and address of the facility.
   C. Time and type of release.
   D. Name and quantity of material(s) involved (to the extent known).
   E. Extent of injuries if any.
   F. Possible hazards to human health or the environment outside the Facility.
2. Take appropriate measures to prevent the spreading or worsening of the situation.
3. Notify the Facility manager or designated representative of the details of the spill.
4. Make arrangements to collect, store, treat, or dispose of all recovered waste and clean-up residue.
5. Investigate possible methods of preventing recurrence of the incident.

6.2.1.2 Vehicular Accidents

If an accident involving vehicles or equipment occurs, Facility personnel should:

1. Determine whether personal injury has occurred; if so, follow the steps outlined in **Section 6.2.1.3**, which addresses personal accidents.
2. Determine whether the vehicle(s) can be safely moved under its own power.
   A. If so, move the vehicle(s) out of the way of normal traffic flow.
   B. If the vehicle(s) cannot move on its own power and is interrupting traffic flow, push the vehicle(s) out of the way using site equipment.
3. Notify the Facility manager or designated representative of the details of the accident.
4. Arrange to have any disabled vehicles towed from the Facility in accordance with specific instructions from the Facility manager or designated representative.

6.2.1.3 Personal Accidents

1. Determine the nature and extent of the injuries.
2. Administer basic emergency first-aid techniques if safe.
3. Call for outside emergency assistance (911).
4. Report incident to the Facility manager or designated representative.
5. Transport victim(s) to a professional medical care facility by conventional means if injuries require non-emergency medical attention.

6.2.2 Releases

The procedures to address various types of releases are discussed in the following sections.

6.2.2.1 Sudden Releases

For sudden releases of smoke, vapors, liquids, or unusual odors, facility personnel should:

1. Remove personnel from the area if safety is threatened.
2. Discontinue operation in the immediate area until authorized to resume.
3. Notify the Facility manager or designated representative, who will investigate the cause and correct it.
4. Notify the Facility manager or designated representative of the extent of the sudden release and prepare a plan of action to correct the problem.

6.2.2.2 Non-Sudden Releases

For non-sudden releases involving persistent odors or windblown waste, Facility personnel should:

1. Notify the Facility manager or designated representative of the non-sudden release and recommend actions to be taken.

7. Site Personnel, Operational Requirements and Training

7.1 Site Personnel – Function & Minimum Qualifications of Key Personnel §330.127(1)

Responsibility for overall management and operation of the facility will rest on the Operations Manager, and the Maintenance and Administrative Supervisors of BIG. These persons are responsible for assuring that adequate personnel and equipment are available to provide facility operations in accordance with this SOP and in adherence with TAC regulations. An organizational chart for the BVR Waste and Recycling Transfer Station is shown below. At least one person will be onsite at all times during operational hours that holds a current MSW Class B Supervisor's License. Typical staffing levels for the Recycling/Transfer Station are indicated in **Table IV-4**. The same individual may perform these functions provided that the minimum-staffing compliment listed in this section is available on site.

Organization Chart

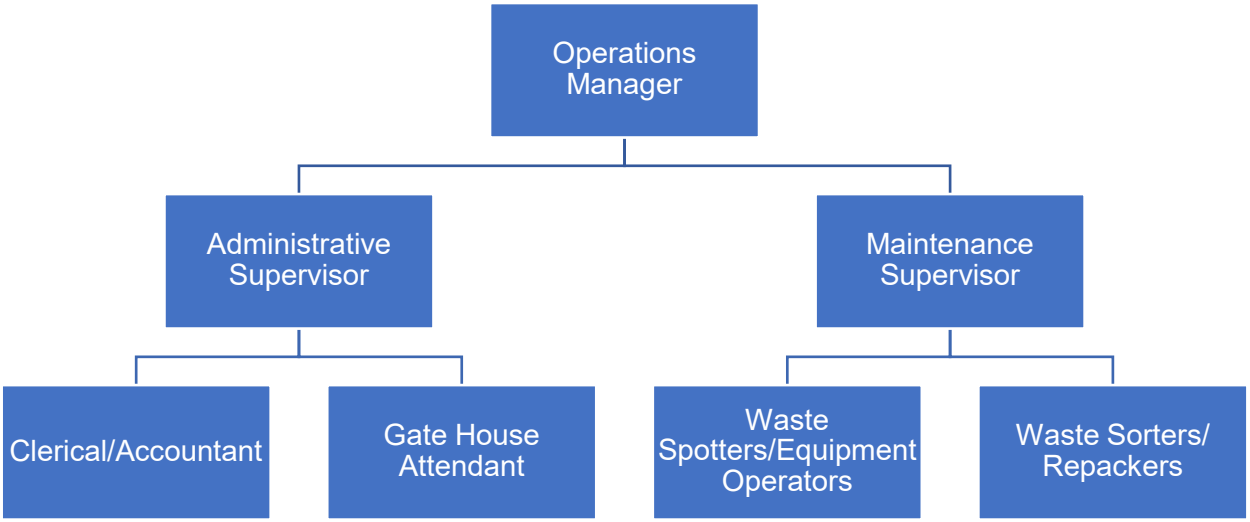


Table IV-4. Typical Staffing Levels

Personnel Category	Minimum Staffing	Typical Staffing
Operations Manager[1]	1	1
Maintenance and Administrative Supervisors	1	2
Gate House Attendant	1	1
Clerical/Accountant		1
Equipment Operators	1	4
Other Site Personnel/Waste Sorters/ Repackers/Waste Spotters[2]	1	6
Total	**5**	**15**

Source: BVR Waste and Recycling Transfer Station, 2024
[1]The Operations Manager, Maintenance and Administrative Supervisors may perform other staff position duties.
[2]The Waste Spotters may perform Equipment Operator duties.

7.1.1 Operations Manager

The Operations Manager is responsible for overall management and the general direction of the facility and materials recovery operations. The Operations Manager supervises the Maintenance and Administrative Supervisors and will fulfill the role of Maintenance and Administrative Supervisors when the Maintenance and Administrative Supervisors are not on site.

The Operations Manager must hold and maintain a MSW facility supervisor's license in accordance with 30 TAC, Part 1, Chapter 30, Subchapters A and F and will have a minimum of six months of MSW facility operation experience or six months of on-the-job training. The Operations Manager must be familiar with the specific operating procedures set forth in this SOP and will participate in training with other employees.

7.1.2 Maintenance and Administrative Supervisors

The Maintenance and Administrative Supervisors are responsible for overall management and the general direction of the facility and materials recovery operations and reports directly to the Operations Manager of BIG. The Maintenance and Administrative Supervisors have the authority to hire the necessary supervisory and operating personnel for the facility and to arrange or provide for their training and orientation. These individuals also ascertain equipment needs of the facility and initiate any purchasing, leasing, and renting of additional equipment. The Maintenance and Administrative Supervisors may also engage outside contractors, as needed, to provide necessary supplemental equipment, services, or labor as deemed necessary for site operation. The Maintenance and Administrative Supervisors are the designated regulatory contact individuals for the facility and are responsible for environmental compliance at the facility. Additional facility personnel reporting directly to the Maintenance and Administrative Supervisors are the gate house attendant, accounting clerk, equipment operators, and other personnel (Waste Sorters/Repackers) which may be employed at the facility.

The Maintenance and Administrative Supervisors must hold and maintain a MSW facility supervisor's license in accordance with 30 TAC, Part 1, Chapter 30, Subchapters A and F and will have a minimum of six months of MSW facility operation experience or six months of on-the-job training. The Maintenance and Administrative Supervisors must be familiar with the specific operating procedures set forth in this plan and will participate in training with other employees. The Maintenance and Administrative Supervisors or his designees are also responsible for routine site inspections as described herein. In the absence of the Maintenance and Administrative Supervisors, the Operations Manager will assume the Maintenance and Administrative Supervisors' responsibilities.

7.1.3 Gate House Attendant

The Gate House Attendant is responsible for receiving incoming calls from customers and dispatching containers to specified locations at the request of the customer.

7.1.4 Clerical/Accountant

The Clerical/Accountant is responsible for maintaining all facility recordation.

7.1.5 Waste Spotter/Equipment Operator

Waste Spotter/Equipment Operator (WS/EO) is responsible for monitoring the unloading of waste shipments at the incoming waste staging area for prohibited wastes. Through training and experience, this individual will be able to recognize the physical characteristics of prohibited waste [hazardous waste, prohibited polychlorinated biphenyls (PCB) waste, or otherwise prohibited waste] and will be alert for these materials in incoming waste shipments. This individual will be responsible for monitoring and directing the unloading of vehicles at the facility. All improper operations, dangerous conditions, or receipt of prohibited wastes will be reported immediately to the Maintenance and Administrative Supervisors. The WS/EO will be on duty at the incoming waste processing area during regular working hours performing dual duties as the Equipment Operator and as the waste spotter. As the responsible employee for sorting and processing the incoming wastes, this employee will be able to visually monitor all incoming loads of waste. If the WS/EO is not available to monitor incoming waste streams, the Maintenance and Administrative Supervisors or another full-time employee will visually inspect each truckload of waste received by the facility until such time the WS/EO returns to the processing area for incoming wastes.

7.1.6 Other Site Personnel/Waste Sorters/Repackers

Other site personnel (Waste Sorters/Repackers) are responsible for processing and hand-sorting reusable and recyclable materials from the incoming waste streams, maintenance of equipment, construction, or repairs to site features and structures, litter abatement, and any general site clean-up. These employees will be responsible for alerting other staff members of potentially dangerous conditions since they are closely involved in the sorting and recycling operations at the facility.

Typical staffing levels for the Recycling/Transfer Station are indicated in **Table IV-4**. The same individual may perform these functions provided that the minimum-staffing compliment listed in this section is available on site.

7.2 Site Personnel – General Instructions for Personnel Concerning Operational Requirements §330.127(3)

A comprehensive Personnel Training Program has been developed and will be employed throughout the operating life of the facility. This Training Program shall provide solid waste management procedures and operations training to employees who are assigned to, or have responsibility for, the Transfer Station operation.

Training shall consist of both initial training and continuing training courses which shall provide instruction on current state and federal laws, TCEQ rules regarding solid waste management, facility operation and maintenance, environmental monitoring, public health and environmental protection, response to emergency situations, and facility design and construction.

7.3 Training – Applicable Training Requirements §330.586(a) & (c)

The two major objectives of the Personnel Training Program at the BVR Waste and Recycling Transfer Station are:

- To thoroughly train appropriate employees in the proper performance of their individual job duties, which pertain to solid waste management; and
- To prepare all appropriate employees to implement the proper emergency procedures effectively, if necessary.

To accomplish these objectives, both on-the-job training and formal instruction in solid waste management procedures, safety, emergency procedures, legal requirements, and facility operations procedures are provided to personnel involved with the handling, transportation, and disposal of solid waste. Personnel shall receive training appropriate to individual needs as well as specific job duties and responsibilities within 6 months of employment or assignment to a new position. These personnel shall be trained to perform their duties safely and in accordance with the applicable requirements for solid waste management. The training program shall be designed to enable facility personnel to respond effectively to emergencies by familiarizing personnel with emergency procedures and equipment. Personnel must successfully complete the training program within 6 months of their employment or assignment to the facility. Additional supervision will be provided to personnel during training, and personnel activities will be limited during the training period.

The Personnel Training Program includes familiarization with regulations applicable to generators and transporters of prohibited wastes and provides general descriptive characteristics of prohibited wastes. Training personnel to recognize prohibited wastes in the incoming wastes will help prevent management at the facility. Personnel training will be performed by individuals experienced in solid waste management procedures and operations, safety, and related subjects.

Topics for training may vary but will be conducted annually for the following:

- Safety;
- Fire protection, prevention, and evacuation;
- Fire extinguisher usage;
- Emergency response;
- Litter control and windblown waste pick-up;
- Hazardous waste and PCB detection and control (waste screening, if applicable);
- Prohibited waste management;
- Random inspection procedure;
- Spill Prevention Control Plan; and
- Stormwater Pollution Prevention Plan.

The training program will also ensure that personnel, as appropriate for their position, are familiar with emergency procedures, emergency equipment, and emergency systems as response to fires or explosions.

The training shall be specific to the duties, tasks, and responsibilities of each employee's position. Experienced employees, or supervisors, who are knowledgeable of the requirements for satisfactory job performance, shall provide on-the-job training and monitor employee's progress. On-the-job training is progressive, typically beginning with demonstrations, and then followed by closely supervised practice. When the employee has demonstrated the ability to understand and perform the job and its related safety and

emergency response functions, the supervisor acknowledges the satisfactory completion of the employee's on-the-job training by making an appropriate entry in the training records.

Successful completion of the appropriate training activities by an employee is required to fill an operator position, in addition to formal training. When an existing employee is transferred or promoted to a new position with training requirements that differ from the previous position, that employee undertakes any additional training required.

Training will include both introductory and continuing training as required by 30 TAC §335.586(c). Introductory training (4 hours minimum) provided to the Operations Manager, Maintenance and Administrative Supervisors, Gate House Attendant, Equipment Operators, Waste Sorters, Repackers, and Waste Spotters, will include safety training, emergency training, and training required to perform specific personnel assigned tasks. The frequency of continuing education and training activities will vary according to job title and position. Site personnel will be provided an annual review (2 hours minimum) of the initial training required for the position.

Proof of training, including firefighting and continuing training, shall be maintained at the facility and shall be available for inspection by TCEQ personnel, City of College Station personnel, and Brazos County personnel.

7.3.1 Employee Training Documentation

Three types of personnel training documentation will be maintained:

1. Job title lists;
2. Job descriptions; and
3. Records of job training.

The first type of training documentation consists of job titles for all solid waste management positions. This list contains the name of the person occupying each position and will be revised, as necessary.

The second type of training documentation is a job description for each position. Included in the general job description are any required education or experience, initial and continuing training required, and the job duties and responsibilities during emergency response, if any. The type and amount of introductory and ongoing training to be given for a particular position is also incorporated into the general job description.

Records of personnel training are the third type of training documentation. These records consist of a general facility-training file, which includes a record of each employee's training history. The general facility file contains a description of each formal training activity, the date(s), personnel who attended, and an indication of satisfactory accomplishment of training goals by each person. The same or similar information is included on an individual training record that is maintained for each person in the training program.

Annually, the Maintenance and Administrative Supervisors will review the training files against the personnel roster and job description training requirements to verify that the frequency and type of training required for each job is provided. This annual review will also demonstrate if the facility's training objectives are being met.

Training records on all former employees will be retained for a minimum of 3 years following termination of their employment. Training records on current employees will be kept until 3 years after facility closure.

7.3.2 Employee Training Records

The BVR Waste and Recycling Transfer Station will maintain training records in the Site Operating Records to show the training provided to landfill staff and management. These records will contain:

1. The general job title for each position at the facility and the name of the employees filling each position;
2. A description of the general job duties related to solid waste management for each position, including any prerequisite skills, education, or other qualifications and duties for each position;
3. A general description of the type and amount of both initial and continuing training given to employees filling each position; and
4. Records which document that the training or on-the-job experience required has been given to and satisfactorily completed by all appropriate facility personnel. **Table IV-5** presents a listing of site personnel and training summary.

Table IV-5. Site Personnel and Training Summary (BVR Waste and Recycling Transfer Station, 2024)

Position	Required Training Topics										
	e Orientation	e Operations	ohibited Waste Identification	fety	e Prevention	ad Inspection	CC applicable)	ergency Response	ter Control	ndom Inspections	/PPP applicable)
Operations Manager	X	X	X		X	X	X	X	X	X	X
Maintenance and Administrative Supervisors	X	X	X		X	X	X	X	X	X	X
WP/EO	X	X	X		X	X	X	X	X	X	X
Waste Sorters/Repackers	X	X	X		X	X	X	X	X	X	X
Clerical/Accountant/Gate House Attendant	X						X	X			X

8. Site Equipment §330.127(2)

Sufficient equipment will be provided to conduct site operations in accordance with the design, SOP, and waste acceptance rates.

Table IV-6 below shows the following list of equipment that is expected to be routinely available for use at the Facility. Equipment requirements may vary in accordance with the waste acceptance rate at any given time. Additional equipment will be provided as required for increasing volumes of incoming solid waste and for the processing of recyclable materials. In case of breakdowns, backup equipment is available from the Facility. Other equivalent types of equipment by other manufacturers may be substituted on an as-needed basis.

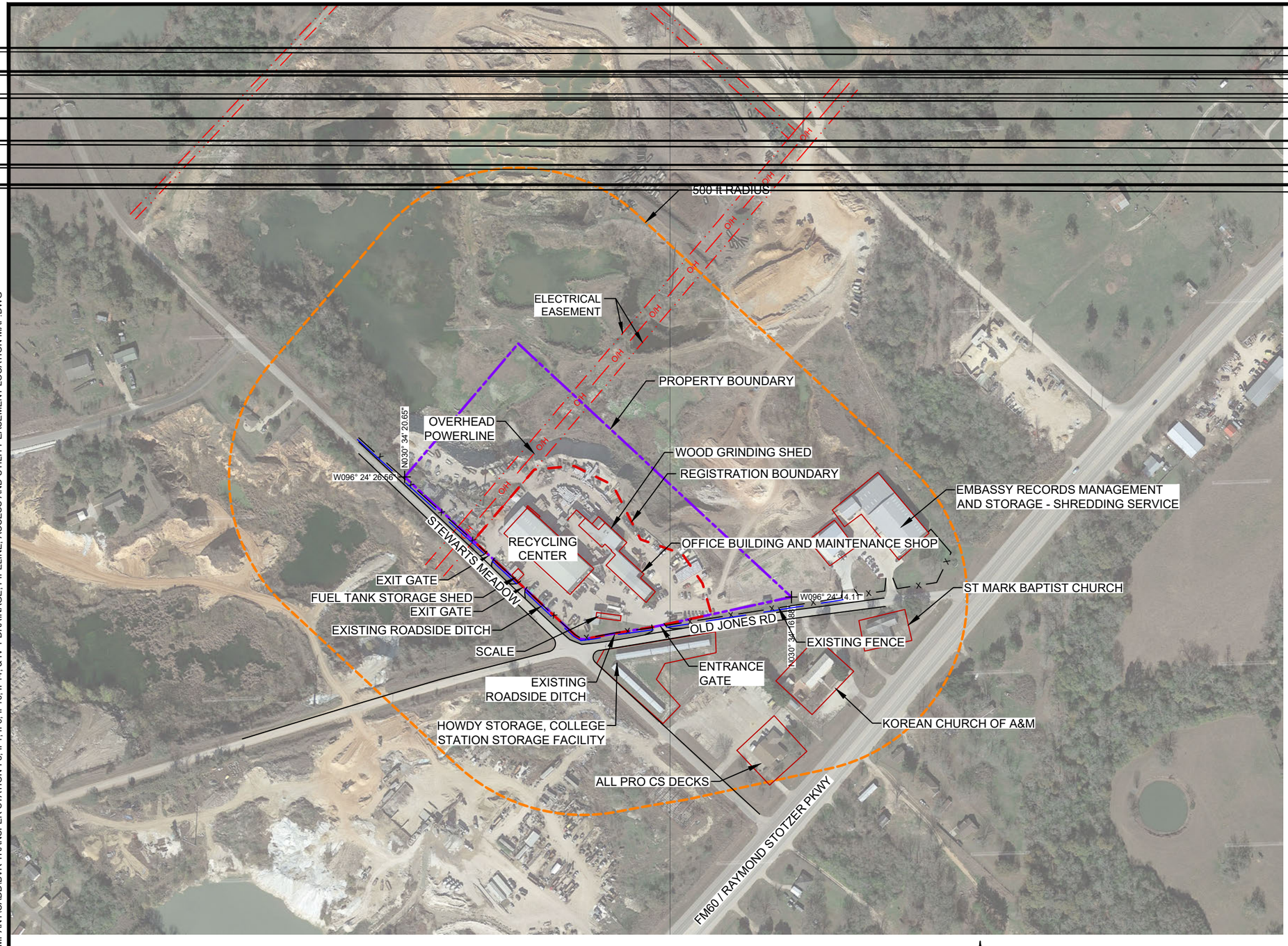
Table IV-6. Facility Equipment List

Equipment	Typical Size[(1)]	Function
Loader[(1)]	Various makes and types	Move and sort waste and recyclables in WSPS, load waste for transport to landfill, load recyclables
Excavators[(1)]	Various makes and types	Move and sort waste and recyclables in WSPS, load waste for transport to landfill, load recyclables
Roll off and Recyclables Containers	Up to 40 yd^3	Storing materials in WSPS prior to hauling
Skid Steer with bucket and sweeper	Bucket and sweeper	Sweep roadways, pick up and sweep waste loadout area, assist as needed in waste/recyclable movement
Sump Pump	Portable	For moving liquid from sumps
Pressure Washer	Portable	For wash down of WSPS
Vacuum Truck	Portable	For removing liquid from sumps

[(1)] Number, types, and equipment manufacturers will vary based on operational needs.

Source: BVR Waste and Recycling Transfer Station, 2024.

PART IV - FIGURES



LEGEND

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REFERENCE(S)

BASE MAP TAKEN FROM BING.COM DATED REFERENCED IN FEBRUARY 2021

N

300’ 0 300’

STATE OF TEXAS
GARY RUSSELL HORWITCH
84511
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

SITE DEVELOPMENT PLAN - EXISTING SITE LAYOUT BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-1
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG		

S:\CLIENTS\PROJECTS\BIG COMPANY\CADD\BVR TRANSFER STATION-I-5, II-1, II-6, II-10, II-14, & IV-1-DRAINAGE, PIPELINE, ACCESS AND UTILITY EASEMENT LOCATION MAP.DWG

LEGEND

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PROPERTY BOUNDARY

N030° 34' 20.65"

26.56'

STEWARTS MEADOW

PROPOSED DITCH

PROCESSED MATERIAL STORAGE

WOOD GRINDING SHED

REGISTRATION BOUNDARY

PROPOSED FENCE

RECYCLING CENTER

OFFICE BUILDING AND MAINTENANCE SHOP

50-FT BUFFER ZONE

EXIT GATE

FUEL TANK STORAGE SHED

EXIT GATE

EXISTING ROADSIDE DITCH

SCALE

W096° 24' 14.11"

DISCHARGE POINT

N030° 34' 16.88"

EXISTING FENCE

OLD JONES RD

ENTRANCE GATE

EXISTING ROADSIDE DITCH

N

100' 0 100'

STATE OF TEXAS
GARY RUSSELL HORWITCH
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

SITE DEVELOPMENT PLAN - PROPOSED SITE LAYOUT BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	
Project Mgr: ATN	Project: 4759.0001H000	IV-2
File: BVR TRANSFER STATION-II-14A & IV-2-PROPOSED SITE LAYOUT.DWG		

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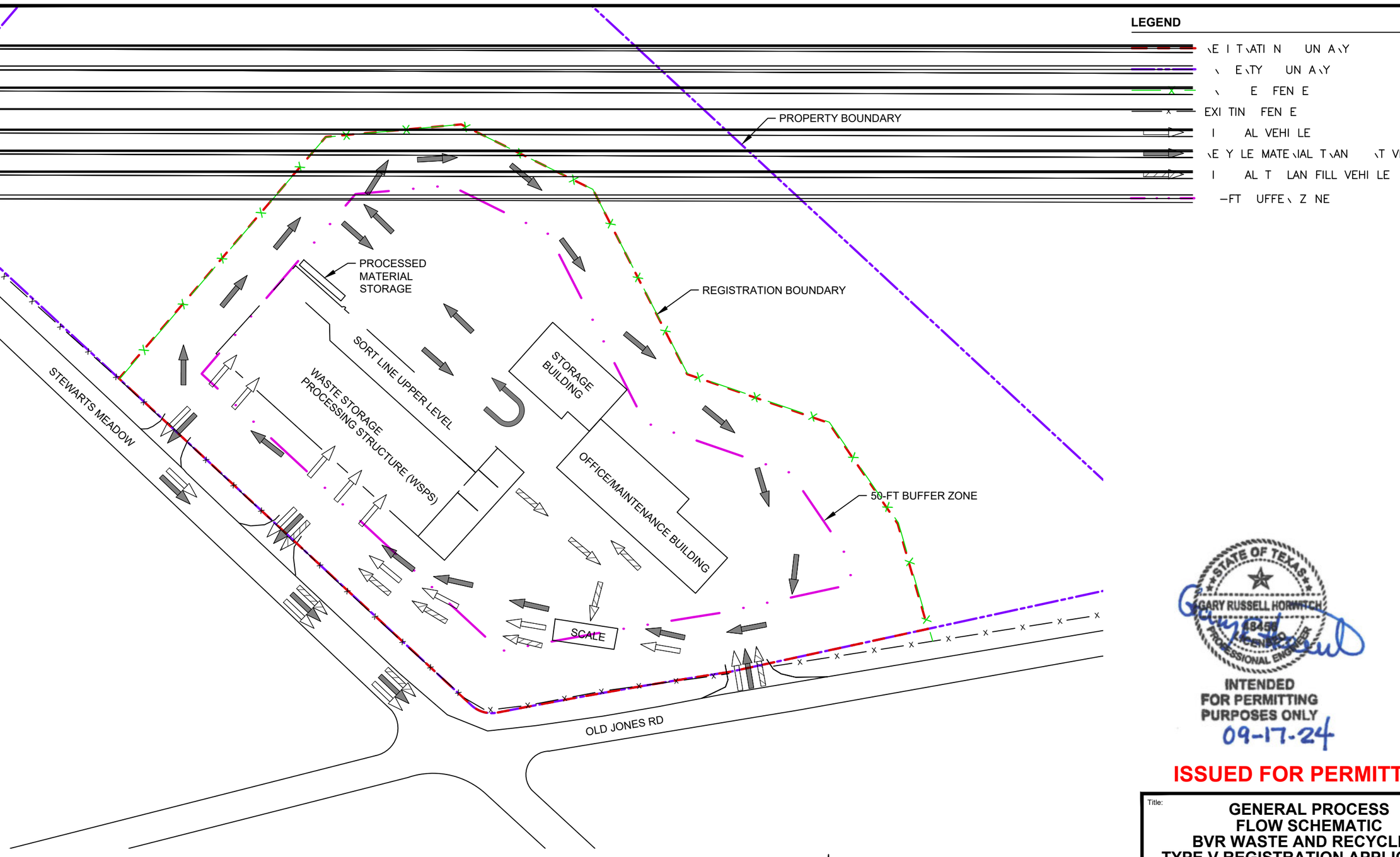

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STATE OF TEXAS
GARY RUSSELL HORWITCH
84457
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:

GENERAL PROCESS FLOW SCHEMATIC BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-3
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-III-1 & IV-3-GENERAL PROCESS FLOW SCHEMATIC.DWG		

COVERED FACILITY

PROCESSED MATERIAL STORAGE

DRAINAGE TRENCH
1 ft WIDTH X 0.75 ft DEPTH

92.4 ft

0.5%

1 / III-2 SUMP

WALL SEPARATING CONVEYOR

WASTE STORAGE PROCESSING STRUCTURE (WSPS)

DRAIN TO TRENCH

STEWARTS MEADOW

27.1 ft

68 ft

0.5%

DRAINAGE TRENCH
1 ft WIDTH X 0.75 ft DEPTH

1 / III-2 SUMP

N

30' 0 30'

STATE OF TEXAS
GARY RUSSELL HORWITCH
84859
LICENSED
PROFESSIONAL ENGINEER

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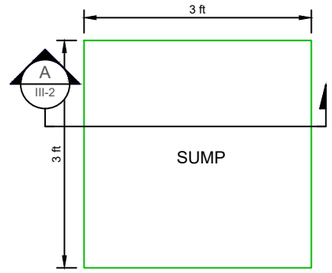
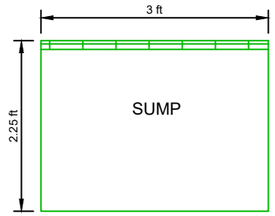
09-17-24

LEGEND

- EXISTING UNDERGROUND UTILITY
- PROPERTY LINE
- CONCRETE WALL
- CONTAINMENT TRENCH
- MAIN TRENCH
- APPROXIMATE LIMITS OF FLOOD HAZARD AREA



SCALE NTS 1 / III-2 SUMP PLAN



SCALE NTS A / III-2 SUMP CROSS SECTION

ISSUED FOR PERMITTING

Title:

DETAIL OF PROCESSING AREA STRUCTURE
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/28/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-4
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-III-2 & IV-4-DETAIL OF PROCESSING AREA STRUCTURE.DWG		

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FRONT SIDE

INSPECTION REPORT

ITEMS TO BE INSPECTED MONTHLY	CONDITION YES OR NO	DATE CORRECTED
1. Presence of windblown litter outside the active work areas;		
2. Presence of dropped or windblown waste along onsite route(s) to the work areas;		
3. Integrity of closure devices or covers on the transport vehicles;		
4. Presence of ponded water in work or stockpile areas;		
5. Evidence of unauthorized entry;		
6. Condition of perimeter fence and gates;		
7. Ease of access to work area being used;		
8. Excessive dust generated along the access route(s) to the work area;		
9. Need for equipment repair;		
10. Evidence of sufficient volume of stockpiled recyclable materials to merit transport to offsite recycler; and		
11. Evidence of sufficient non-recycled or non-usable material volumes from the processed waste stream to merit shipment for disposal to an offsite landfill.		

SIGNATURE OF OBSERVER _____ DATE: _____

SIGNATURE OF REVIEWER _____ DATE: _____

11"

8.5"

BACK SIDE

INSPECTION REPORT

Date of Observation:	
INSTRUCTIONS: If any item is checked yes, provide details of the problem and remediation or maintenance recommendations below.	
Comment No.	Comment
Comment No.	Corrective Action Performed

SIGNATURE OF OBSERVER _____ DATE: _____

SIGNATURE OF REVIEWER _____ DATE: _____

Source: Metroplex Industries Inc, 2002

STATE OF TEXAS
GARY RUSSELL HORWITCH
118456
LICENSED
PROFESSIONAL ENGINEER

INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

ISSUED FOR PERMITTING

Title:
MONTHLY SITE INSPECTION FORM
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/27/2024	FIGURE
Prepared by: AEP	Scale: N/A	
Project Mgr: ATN	Project: 4759.0001H000	IV-5
File: BVR TRANSFER STATION-IV-5-MONTHLY SITE INSPECTION FORM.DWG		

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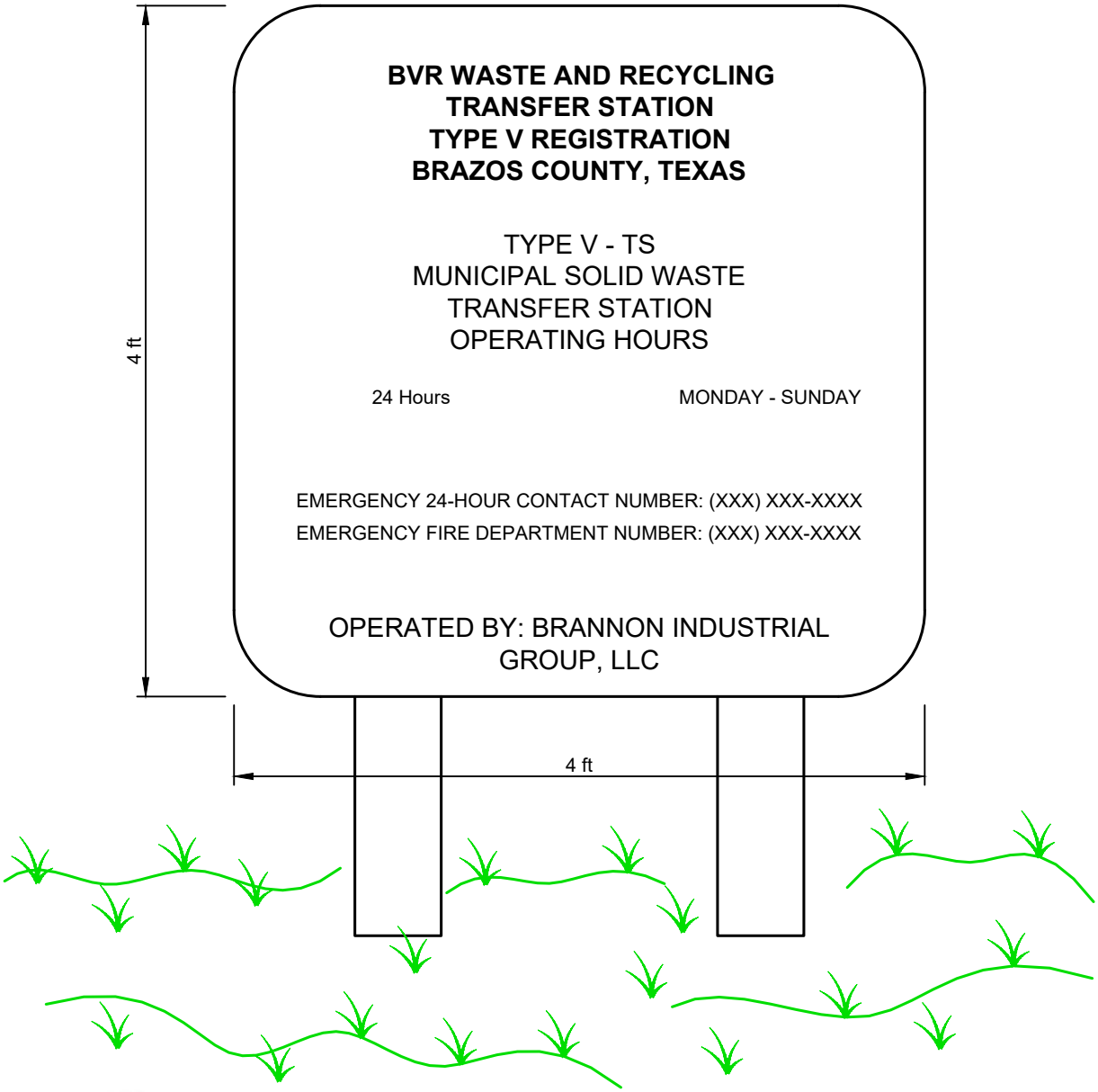

STATE OF TEXAS
GARY RUSSELL HORWITCH
68458
LICENSED
PROFESSIONAL ENGINEER

INTENDED
FOR PERMITTING
PURPOSES ONLY
09-17-24

Title:

FACILITY SIGN
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-6
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-IV-6, IV-7, & IV-8-FACILITY SIGN.DWG		

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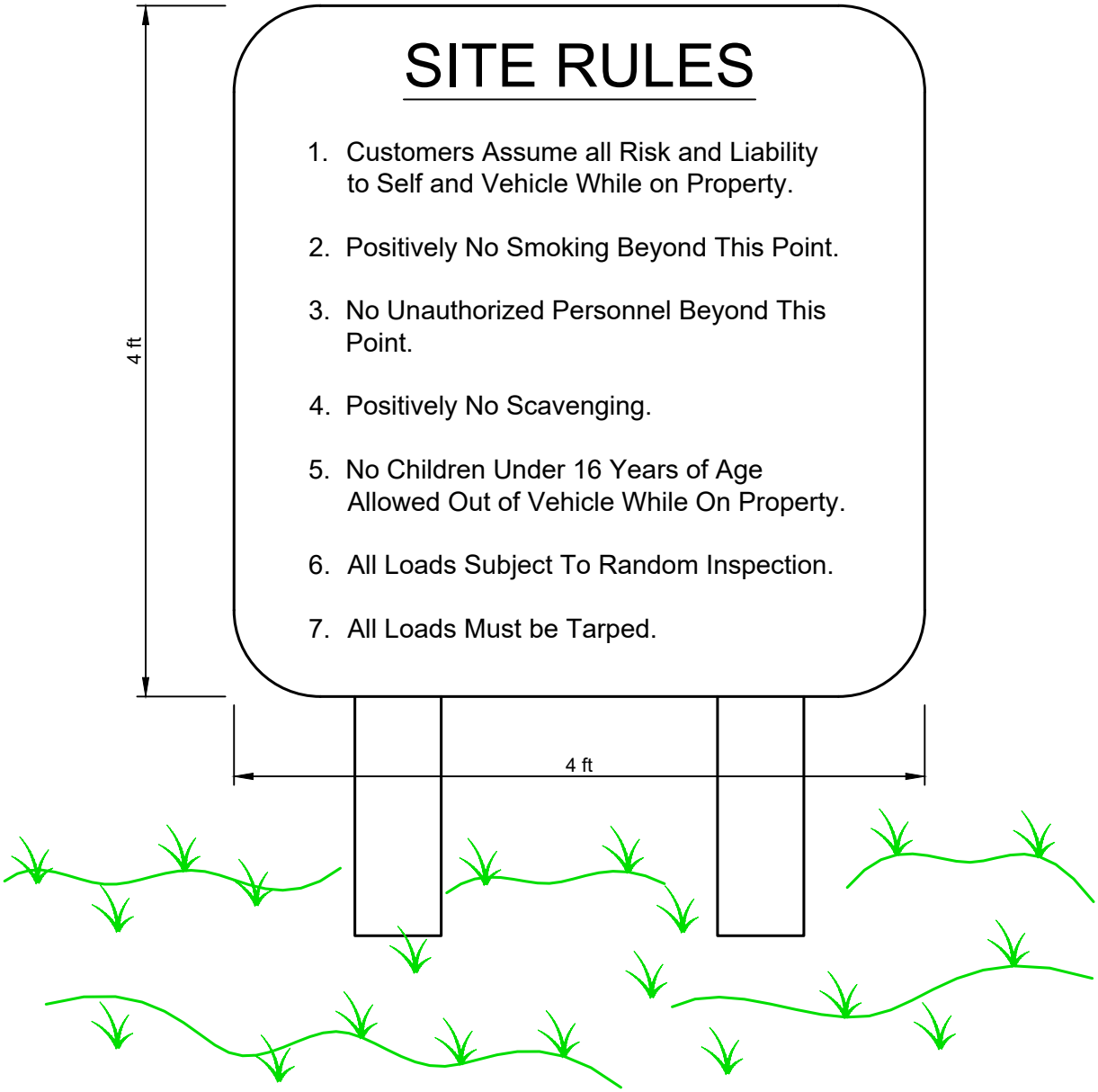
SITE RULES

1. Customers Assume all Risk and Liability to Self and Vehicle While on Property.
2. Positively No Smoking Beyond This Point.
3. No Unauthorized Personnel Beyond This Point.
4. Positively No Scavenging.
5. No Children Under 16 Years of Age Allowed Out of Vehicle While On Property.
6. All Loads Subject To Random Inspection.
7. All Loads Must be Tarped.



INTENDED FOR PERMITTING PURPOSES ONLY
09-17-24

Title:
SIGN DISPLAYING SITE RULES
BVR WASTE AND RECYCLING
TYPE V REGISTRATION APPLICATION
COLLEGE STATION, TEXAS

Prepared for:
BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-7
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-IV-6, IV-7, & IV-8-FACILITY SIGN.DWG		

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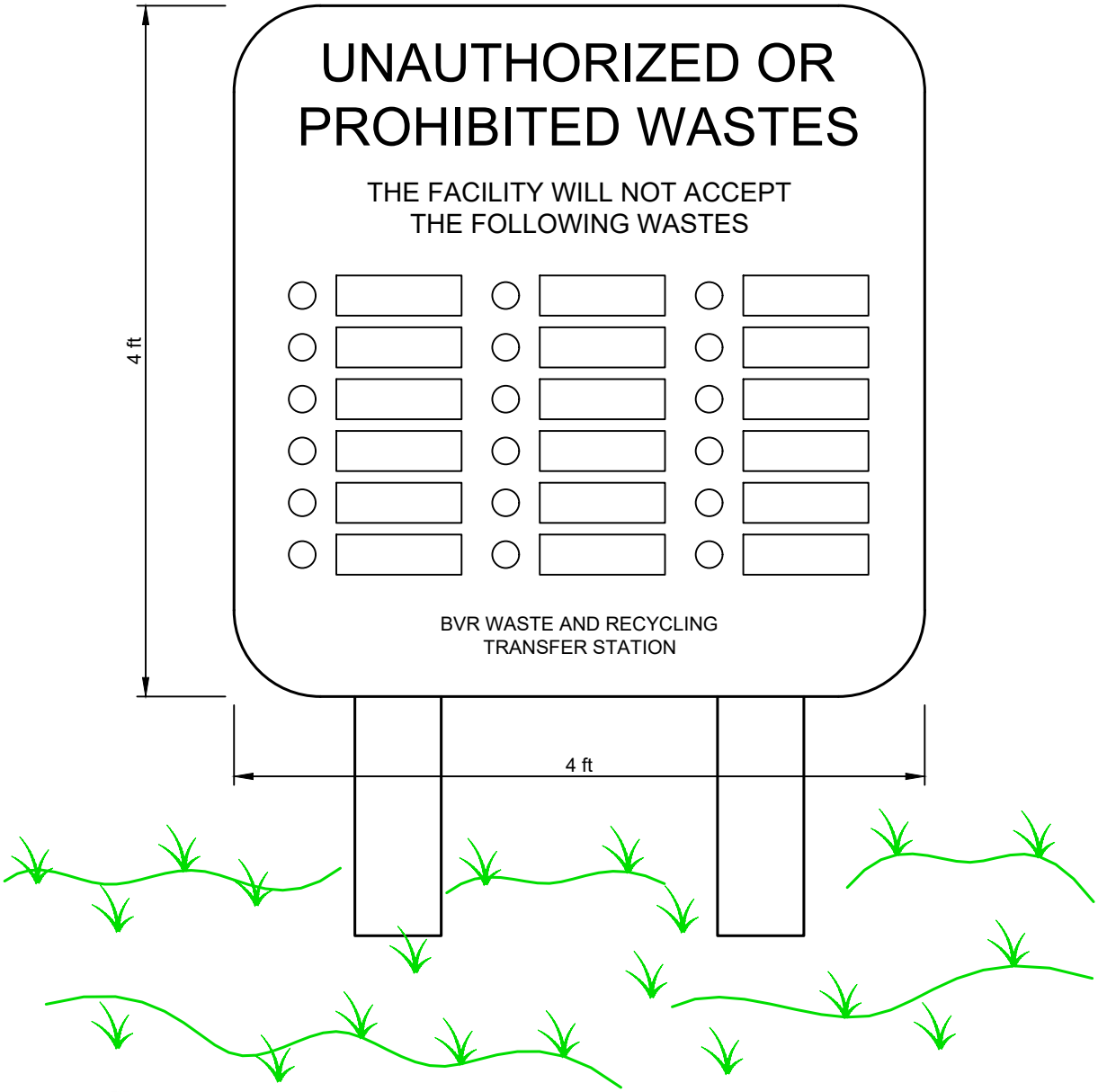

STATE OF TEXAS
GARY RUSSELL HORWITCH
84558
LICENSED
PROFESSIONAL ENGINEER

INTENDED
FOR PERMITTING
PURPOSES ONLY
09-17-24

Title:

SIGN DISPLAYING PROHIBITED WASTES BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-8
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-IV-6, IV-7, & IV-8-FACILITY SIGN.DWG		

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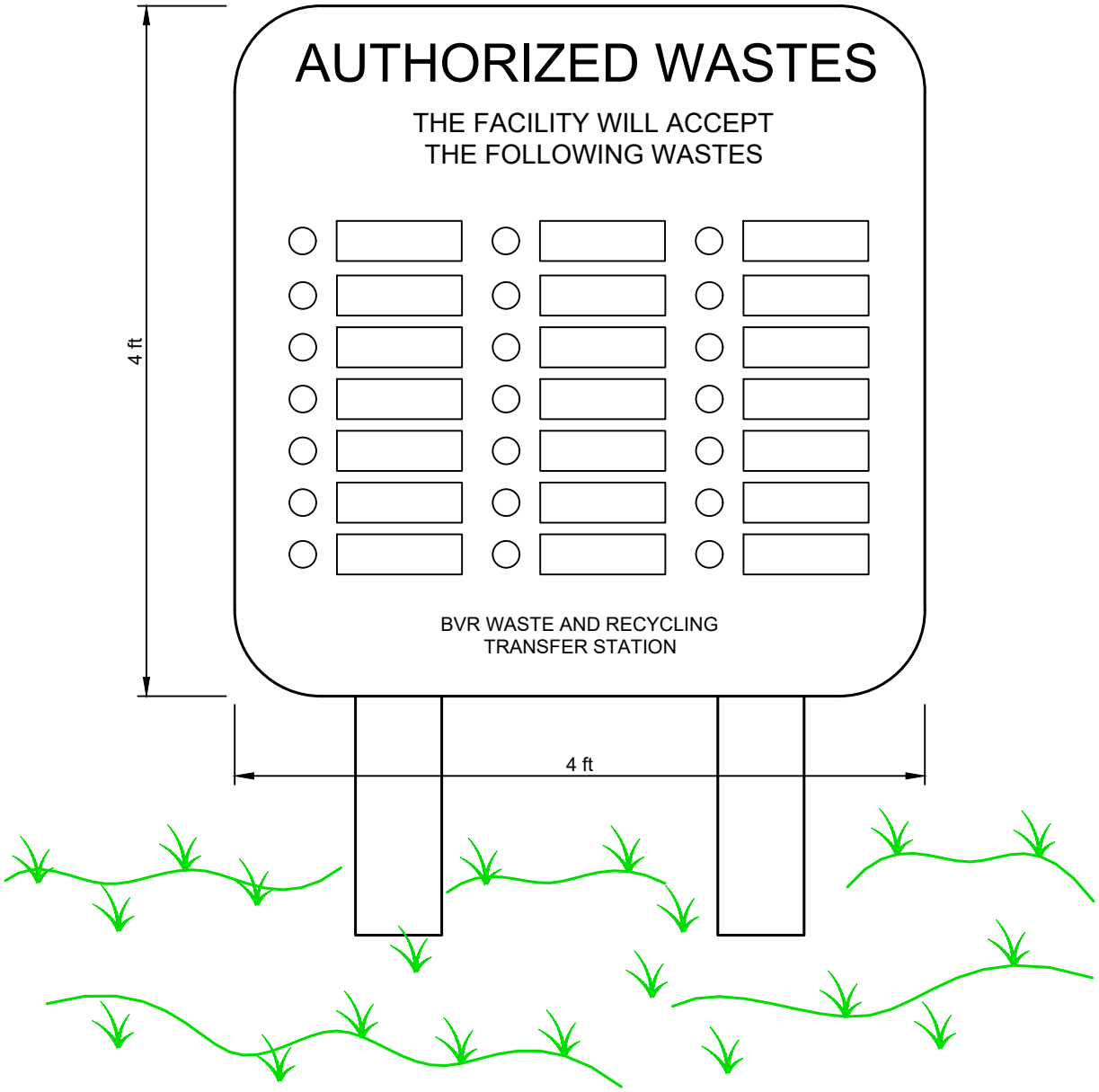

STATE OF TEXAS
GARY RUSSELL HORWITCH
118456
LICENSED
PROFESSIONAL ENGINEER

INTENDED
FOR PERMITTING
PURPOSES ONLY
09-17-24

Title:

SIGN DISPLAYING AUTHORIZED WASTES BVR WASTE AND RECYCLING TYPE V REGISTRATION APPLICATION

COLLEGE STATION, TEXAS

Prepared for:

BRANNON INDUSTRIAL GROUP, LLC

ROUX

Compiled by: AEP	Date: 08/29/2024	FIGURE
Prepared by: AEP	Scale: AS SHOWN	IV-9
Project Mgr: ATN	Project: 4759.0001H000	
File: BVR TRANSFER STATION-IV-6, IV-7, IV-8, & IV-9-FACILITY SIGN.DWG		

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