



Texas Commission on Environmental Quality

Waste Permits Division Correspondence

Cover Sheet

Date: 05/2024

Facility Name: Royal Oaks Landfill

Permit or Registration No.: 1614B

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

Table 2 - Industrial & Hazardous Waste Correspondence

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



Sustainability in Action

May 20, 2024

Ms. Megan Henson
Executive Director
MC-124
Texas Commission on Environmental Quality
12100 Park 35 Circle
Austin, Texas 78753

Re: Royal Oaks Landfill
Major Permit Amendment Application, TCEQ Permit No. MSW-1614B
Cherokee County

Dear Ms. Henson:

Please find enclosed a major permit amendment application to expand the Royal Oaks Landfill. Included are four copies of the application for your review and comment. Parts I through IV are included, as required by the Texas Commission on Environmental Quality's (TCEQ) municipal solid waste regulations.

The purpose of this major permit amendment is to secure authorization for an expansion of the existing Royal Oaks Landfill, TCEQ Permit No. MSW-1614B. The permitted 54.5-acre waste disposal area will be expanded by 28.6 acres. No changes will be made to the existing 144.3-acre permit boundary. The maximum permitted final cover elevation will remain unchanged at 776.5 ft-msl. The Royal Oaks Landfill has provided for the municipal solid waste (MSW) disposal needs of Cherokee County and surrounding areas for over 40 years. This major permit amendment will ensure that this critical service will continue for the landfill's service area.

Pine Hill Farms Landfill TX, LP (a Republic Services company) is fully committed to operating the Royal Oaks Landfill consistent with TCEQ rules for the protection of human health and the environment.

Ms. Megan Henson
May 2024
Page 2

We appreciate your review of this permit application and look forward to your comments. In the meantime, if you have any questions, please do not hesitate to contact me by phone (903-539-7986) or email (asparks3@republicservices.com).

Sincerely,



Austin Sparks
Environmental Manager

Copies submitted: 1 original and 3 copies

cc: Duncan Norton, Lloyd Gosselink Rochelle & Townsend, P.C.
Jason Edwards, P.E., Weaver Consultants Group, LLC

**ROYAL OAKS LANDFILL
CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

MAJOR PERMIT AMENDMENT APPLICATION

VOLUME 1 OF 7

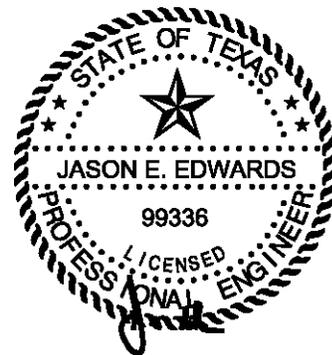
Prepared for

Pine Hill Farms Landfill TX, LP

May 2024

Prepared by

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770



05/20/2024

Project No. 0120-076-11-106

This document is intended for permitting purposes only.

**ROYAL OAKS LANDFILL
CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

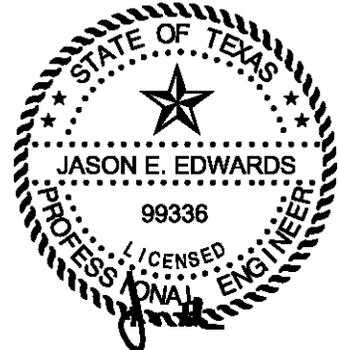
**MAJOR PERMIT AMENDMENT APPLICATION
VOLUME 1 OF 7**

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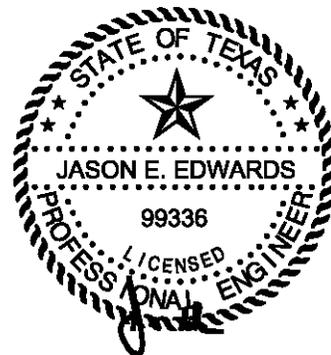
**ROYAL OAKS LANDFILL
CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

**MAJOR PERMIT AMENDMENT APPLICATION
APPLICATION TABLE OF CONTENTS**

Prepared for:

Pine Hill Farms Landfill TX, LP

May 2024



Prepared by:

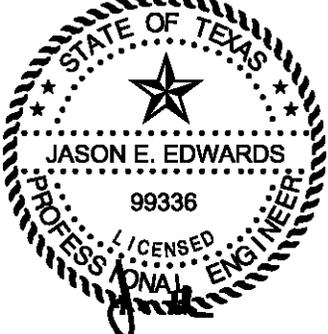
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Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
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817-735-9770

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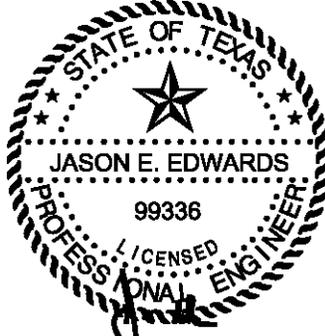
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**ROYAL OAKS LANDFILL
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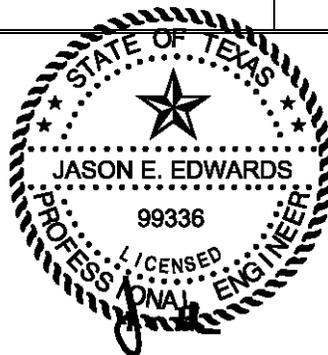
05/20/2024

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MAJOR PERMIT AMENDMENT APPLICATION
TCEQ PERMIT NO. MSW-1614B
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**ROYAL OAKS LANDFILL
MAJOR PERMIT AMENDMENT APPLICATION
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III I-B – Surrounding Development Map		
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III I-D – Landfill Gas Monitoring Report Form		
III I-E – Typical Monitoring Equipment Manufacturers’ Information		
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Appendix IIIJ – Closure Plan		30 TAC §330.63(h), §330.451-461
IIIJ-A – Final Cover System Quality Control Plan		
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IIIJ-C – Closure Plan for Municipal Solid Waste Type I Landfill Units and Final Facility Closure (Form 20720)		
Appendix IIIK – Postclosure Care Plan	30 TAC §330.63(i), §330.463, §330.465	
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Appendix IVA – Example Load Inspection Report	30 TAC §330.171(b)(1)	
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Appendix IVC – Special Waste Acceptance Plan	30 TAC §330 Subchapter E	
Appendix IVD – Liquid Waste Bulking Facility Operating Plan		



05/20/2024

Weaver Consultants Group, LLC
Rev. 0, 05/2024

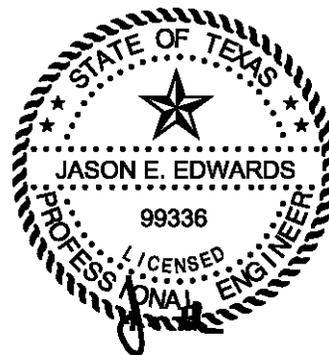
**ROYAL OAKS LANDFILL
CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

**MAJOR PERMIT AMENDMENT APPLICATION
TCEQ APPLICATION FORMS AND MAILING LABELS**

Prepared for:

Pine Hill Farms Landfill TX, LP

May 2024



05/20/2024

Prepared by:

Weaver Consultants Group, LLC
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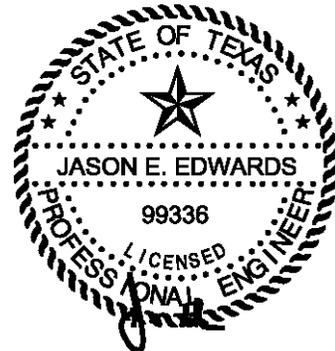
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CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

**MAJOR PERMIT AMENDMENT APPLICATION
TCEQ APPLICATION FORMS AND MAILING LABELS**

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PART II APPLICATION FORM TCEQ-20885
WASTE ACCEPTANCE PLAN FORM-20873
MAILING LABELS (on CD)



05/20/2024

PART I APPLICATION FORM TCEQ-00650



Texas Commission on Environmental Quality

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

Instructions for completing this Part I Application Form are provided in [TCEQ 00650-instr¹](#). Include a [Core Data Form \(TCEQ 10400\)²](#) with the application for the facility owner, and Core Data Forms for the operator and property owner if different from the facility owner. If you have questions, contact the Municipal Solid Waste (MSW) Permits Section by email to mswper@tceq.texas.gov, or by phone at 512-239-2335. Rules cited on this form are in Title 30 Texas Administrative Code (30 TAC) and may be viewed online at www.tceq.texas.gov/goto/view-30tac.

Application Tracking Information

Facility Regulated Entity Name³:

Royal Oaks Landfill

Site Operator (Permittee or Registrant Name)⁴:

Pine Hill Farms Landfill TX, LP

MSW Authorization Number: 1614B

Initial Submission Date: 05/2024

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
<input checked="" type="checkbox"/> \$2,050—New Landfill Permits, and Landfill Permit Major Amendments Described in 30 TAC 305.62(j)(1)
<input type="checkbox"/> \$150—Other Permits, Permit Amendments, Limited Scope Major Amendments, and all Registrations
Payment Method
<input checked="" type="checkbox"/> Online through ePay portal www3.tceq.texas.gov/epay/ Enter ePay Trace Number: <u>582EA000612126</u>
<input type="checkbox"/> Check (send to TCEQ Financial Administration Division) Payor Name: _____ Check Number: _____

5. Application URL
For applications other than those for arid exempt (AE) landfills, provide the URL address of a publicly accessible internet website where the application and all revisions to the application will be posted. http://www.ftwweaverboos.com

6. Party Responsible for Publishing Notice
Indicate who will be responsible for publishing notice:
<input type="checkbox"/> Applicant <input type="checkbox"/> Agent in Service <input checked="" type="checkbox"/> Consultant
Contact Name: <u>Jason Edwards</u>
Title: <u>Senior Engineer</u>
Email Address: <u>jedwards@wcgrp.com</u>

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?
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Indicate the alternative language: <u>Spanish</u>

8. Public Place for Copy of Application

Name of the Public Place: Jacksonville Public Library
Physical Address: 526 E. Commerce Street
City: Jacksonville County: Cherokee State: TX Zip Code: 75766
Phone Number: 903-586-7664

9. Consolidated Permit Processing

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

Yes No

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

10. Confidential Documents

Does the application contain confidential documents?

Yes No

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

11. Permits and Construction Approvals

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

Table 1. Permits and Construction Approvals.

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

12. General Information About the Facility

Facility Regulated Entity Name:

Royal Oaks Landfill

Contact Name: Austin Sparks Title: Environmental Manager

MSW Authorization Number (if existing): 1614B

Regulated Entity Reference Number: **RN** 101927010

Physical or Street Address (if available): 440 Heath Lane

City: Jacksonville County: Cherokee State: TX Zip Code: 75766

Phone Number: 800-678-7274

Latitude (decimal degrees, six decimal places): 32.000000

Longitude (decimal degrees, six decimal places): -95.266150

Elevation (above mean sea level): 685.5 feet (benchmark elevation for landfills)

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

The landfill is located approximately 0.5 miles east of the intersection of Heath Lane and U.S. Highway 69 in Cherokee County.

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

The access roads within one mile of the site are U.S. Highway 69, Heath Lane west of the landfill entrance, and Heath Lane east of the landfill entrance. Heath Lane is the main access road that waste collection vehicles will use to access the site.

Coastal Management Program

Is the facility within the Coastal Management Program boundary?

Yes No

13. Facility Types

Facility types are described in 30 TAC [330.5\(a\)](#).

Indicate facility type (select all that apply):

- Type I Type IV Type V
 Type IAE Type IVAE Type VI

14. Activities Conducted at the Facility

- Storage Processing Disposal

15. Facility Waste Management Units

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

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

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 purpose of this Major Permit Amendment is to secure authorization for an expansion of the existing Royal Oaks Landfill, TCEQ Permit No. MSW-1614A. The existing 54.5-acre waste footprint will be expanded by 28.6 acres to 83.1 acres. The existing permit boundary of 144.3 acres will not be changed. The resulting capacity increase is 5.32 million cubic yards. This landfill expansion will provide for the long-term disposal needs of Cherokee County and surrounding areas.

17. Facility Contact Information

Site Operator (Permittee or Registrant)

Name: Pine Hill Farms Landfill TX, LP
Customer Reference Number: **CN** 6001295530
Contact Name: Austin Sparks Title: Environmental Manager
Mailing Address: 440 Heath Lane
City: Jacksonville County: Cherokee State: TX Zip Code: 75766
Phone Number: 903-566-5007
Email Address: asparks3@republicservices.com

Operator (if different from Site Operator)

Name: Same as "Site Operator" (Permittee/Registrant)
Customer Reference Number: **CN** _____
Contact Name: _____ Title: _____
Mailing Address: _____
City: _____ County: _____ State: _____ Zip Code: _____
Phone Number: _____
Email Address: _____

Consultant (if applicable)

Firm Name: Weaver Consultants Group, LLC
Consultant Name: Weaver Consultants Group, LLC
Texas Board of Professional Engineers Firm Registration Number: F-3727
Contact Name: Jason Edwards, P.E. Title: Senior Engineer
Mailing Address: 6420 Southwest Blvd., Suite 206
City: Fort Worth County: Tarrant State: TX Zip Code: 76109
Phone Number: 817-735-9770
Email Address: jedwards@wcgrp.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: The City of Jacksonville

What is Owned: Facility Units Property

Other (describe): _____

Mailing Address: 315 S. Ragsdale St.

City: Jacksonville County: Cherokee State: TX Zip Code: 75766

Phone Number: 903-586-3510

Email Address: james.hubbard@jacksonvilletx.org

20. Other Government Entities Information

Texas Department of Transportation

District: 10

District Engineer's Name: Vernon M. Webb, P.E.

Mailing Address: 2709 W. Front Street

City: Tyler County: Smith State: TX Zip Code: 75702

Phone Number: 903-510-9100

Email Address: vernon.webb@txdot.gov

Local Government Authority Responsible for Road Maintenance (if applicable)

Government or Agency Name: Texas Department of Transportation

Contact Person's Name: Benjamin Terry

Mailing Address: 522 SE Loop 476

City: Jacksonville County: Cherokee State: TX Zip Code: 75766

Phone Number: 903-586-9411

Email Address: benjamin.terry@txdot.gov

City Mayor Information

City Mayor's Name: N/A
Mailing Address: _____
City: _____ County: _____ State: TX Zip Code: _____
Phone Number: _____
Email Address: _____

City Health Authority

Authority Name: N/A
Contact Person's Name: _____
Contact Person's Title: _____
Mailing Address: _____
City: _____ County: _____ State: TX Zip Code: _____
Phone Number: _____
Email Address: _____

County Judge Information

County Judge's Name: Chris Davis
Mailing Address: 135 S. Main, 3rd Floor
City: Rusk County: Cherokee State: TX Zip Code: 75785
Phone Number: 903-683-2724
Email Address: cojudge@cocherokee.org

County Health Authority

Agency Name: Cherokee County Health Department
Contact Person's Name: Allison Hale
Contact Person's Title: Executive Director
Mailing Address: 803 College Avenue
City: Jacksonville County: Cherokee State: TX Zip Code: 75766
Phone Number: 903-586-6191
Email Address: ahale@cocherokee.org

State Representative Information

House District Number: 8
State Representative's Name: Cody Harris
District Office Mailing Address: 519 N. Sycamore
City: Palestine County: Anderson State: TX Zip Code: 75801
Phone Number: 903-731-4005
Email Address: cody.harris@house.texas.gov

State Senator Information

District Number: 3
State Senator's Name: Robert Nichols
District Office Mailing Address: 329 Neches Street
City: Jacksonville County: Cherokee State: TX Zip Code: 75766
Phone Number: 903-589-3003
Email Address: robert.nichols@senate.texas.gov

Council of Governments (COG)

COG Name: East Texas Council of Governments
COG Representative's Name: David Cleveland
COG Representative's Title: Executive Director
Mailing Address: 3800 Stone Road
City: Kilgore County: Gregg State: TX Zip Code: 75662
Phone Number: 903-218-6423
Email Address: david.cleveland@etcog.org

River Basin Authority

Authority Name: Angelina & Neches River Authority
Contact Person's Name: Kelley Holcomb
Watershed Sub-Basin Name: Upper Angelina
Mailing Address: 2901 N. John Redditt
City: Lufkin County: Angelina State: TX Zip Code: 75904
Phone Number: 936-632-7795
Email Address: info@anra.org

Local Drainage or Flood Management Authority

Authority Name: Cherokee County
Contact Person's Name: Sergio Servin
Mailing Address: 135 South Main Street
City: Rusk County: Cherokee State: TX Zip Code: 75785
Phone Number: 903-683-5947
Email Address: emc@cocherokee.org

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

PAGE REVISION DATE: _____

Local Government Jurisdiction

Within City Limits of: N/A

Within Extraterritorial Jurisdiction of: The City of Jacksonville

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: Austin Sparks Title: Environmental Manager

Email Address: asparks3@republicservices.com

Signature:  Date: 5-20-24

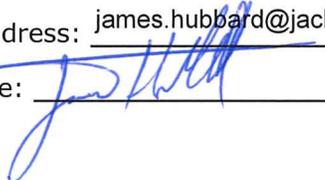
Authorization by Facility Owner for Operator to Submit Application (Land Owner)

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, Pine Hill Farms Landfill TX, LP to submit this application pursuant to 30 TAC 305.43(c).

Name: The City of Jacksonville by James Hubbard Title: City Manager

Email Address: james.hubbard@jacksonvilletx.org

Signature:  Date: 20 May 2024

Notary

SUBSCRIBED AND SWORN to before me by the said James Hubbard

On this 20 day of May, 2024

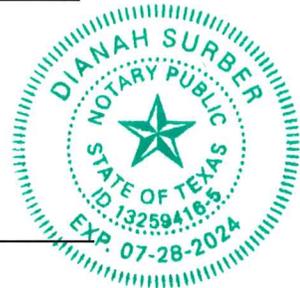
My commission expires on the 28 day of July, 2024



Notary Public in and for

_____ (notary's jurisdiction, including county and state)

Note: Application Must Bear Signature & Seal of Notary Public



Property Owner Affidavit

Property Owner Affidavit for Landfill Facility

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

Name: The City of Jacksonville by James Hubbard

Email Address: james.hubbard@jacksonvilletx.org

Signature: [Handwritten Signature] Date: 20 May 2024

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: _____

Email Address: _____

Signature: _____ Date: _____

Notary

SUBSCRIBED AND SWORN to before me by the said James Hubbard

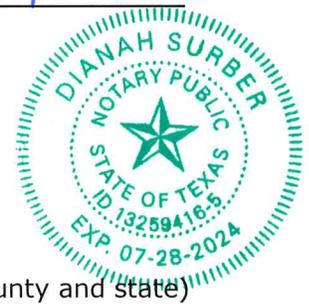
On this 20 day of May, 2024

My commission expires on the 28 day of July, 24

[Handwritten Signature]

Notary Public in and for

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



Note: Application Must Bear Signature & Seal of Notary Public

Part I Attachments

Refer to instruction document [TCEQ 00650-instr⁵](#) for professional engineer seal requirements.

Attachments Table 1. Required attachments.

Required Attachments	Attachment Number
Supplementary Technical Report [30 TAC 305.45(a)(8)]	Parts I/II, Section 2
Property Legal Description [30 TAC 330.59(d)(1)]	Parts I/II, Section 13
Property Metes and Bounds Description [30 TAC 330.59(d)(1)]	Parts I/II, Section 13
Facility Legal Description [30 TAC 330.59(d)(1)]	Parts I/II, Section 13
Facility Metes and Bounds Description [30 TAC 330.59(d)(1)]	Parts I/II, Section 13
Metes and Bounds Drawings [30 TAC 330.59(d)(1)]	Parts I/II, Section 13
On-Site Easements Drawing [30 TAC 330.61(c)(10)]	Parts I/II, Section 13
Land Ownership Map [30 TAC 330.59(c)(3)]	Parts I/II, Section 5
Landowners List [30 TAC 330.59(c)(3)]	Parts I/II, Section 5
Mailing Labels (in electronic file, in Avery 5160 format; see instructions) [30 TAC 281.5(7)]	In Binder
General Location Maps [30 TAC 330.59(c)(2)]	Parts I/II, Section 4
Texas Department of Transportation (TxDOT) County Map [30 TAC 330.59(c)(2)]	Parts I/II, Section 4
General Topographic Maps [30 TAC 330.61(e)]	Parts I/II, Section 4
Verification of Legal Status / Legal Authority (certificate of incorporation) [30 TAC 281.5 and 330.59(e)]	Parts I/II, Section 15
Evidence of Competency [30 TAC 330.59(f)]	Parts I/II, Section 16
Signatory Authority Documentation [30 TAC 305.44 and 330.59(g)]	Parts I/II, Section 17
TCEQ Core Data Form(s) TCEQ-10400⁶ [30 TAC 281.5(7)]	Volume 1

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
<input checked="" type="checkbox"/> Plain Language Summary Form TCEQ-20947 ⁷ [30 TAC 39.405(k)]	Volume 1
<input checked="" type="checkbox"/> Public Involvement Plan Form TCEQ-20960 ⁸	Volume 1
<input checked="" type="checkbox"/> Fee Payment Receipt	Volume 1
<input type="checkbox"/> Confidential Documents	
<input type="checkbox"/> Waste Storage, Processing and Disposal Ordinances [Texas Health and Safety Code, Section 363.112 ⁹]	
<input type="checkbox"/> Final Plat Record of Property Description [30 TAC 330.59(d)(1)(B)]	
Other (describe):	
Other (describe):	
Other (describe):	

⁷ www.tceq.texas.gov/downloads/permitting/waste-permits/msw/forms/20947-instr.pdf

⁸ www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/pip-form-tceq-20960.pdf
www.tceq.texas.gov/downloads/agency/decisions/hearings/environmental-equity/instructions-for-pip-form-tceq-20960.pdf

⁹ statutes.capitol.texas.gov/Docs/HS/htm/HS.363.htm#363.112

CORE DATA FORM TCEQ-10400



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 <i>(If other is checked please describe in space provided.)</i>		
<input type="checkbox"/> New Permit, Registration or Authorization <i>(Core Data Form should be submitted with the program application.)</i>		
<input type="checkbox"/> Renewal <i>(Core Data Form should be submitted with the renewal form)</i>	<input checked="" type="checkbox"/> Other Major Permit Amendment	
2. Customer Reference Number <i>(if issued)</i>	Follow this link to search for CN or RN numbers in Central Registry**	3. Regulated Entity Reference Number <i>(if issued)</i>
CN 600129530		RN 101927010

SECTION II: Customer Information

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

SECTION III: Regulated Entity Information

21. General Regulated Entity Information <i>(If "New Regulated Entity" is selected, a new permit application is also required.)</i>							
<input type="checkbox"/> New Regulated Entity <input type="checkbox"/> Update to Regulated Entity Name <input type="checkbox"/> Update to Regulated Entity Information							
<i>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).</i>							
22. Regulated Entity Name <i>(Enter name of the site where the regulated action is taking place.)</i>							
23. Street Address of the Regulated Entity: <i>(No PO Boxes)</i>							
	City		State		ZIP		ZIP + 4
24. County							

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

25. Description to Physical Location:							
26. Nearest City					State	Nearest ZIP Code	
<i>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).</i>							
27. Latitude (N) In Decimal:					28. Longitude (W) In Decimal:		
Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		
29. Primary SIC Code	30. Secondary SIC Code		31. Primary NAICS Code		32. Secondary NAICS Code		
(4 digits)	(4 digits)		(5 or 6 digits)		(5 or 6 digits)		
33. What is the Primary Business of this entity? <i>(Do not repeat the SIC or NAICS description.)</i>							
34. Mailing Address:							
	City		State		ZIP		ZIP + 4
35. E-Mail Address:							
36. Telephone Number	37. Extension or Code			38. Fax Number <i>(if applicable)</i>			
() -				() -			

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

<input type="checkbox"/> Dam Safety	<input type="checkbox"/> Districts	<input type="checkbox"/> Edwards Aquifer	<input type="checkbox"/> Emissions Inventory Air	<input type="checkbox"/> Industrial Hazardous Waste
<input checked="" type="checkbox"/> Municipal Solid Waste	<input type="checkbox"/> New Source Review Air	<input type="checkbox"/> OSSF	<input type="checkbox"/> Petroleum Storage Tank	<input type="checkbox"/> PWS
MSW-1614B				
<input type="checkbox"/> Sludge	<input type="checkbox"/> Storm Water	<input type="checkbox"/> Title V Air	<input type="checkbox"/> Tires	<input type="checkbox"/> Used Oil
<input type="checkbox"/> Voluntary Cleanup	<input type="checkbox"/> Wastewater	<input type="checkbox"/> Wastewater Agriculture	<input type="checkbox"/> Water Rights	<input type="checkbox"/> Other:

SECTION IV: Preparer Information

40. Name:	Jason A. Edwards	41. Title:	Senior Engineer
42. Telephone Number	43. Ext./Code	44. Fax Number	45. E-Mail Address
(817) 735-9770		(817) 735-9775	jedwards@wcgrp.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:	Pine Hill Farms Landfill TX, LP	Job Title:	Environmental Manager
Name (In Print):	Austin Sparks	Phone:	(903) 539- 7986
Signature:		Date:	5-20-24

PLAIN LANGUAGE SUMMARY FORM TCEQ-20947



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

Dispose of municipal solid waste for Cherokee County and surrounding communities.

B. Information About the Applicant

Name: Pine Hill Farms Landfill TX, LP

Applicant Type: Type I

Facility Name: Royal Oaks Landfill

Permit Application Number: 1614B

Customer Number (CN): 600129530

Regulated Entity Reference Number (RN): 101927010

C. Location of the Proposed Facility

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

440 Heath Lane, Jacksonville, TX 75766

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

D. Information about Facility Operation

What types of waste would be received?

Municipal solid waste, household waste, yard waste, commercial waste, industrial waste (nonhazardous), construction-demolition waste, and some special wastes.

What geographical area would the wastes come from?

Service areas consists of Cherokee County and surrounding communities.

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?

Hours of operation and waste acceptance may vary within a 24-hour period depending on incoming volumes of waste.

At what rate would wastes be accepted?

The average daily projected waste inflow is 646 tons/day.

How would wastes be managed?

The majority of all wastes accepted at this facility will be disposed of at the working face. Other wastes will be processed at the citizens convenience center or liquid waste bulking facility before being disposed of at the working face.

E. Pollution Control Methods

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

- Accidental fires will be controlled.
- Open burning of waste will not be permitted at this facility.
- Incoming waste will be promptly compacted into the working face area. Daily cover will be placed.
- Ponded water at the site will be prevented.
- The Gas Collection and Control System (GCCS) will be expanded and operated in accordance with all applicable requirements.
- The landfill haul roads and access roads will be maintained in a reasonable dust-free condition by periodic spraying from a water truck.

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

Policing of litter and fugitive debris at the facility entrance area will be performed as part of a scheduled routine. Any litter scattered throughout the site, including along fences and access roads, and at the gate will be collected at least daily on the days the facility is in operation. Any spills will be contained, analyzed as appropriate, and properly handled.

PLAIN LANGUAGE SUMMARY FORM TCEQ-20947-ESP



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

Desechar residuos sólidos municipales para el condado de Cherokee y comunidades circundantes.

B. Información sobre el solicitante

Nombre: Pine Hill Farms Landfill TX, LP

Tipo de solicitante: Tipo I

Nombre de la instalación: Royal Oaks Landfill

Número de solicitud de permiso: 1614 B

Número de cliente (CN): 600129530

Número de referencia de la entidad regulada (RN): 101927010

C. Ubicación de la instalación propuesta

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

440 Heath Lane, Jacksonville, TX 75766

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

D. Información sobre el funcionamiento de las instalaciones

¿Qué tipos de residuos se recibirían?

Residuos sólidos municipales, desechos domésticos, desechos de jardín, residuos comerciales, residuos industriales (no peligrosos), residuos de construcción y demolición y algunos residuos especiales.

¿De qué zona geográfica procederían los residuos?

Las zonas de servicio consisten en el condado de Cherokee y comunidades circundantes.

¹ www.tceq.texas.gov/goto/view-30tac

² www.tceq.texas.gov/gis/hb-610-viewer

¿Qué días y horas funcionará la instalación?

Las horas de operación en que se aceptan residuos puede variar en un periodo de 24-horas, dependiendo en el volumen de residuos ingresando a la instalación.

¿A qué ritmo se aceptarían los residuos?

En promedio esta proyectado 646 toneladas de residuo por día.

¿Cómo se gestionarían los residuos?

La mayoría de residuos aceptados en esta instalación van a ser desechados en el vertedero. Otros residuos serán procesados en el centro de conveniencia para ciudadanos o en la instalación de residuos líquidos antes de ser desechados a la celda 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?

- Los incendios accidentales serán controlados.
- Los residuos quemados al aire libre no serán permitidos en la instalación.
- Los residuos entrantes serán compactados con rapidez en el vertedero. Se colocará cobertura diaria.
- El agua estancada será prevenida.
- La recopilación de gas y el sistema de control (GCCS) serán expandidos y operados de acuerdo a todos los requisitos aplicables.
- Los caminos de acarreo al vertedero y las carreteras de acceso serán mantenidas en una condición libre de polvo rasonable rociando agua periódicamente de un camión de agua.

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

Vigilancia de basura y escombros fugitivos en el área de entrada de la instalación serán realizadas como parte de una rutina programada. Cualquier tipo de basura esparcida en el sitio incluyendo a lo largo de la cerca y carreteras de acceso será colectada por lo menos una vez al día en los días que la instalación este en operación. Cualquier derrame será controlado, analizado apropiadamente y manejado adecuadamente.

PUBLIC INVOLVMENT PLAN FORM TCEQ-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.

Dispose of municipal solid waste for Cherokee County and surrounding communities.

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.

The landfill is located within the ETJ of the City of Jacksonville.

(City)

Cherokee County

(County)

(Census Tract)

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

City

County

Census Tract

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

According to the U.S. Census Bureau, the percentage of people over 25 years of age who at least graduated from high school in Cherokee County, Texas was 78.9% from 2018 to 2022. +

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

According to the U.S. Census Bureau, the per capita income for the population in Cherokee County, Texas was \$26,790 from 2018 to 2022.

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

According to the U.S. Census Bureau, White: 81.2%, Hispanic or Latino: 24.8%, Black or African American: 14.0%, American Indian and Alaska Native: 1.7%, Asian: 0.7%, Native Hawaiian and other Pacific Islander: 0.1%. Two or more races: 2.3% +

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

Spanish: 20.3%, Other Indo-European languages: 0.1%, Asian and Pacific Island languages: 0.3%, Other languages: 0.0%

(e) Languages commonly spoken in area by percentage

English: 80.0%, Spanish: 20.0%

(f) Community and/or Stakeholder Groups

City of Jacksonville

(g) Historic public interest or involvement

None at this site.

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) Jacksonville Library

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)

PART II APPLICATION FORM TCEQ-20885



Texas Commission on Environmental Quality Part II Application Form for New Permit or Permit Amendment for a Municipal Solid Waste Landfill Facility

I. Application Information

1. Facility Name: Royal Oaks Landfill
2. Permittee Name: Pine Hill Farms Landfill TX, LP
3. MSW Authorization #: 1614B
4. Initial Submittal Date: 05/2024

II. Existing Conditions Summary - 30 TAC §330.61(a)

Provide information to address any site-specific conditions that require special design considerations and possible mitigation of conditions as follows.

1. Provide a summary describing the existing conditions at the site and within the areas surrounding the site, which may include discussions of any additional land-use, environmental, or special issues related to the facility.

The Royal Oaks Landfill is located in Cherokee County, approximately 2.5 miles north of the City of Jacksonville. The property is approximately 144.3 acres in size. The site was originally permitted as a Type I MSW disposal facility in 1984 (Permit No. MSW-1614). Existing site conditions are presented in Section 3 of Parts I/II. The existing groundwater monitoring system includes 12 monitoring wells, which include two upgradient background wells and 10 downgradient point of compliance wells. The existing gas system consists of 20 gas probes .

There are no additional land uses on the site or environmental or special issues related to the facility.

2. Provide brief descriptions of all site-specific conditions at the facility that require special design considerations.

Site specific conditions at the facility that require special design considerations include groundwater. The site will be required to install an underdrain in portions of the future sideslope to control hydrostatic uplift pressure on the bottom of the liner from groundwater.

3. Indicate that reports of site-specific conditions that require special design considerations and mitigation of such conditions are provided under Sections VIII – XVI below with regard to (a) facility impacts on surrounding areas; (b) transportation; (c) general geology and soils; (d) groundwater and surface water; (e) existing and abandoned oil and water wells; (f) floodplains and wetlands; (g) endangered or threatened species impacts; and (h) compliance with the Texas Natural Resources Code, Chapter 191 (Texas Antiquities Code).

a. Impacts to surrounding areas are minimal as the site is an existing landfill and traffic patterns are well established.

b. N/A - Refer to the Traffic Study in Appendix I/IID. The report demonstrates that the existing access roads will provide adequate access to the site.

c. Site-specific strata A through D are comprised of an uppermost component of course-grained saturated sediments (Aquifers A through D) and an underlying component of fine-grained unsaturated sediments (Aquitards A through D). Regional and site-specific geologic and hydrogeologic conditions are discussed in detail in Part III, Appendix IIIG.

d. Groundwater at the site is observed within four distinct hydraulically separated site-specific aquifers (Aquifer A, Aquifer B, Aquifer C, and Aquifer D). The site will be required to install an underdrain in portions of the future sideslope. Granular material will be used for the underdrain sumps and collection trenches. Underdrain construction specifications are presented in Appendix IIID and Appendix IIID-C.

e. Refer to Parts I/II, Section 2.5.

f. The proposed landfill permit boundary is located over 1 mile from the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA). The site is currently working with USACE on obtaining a Nationwide 39 Permit for the site. The approval will be submitted to TCEQ when received.

g. In accordance with the submitted Threatened and Endangered Species Report, no suitable habitat exists on the site for any species listed for Cherokee County, nor has critical habitat been designated in the project area for any threatened and endangered species.

h. Texas Historical Commission determined no effects on identified archaeological sites or other cultural resources. Refer to Appendix I/ IIB.

III. Waste Acceptance Plan - 30 TAC §330.61(b)

1. If this application is for a Type I or Type IAE MSW landfill facility, attach completed Form No. TCEQ-20873. Attachment No.: Volume 1
2. If this application is for a Type IV or Type IVAE MSW landfill facility, attach completed Form No. TCEQ-20890. Attachment No.:

IV. General Location Maps - 30 TAC §330.61(c)

Provide General Location Maps that accurately show the features listed below. Provide all General Location Maps in a single attachment and include the drawing number in the space provided. Include notes on each map, as needed, to describe information pertaining to the map.

1. The prevailing wind direction with a wind rose. Parts I/II, Figure I/II-4.2
2. 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."
Parts I/II, Figure I/II-4.3
3. All structures and inhabitable buildings within 500 feet of the proposed facility.
Parts I/II, Figure I/II-4.3
4. (i) Schools, (ii) licensed day-care facilities, (iii) churches, (iv) hospitals, (v) cemeteries, (vi) ponds, (vii) lakes, and (viii) residential, (ix) commercial, and (x) recreational areas within one mile of the facility. Churches and parks are shown in Parts I/II, Figure I/II-4.2 agricultural, and industrial areas are shown on Figure I/II-4.3, residential areas are shown on Figures I/II-4.3 and 7.1.
5. The location and surface type of all roads within one mile of the facility that will normally be used by the owner or operator for entering or leaving the facility. Parts I/II, Figure I/II-6.1
6. Latitudes and longitudes. Parts I/II, Figure I/II-6.1
7. Area streams. Parts I/II, Figure I/II-4.2
8. Airports within six miles of the facility. Parts I/II, Figure I/II-8.1
9. The property boundary of the facility. Parts I/II, Figure I/II-3.1
10. (i) Drainage, (ii) pipeline, and (iii) utility easements within or adjacent to the facility.
Parts I/II, Figures I/II-3.1 through I/II-3.3
11. (i) Facility access control features. Appendix I/IIA, Drawing I/II-A.12
12. (i) Archaeological sites, (ii) historical sites, and (iii) sites with exceptional aesthetic qualities adjacent to the facility. N/A - None Present

V. Facility Layout Maps - 30 TAC §330.61(d)

Provide the Facility Layout Map(s) as a single attachment, and include drawing number(s) in the space provided. Include notes on each map, as needed, to describe information on the map. Refer to Parts I/IIA, Appendix I/IIA - Facility Layout Maps

Provide a map or set of maps of the facility layout showing:

1. The outline of the units; Appendix I/IIA, Figures I/II-A.1 and I/II-A.2
2. General locations of main interior facility roadways; Figures I/II-A.4 through I/II-A.8
3. Locations of monitor wells; Appendix I/IIA, Figures I/II-A.1 and I/II-A.9
4. Locations of buildings; Appendix I/IIA, Figures I/II-A.1 and I/II-A.9

5. Any other graphic representations or marginal explanatory notes necessary to communicate the proposed construction sequence; N/A
6. Fencing; Appendix I/IIA, Figure I/II-A.12
7. Provisions for the maintenance of any natural windbreaks, such as greenbelts, where they will improve the appearance and operation of the facility and, where appropriate, plans for screening the facility from public view; Appendix I/IIA, Figure I/II-A.12
8. All site entrance roads from public access roads; Appendix I/IIA, Figures I/II-A.9 through I/II-A.12
9. General locations of main interior facility roadways that can be used to provide access to fill areas; Appendix I/IIA, Figures I/II-A.4 through I/II-A.8
10. Sectors with appropriate notations to communicate the types of wastes to be disposed of in individual sectors; Appendix I/IIA, Figures I/II-A.1 and I/II-A.2. All sectors accept all types of acceptable wastes.
11. The general sequence of filling operations; Appendix I/IIA, Figures I/II-A.2 and I/II-A.4 through I/II-A.6
12. Sequence of excavations and filling; Appendix I/IIA, Figures I/II-A.4 through I/II-A.8.
13. Dimensions of cells or trenches; Appendix I/IIA, Figure I/II-A.2 and
14. Maximum waste elevations and final cover. Appendix I/IIA, Figures I/II-A.3 and I/II-A-9.

VI. General Topographic Maps - 30 TAC §330.61(e)

1. Provide general topographic map(s) consisting of United States Geological Survey 7 ½-minute quadrangle sheets or equivalent for the facility.
Map No(s). Parts I/II, Figure I/II-4.2
2. At least one of the general topographic maps provided is at a scale of one-inch equals 2,000 feet.
 Yes

VII. Aerial Photograph - 30 TAC §330.61(f)

Provide an aerial photograph approximately 9" x 9" with a scale within a range of one-inch equals 1,667 feet to one-inch equals 3,334 feet and showing the area within at least one-mile radius of the site boundaries. Mark the site boundaries and fill areas on the aerial photograph(s). A series of aerial photographs can be used to show growth trends.

Attachment No.(s): Parts I/II, Figure I/II-6.1

VIII. Land-Use Map - 30 TAC §330.61(g)

Provide a constructed map of the facility showing the following land-use features (list the map number(s) in the space provided): Parts I/II, Section 7

1. The boundary of the facility; Parts I/II, Figure I/II-7.1
2. Existing zoning on or surrounding the property; Parts I/II, Figures I/II-7.3
3. Actual uses (e.g., agricultural, industrial, residential, etc.) both within the facility and within one mile of the facility. Parts I/II, Figure I/II-7.1 and I/II-7.2
4. Drainage, pipeline, and utility easements within the facility; Parts I/II, Figure I/II-3.1
5. Access roads serving the facility; Parts I/II, Figure I/II-6.1

6. Check the following facilities if they are within one mile of the facility boundary and indicate on map. Figures I/II-4.2, I/II-4.3, I/II-7.1, and I/II-7.2
- (a) residences;
 - (b) commercial establishments;
 - (c) schools;
 - (d) licensed day-care facilities;
 - (e) churches;
 - (f) cemeteries;
 - (g) ponds or lakes; and
 - (h) recreational areas.

IX. Impact on Surrounding Area - 30 TAC §330.61(h)

Address the facility's impacts on cities, communities, groups of property owners, or individuals and describe mitigation of conditions as required. Attach additional pages as necessary. If a land use compatibility analysis report prepared by a qualified professional is provided, indicate the location within the application. Attachment No.:

1. Impacts to Surrounding Areas:

- (a) Provide information regarding 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 the public interest; and

Impacts to surrounding areas are minimal as the site is an existing landfill and has been in operation for over 40 years. The site also has traffic patterns that are well established.

- (b) Describe any special design considerations and possible mitigation of potential impacts, as necessary.

As discussed above, impacts to surrounding areas will be minimal. The facility is bounded by high-canopy tree lines. The existing dense tree lines function as both windbreaks and site screening.

Published Zoning Map: If available, provide a published zoning map for the facility and within two miles of the facility for the county or counties in which the facility is or will be located.

See Attachment 6, Figures I/II-7.3

2. Special or Nonconforming Use Permit:

- (a) Does the site require approval as a nonconforming use or a special permit from the local government having jurisdiction? Yes No

(b) If yes, provide a copy of such approval. Attachment No.:

3. **Character of Surrounding Land Use:** Describe the character of the surrounding land uses within one mile of the proposed facility.

Land uses within one mile of the facility are predominantly agricultural and residential.

4. **Growth Trends and Directions of Major Development:**

(a) Provide information about growth trends within five miles of the facility.

The area growth patterns will be consistent with the growth patterns over the last several years (i.e., residential homes and businesses may continue to be built in the area).

(b) Describe the directions of major development.

Growth and development patterns have generally been along the major transportation corridors of State Highway 69 .

5. **Number of and Proximity to Residences and Other Uses:** Indicate the approximate number and proximity of residences and other uses within one mile of the facility as follows. Population density and proximity to residences and other uses may be considered in the assessment.

(a) Number of, distance, and directions to residences:

There are approximately 100 residences within 1 mile of the facility.

(i) Indicate the distance to the nearest residences: 40 feet

(ii) Provide directions to the nearest residences:

The nearest residences are to the north of the landfill off of Heath Lane.

(b) Number of, distance, and directions to commercial establishments:

There are 50 commercial properties within one mile of the property.

(i) Indicate the distance to the nearest commercial establishments: Approx. feet
1,490

(ii) Provide directions to the nearest commercial establishments:

All the commercial properties are located to the west of the landfill. The closest commercial property is located directly to the west of the landfill.

(c) Number of, distance, and directions to schools:

There are no schools within one mile of the facility.

(d) Number of, distance, and directions to churches:

There are three churches within one mile of the facility. The nearest church is located approximately 1,390 feet west of the landfill property.

(e) Number of, distance, and directions to cemeteries:

There is one cemetery within one mile of the facility. The nearest cemetery (Grimes Cemetery) is approximately 1,300 feet west of the landfill property.

(f) Number of, distance, and directions to historic structures and sites:

There are no known historic structures or sites within one mile of the facility.

(g) Number of, distance, and directions to archaeologically significant sites:
 There are no known archaeologically significant sites within one mile of the facility.

(h) Number of, distance, and directions to sites having exceptional aesthetic quality:
 There are no known sites having exceptional aesthetic quality within one mile of the facility.

6. **Known Wells.** Provide information and discussion of all known wells within 500 ft. of the proposed facility. Provide the well information using Table VIII-1 below. If site has more than 5 wells within the radius, include wells information as an attachment.

No water wells were identified inside or within 500-feet of the permit boundary. Refer to Parts I/II, Figure I/II-4.3 - Structures, Inhabitable Buildings, and Water Wells Within 500 feet.

Table VIII-1. Well Information

Wells Within 500 ft. Radius of the Proposed Facility							
Well Locator	Well ID No.	Depth (ft.)	Completion Date	Completion Formation	Well Use	Longitude	Latitude

X. Transportation and Airport Safety - 30 TAC §330.61(i) and §330.545

1. **Transportation:** Attach completed Transportation Data and Coordination Report Form for Municipal Solid Waste Type I Landfills, TCEQ-20719. Attachment No.: Appendix I/II
2. **Airport Safety:**
 - (a) Is the facility located, or will be located, within 10,000 feet of any airport runway end used by turbojet aircraft? Yes No
 - (b) Is the facility located, or will be located, within 5,000 feet of any airport runway end used by only piston-type aircraft? Yes No
 - (i) If the answer is "Yes" to either (a) or (b) above, indicate the distance of the facility from the nearest airport runway end used by only turbojet aircraft: N/A feet or piston-type aircraft: N/A feet; and
 - (ii) Provide required demonstration to show that the municipal solid waste facility units are or will be designed and operated so as not to pose a bird hazard to aircraft.
 There are no airports located within 5,000 feet of the landfill.
 - (c) Is the facility located, or will be located, within a six-mile radius of any small general service airport runway end used by turbojet or piston-type aircraft? Yes No
 - (d) Is the facility located, or will be located, within a five-mile radius of any large general public airport runway end used by turbojet or piston-type aircraft? Yes No
There is one private airport within 6 miles of the site.
 - (i) If the answer to either of subsection (c) or (d) above is "Yes," has the applicant notified the affected airport as required?
 Yes No. Explain: N/A
 - (ii) Also, has the applicant notified the Federal Aviation Administration as required?
 Yes No. Explain: N/A

(iii) Provide copies of the notifications to the affected airport and to FAA.
See Appendix I/IIB, page I/IIB-2.

(iv) All landfill facilities within a six-mile radius of any small general service airport runway or within a five-mile radius of any large general public commercial airport runway shall be critically evaluated to determine if an incompatibility exists. Include any coordination received from the affected airport and from the FAA concerning compatibility.
N/A

(e) Will the subject landfill accept waste streams that include putrescible waste?
 Yes No.

(i) If the answer to subsection (e) is "Yes," address the potential for the facility to attract birds and cause significant hazards to low-flying aircraft. Guidelines regarding location of landfills near airports can be found in Federal Aviation Administration Order 5200.5(A), January 31, 1990 (or the replacement active orders, notices, and advisory circular guidelines from the FAA can be used).

XI. General Geology and Soils Statement and Location Restrictions - 30 TAC §330.61(j) and §§ 330.555 - 330.559

1. Discuss in general terms the geology and soils of the proposed site.

Site-specific strata A through D are comprised of an uppermost component of course-grained saturated sediments (Aquifers A through D) and an underlying component of fine-grained unsaturated sediments (Aquitards A through D). Regional and site-specific geologic and hydrogeologic conditions are discussed in detail in Part III, Appendix IIIG.

2. Fault Areas

(a) Will the municipal solid waste landfill units at the facility or a lateral expansion of the facility be located within 200 feet of a fault that has had displacement in Holocene time?
 Yes No

If the answer is "Yes," provide demonstration to show that an alternative setback distance of less than 200 feet will prevent damage to the structural integrity of the landfill unit and will be protective of human health and the environment. Attachment No.:

(b) Is the facility located within areas that may be subject to differential subsidence or active geological faulting? Yes No

If the answer is "Yes," provide a detailed fault study. Attachment No.:

(c) Is an active fault known to exist within 1/2 mile of the site? Yes No

If the answer is "Yes," investigate the site for unknown faults and discuss its results. Attachment No.:

(d) Is the facility located in areas experiencing withdrawal of crude oil, natural gas, sulfur, etc., or significant amounts of groundwater? Yes No

If the answer is "Yes," investigate the site in detail for the possibility of differential subsidence or faulting that could adversely affect the integrity of landfill liners and discuss the site investigation and its results. Attachment No.: Part I/IIC & Part III, Attachment IIIG

(e) If conducted, were the studies of differential subsidence or faulting conducted under the direct supervision of a licensed professional engineer experienced in geotechnical engineering or a licensed professional geoscientist qualified to evaluate conditions of differential subsidence or faulting? Yes No. Explain

Fault Areas discussed in Part I/II Section 9 and Parts I/II Section 8.

(f) If conducted, do the studies of differential subsidence or faulting establish the limits (both upthrown and downthrown) of the zones of influence of all active faulted areas within the site vicinity? Yes No. Explain **Not Applicable - No active faults in vicinity.**

(g) If conducted, do the studies of differential subsidence include information or data addressing the following shown below, as applicable:

Table X-1. Information included in Fault Area Studies

Information to be included, as applicable:	Yes	Not Applicable
(i) structural damage to constructed facilities (roadways, railways, and buildings);	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ii) scarps in natural ground;	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iii) presence of surface depressions (sag ponds and ponded water);	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) lineation's noted on aerial maps and topographic sheets;	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(v) structural control of natural streams;	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(vi) vegetation changes;	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(vii) crude oil and natural gas accumulations;	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(viii) electrical spontaneous potential and resistivity logs (correlation of subsurface strata to check for stratigraphic offsets);	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(ix) earth electrical resistivity surveys (indications of anomalies that may represent fault planes);	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(x) open cell excavations (visual examinations to detect changes in subsoil texturing and/or weathering indicating stratigraphic offsets);	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(xi) changes in elevations of established benchmarks; and	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(xii) references to published geological literature pertaining to area conditions.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

(h) If the site is or will be located within a zone of influence of active geological faulting or differential subsidence, does the application provide substantial evidence that the zone of influence will not affect the site?

Yes No Attachment No.: **Not Applicable**

Address the following statement:

3. No solid waste disposal shall be accomplished within a zone of influence of active geological faulting or differential subsidence because active faulting results in slippage along failure planes, thus creating preferred seepage paths for liquids.

4. Seismic Impact Zones

(a) Is the proposed facility located in a seismic impact zone, as defined in 30 TAC §330.557?

Yes No

Provide information to support response. Attachment No.: **Parts I/II-C**

(b) For facilities located in a seismic impact zone, provide a detailed demonstration showing that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. Attachment No.: **Not Applicable**

5. Unstable Areas

(a) Is the facility located in an unstable area, as defined in 30 TAC §330.559?

Yes No Explain: _____

(b) If the facility is located in an unstable area, provide a demonstration that engineering measures have been incorporated into the landfill unit's design to ensure that the integrity of the structural components of the landfill unit will not be disrupted.

Attachment No.: **N/A**

The demonstration considered at least the following factors:

(i) on-site or local soil conditions that may result in significant differential settling;

Yes No

(ii) on-site or local geologic or geomorphologic features; Yes No and

(iii) on-site or local human-made features or events (both surface and subsurface).

Yes No

XII. Groundwater and Surface Water - 30 TAC §330.61(k) and §330.549

1. Groundwater

Provide an attachment containing data about the site-specific groundwater conditions at and near the site, from published and open-file sources, including:

- Aquifer names and their association with geologic units described in the General Geology and Soils Statement;
- Groundwater quality, including, if available, typical values or value ranges for total dissolved solids content; and
- Present use(s) of groundwater withdrawn from aquifers at and near the site, if available.

Attachment No.: **IIIG**

Address the following as applicable:

(a) Is the facility located over the Edwards Aquifer recharge zone, as defined in 30 TAC §330.549? Yes No.

If yes, discuss how the facility will comply with the applicable requirements in 30 TAC Chapter 213 (relating to Edwards Aquifer).

Not Applicable

(b) A Type I or Type IAE landfill is prohibited on the recharge zone of the Edwards Aquifer; the applicant will not locate a Type I or Type IAE landfill on the recharge zone of the Edwards Aquifer. Select either statement that applies:

(i) The facility is not or will not be located over the Edwards Aquifer Recharge Zone.

(ii) The facility is not a Type I or Type IAE landfill.

(c) A new landfill cell or an aerial expansion of an existing landfill cell managing Class 1 non-hazardous industrial solid waste may not be located in areas described in 30 TAC § 335.584(b)(1) and (2) (relating to Location Restrictions), unless the Executive Director (ED) approves an engineered design that the applicant has demonstrated will provide equal or greater protection to human health and the environment:

- (i) Does the application propose Class 1 nonhazardous industrial solid waste cells or units at the subject facility? Yes No
- (ii) If yes, discuss how the facility would comply with the location restriction requirements under 30 TAC §335.584(b)(1) and (2). Include any applicable equivalency demonstration that would provide equivalent or greater protection to human health and the environment. Attachment No.: N/A

2. Surface Water

- (a) Provide data on surface water at and near the site (including lakes, ponds, creeks, streams, rivers, or similar water bodies).

Attachment Nos.: See Parts I/II, Section 10.2 - Surface Water Statement and Appendix III F, Section 4 - Drainage Patterns and Figure 4.2.

- (b) Provide information demonstrating how the municipal solid waste facility will comply with applicable Texas Pollutant Discharge Elimination System (TPDES) storm water permitting requirements and the Clean Water Act, §402, as amended See Appendix I/II-E.

- (i) The facility has obtained TPDES permit coverage under the following individual wastewater permit(s) (list permit number(s)): N/A . A copy of the permit(s) is provided in Attachment No.: , or
- (ii) A certification statement indicating that the applicant will obtain the appropriate TPDES permit coverage when required.
Yes No. Explain Site is currently covered under TPDES. See Appendix I/II E for existing stormwater permit.

XIII. Abandoned Oil and Water Wells - 30 TAC §330.61(I)

1. Water Wells

- (a) Are there any existing or abandoned water wells within the facility? Yes No
Refer to Parts I/II, Section 2.5 - Abandoned Oil and Water Wells

(i) If no, move to Item No. 2 below.

(ii) If yes, address the following:

- (1) Provide a map showing the water well locations, identity, status, and use. Attachment No.:
- (2) Will all the water wells be capped, plugged, and closed prior to construction at the facility? Yes No.
- (3) If yes, provide written certification that all such wells will be capped, plugged, and closed in accordance with all applicable rules and regulations of TCEQ or other state agency within 30 days prior to construction at the facility. Attachment No.:
- (4) If no, identify and describe the water wells that will be capped, plugged, and closed in accordance with all applicable rules and regulations of TCEQ or other state agency. Attachment No.:
- (5) Also, identify the wells necessary for use, and that will remain in use, for supply for operations at the facility. Attachment No.:
- (6) Are the water wells that will remain in use for supply for operations at the facility located outside of the groundwater monitoring well network and not subject to impact from landfill operations? Yes No. If no, explain
- (7) The water wells that will remain in use for supply for operations at the facility and that are located inside of the groundwater monitoring network, but outside the landfill unit boundary, are identified in Attachment No.: for ED approval.

2. Oil and Gas Wells

(a) Are there any existing or abandoned on-site crude oil, natural gas, or other wells associated with mineral recovery under the jurisdiction of the Railroad Commission of Texas?

Yes No Refer to Parts I/II, Section 2.5 - Abandoned Oil and Water Wells

(i) If yes, address the following items:

(1) Provide a map showing well locations, identity, type, and status.

Attachment No.:

(2) Identify and annotate the oil or natural gas wells that are producing and will remain in their current state, provided such wells do not affect or hamper landfill operations.

(3) Provide written certification that all the oil and natural gas wells, other than the producing wells approved for retention, have been properly capped, plugged, and closed at the time of application in accordance with all applicable rules and regulations of the Railroad Commission of Texas.

Attachment No.:

XIV. Floodplains - 30 TAC §330.61(m)(1) and §330.547

1. Describe the location of the facility with respect to floodplains.

As shown on Figure I/II-11.1, the proposed landfill permit boundary is located over 1 mile from the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) for Cherokee County, Texas, and incorporated areas (Map Numbers 48073C0175D and 48073C0285D).

2. Provide a copy of the Federal Emergency Management Administration (FEMA) flood map for the area to show the facility boundary and to illustrate the information described in Section 1 above. Attachment No.: Parts I/II, Figure I/II-11.1

3. For construction of levees or other improvements associated with flood control on the proposed facility, provide data on floodplains in accordance with 30 TAC Chapter 301 Subchapter C (relating to Approval of Levees and Other Improvements). N/A

4. Address the following requirements with regard to the location of the facility:

(a) Provisions to ensure that no solid waste disposal operation is conducted within the facility in areas that are located in a 100-year floodway as defined by FEMA.

No portion of the waste disposal area will be located in the 100-year floodplain.

(b) Designs that demonstrate that municipal solid waste management units, including storage and processing facilities, located in 100-year floodplains will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

No portion of the waste disposal area will be located in the 100-year floodplain.

(c) Demonstrate MSW storage and processing facilities shall be located outside of the 100-year floodplain unless the owner or operator demonstrates that the facility is designed and will operate to prevent washout during a 100-year storm event, or obtains a conditional letter of map amendment from FEMA.

No portion of the waste disposal area will be located in the 100-year floodplain.

(d) If applicable, provide a copy of the conditional letter of map amendment (or other applicable FEMA approval) from the FEMA administrator for development within a floodplain.

Not applicable

(e) References to provisions, designs, and narratives regarding floodplains in Part III of the application. Refer to Appendix IIIF.

XV. Wetlands - 30 TAC §330.61(m)(2) and §330.553

1. Provide a wetlands determination under applicable federal, state, and local laws and discuss wetlands in accordance with 30 TAC §330.553. Demonstration can be made by providing evidence that the facility has a Corps of Engineers permit for the use of any wetlands area.

Attachment No.: N/A The site has submitted a Nationwide 39 Permit Application to USACE. The approval of this application will be provided upon receipt.

(a) If applicable, provide a copy of any Corps of Engineers permit issued to the applicant for the use of any wetlands area within the facility. Attachment No.: Refer to I/IIB.

2. Identify wetlands located within the facility boundary, attach necessary maps and drawings. Refer to Appendix I/IIB.

3. Where new municipal solid waste landfill units, lateral expansions, material recovery operations from a landfill, and storage or processing units are to be located in wetlands, discuss the identified wetlands considering the following:

(a) Locating the landfill units, lateral expansions, material recovery operation from a landfill, and storage or processing units away from the identified wetlands. Refer to I/IIB.

(b) Steps taken to avoid impacts to wetlands to the maximum extent practicable to achieve no net loss of wetlands (as defined by acreage and function).

Refer to Appendix I/IIB.

(c) For unavoidable impacts:

(i) Clearly rebut the presumption that a practicable alternative to the proposed facility or recovery operation is available that does not involve wetlands.

Refer to Appendix I/IIB.

(ii) Demonstrate that the construction and operation of the municipal solid waste landfill unit, material recovery operation from a landfill, and storage or processing units will not:

(1) cause or contribute to violations of any applicable state water quality standard;

Refer to Appendix I/IIB.

(2) violate any applicable toxic effluent standard or prohibition under the Clean Water

Refer to Appendix I/IIB.

(3) 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

Refer to Appendix I/IIB.

(4) violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972 for the protection of a marine sanctuary.

Refer to Appendix I/IIB.

- (iii) Demonstrate the integrity of the landfill unit and its ability to protect ecological resources by addressing the following factors showing that the municipal solid waste landfill unit or recovery operation will not cause or contribute to significant degradation of wetlands:
Refer to Appendix I/IIB.
 - (1) erosion, stability, and migration potential of native wetland soils, muds, and deposits used to support the landfill unit; Refer to Appendix I/IIB.
 - (2) erosion, stability, and migration potential of dredged and fill materials used to support the landfill unit; I/IIB
 - (3) the volume and chemical nature of the waste managed in the landfill unit; I/IIB
 - (4) impacts on fish, wildlife, and other aquatic resources and their habitat from release of the solid waste; I/IIB
 - (5) the potential effects of catastrophic release of waste to the wetland and the resulting impacts on the environment; and I/IIB
 - (6) any additional factors, as necessary, to demonstrate that ecological resources in the wetland are sufficiently protected. I/IIB
- (iv) Demonstrate steps taken to minimize unavoidable impacts to wetlands to the maximum extent practicable. Refer to Appendix I/IIB.
- (v) Demonstrate offsetting of remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions (e.g., restoration of existing degraded wetlands or creation of man-made wetlands). I/IIB

XVI. Endangered or Threatened Species - 30 TAC §330.61(n) and §330.551

1. Provide Endangered Species Act compliance demonstrations as required under applicable state and federal laws. Attachment No.: Refer to Appendix I/IIB.
2. Determine and discuss whether the facility is in the range of endangered or threatened species. No suitable habitat exists on the site for any species listed for Cherokee County, nor has critical habitat been designated in the project area for any threatened and endangered species.
3. If the facility is located in the range of endangered or threatened species, provide a biological assessment prepared by a qualified biologist in accordance with standard procedures of the United States Fish and Wildlife Service (USFW) and the Texas Parks and Wildlife Department (TPWD) to determine the effect of the facility on the endangered or threatened species. Where a previous biological assessment has been made for another project in the general vicinity, a copy of that assessment may be submitted for evaluation. Attachment No.: Refer to Appendix I/IIB.
4. Provide coordination correspondence with and responses from the USFW and the TPWD concerning locations and specific data relating to endangered and threatened species in Texas. See Appendix I/IIB, for TPWD coordination and USFW coordination.
5. Describe how the facility will comply with recommendations from the TPWD and USFW regarding protection of endangered and threatened species. No recommendation was received from USFW or TPWD at this time.
6. Discuss the impact of the solid waste disposal facility upon endangered or threatened species: The site has operated as a landfill for over 40 years, and a significant portion of the site has been disturbed by earth-moving activities. As discussed in the Endangered or Threatened Species Assessment, the site does not provide habitat for and would not likely be occupied by any federally listed and state listed threatened and endangered species.

7. Describe how the facility design, construction, and operation will not 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.

No suitable habitat exists on the site for any species listed for Cherokee County, nor has critical habitat been designated in the project area for any threatened and endangered species. The landfill expansion will not result in the destruction or adverse modification of any federally designated critical habitat for any threatened or endangered species.

XVII. Texas Historical Commission Review 30 TAC §330.61(o)

1. Provide correspondence to and a review letter from the Texas Historical Commission documenting compliance with the Natural Resources Code, Chapter 191, Texas Antiquities Code.

Attachment No.: Refer to Appendix I/IIB.

XVIII. Council of Governments 30 TAC §330.61(p)

1. Provide documentation that Parts I and II of the application were submitted to the applicable council of governments for compliance with regional solid waste plans. Also provide a review letter if received from the applicable council of governments.

Attachment No.: Refer to Appendix I/IIB, page I/IIB-308.

2. Provide documentation that a review letter was requested from any local governments as appropriate for compliance with local solid waste plans.

Attachment No.: Refer to Appendix I/IIB.

XIX. Easement Protections 30 TAC §330.543(a)

1. Will the applicant design and operate the facility such that no solid waste unloading, storage, disposal, or processing operations will occur within any easement, buffer zone, or right-of-way that crosses the facility? Yes
2. Will the applicant design and operate the facility such that no solid waste disposal shall occur within 25 feet of the center line of any utility line or pipeline easement but no closer than the easement? Yes
3. Will the applicant clearly mark all pipeline and utility easements with posts that extend at least six feet above ground level, spaced at intervals no greater than 300 feet?
Yes

XX. Buffer Zones 30 TAC §330.543(b)

1. Provide the buffer zone distance (i.e. 50 feet for Arid Exempt and Type IV landfills, 125 feet for Type I landfills) at the facility to demonstrate compliance with 30 TAC §330.543(b).

Refer to Parts I/IIC - Location Restriction Demonstrations, Section 2 and Drawing I/IIC-1.

2. Provide references for the application drawings and maps that clearly show the buffer zones around the facility. Attachment(s) No.: Refer to Drawing I/IIC-1.

XXI. Coastal Areas 30 TAC §330.561

1. A new landfill cell or an aerial expansion of an existing landfill cell managing Class 1 industrial solid waste (other than waste which is Class 1 because of asbestos content) may not be located in areas: The Royal Oaks Landfill does accept Class I Industrial Solid Waste nor is it located near the coast. Therefore, the site is in compliance with the coastal areas location restriction.
 - (a) On a barrier island or peninsula. N/A
 - (b) Within 1,000 feet of an area subject to active coastal shoreline erosion, if the area is protected by a barrier island or peninsula, except as allowed under 30 TAC §335.584(b)(4). N/A
 - (c) Within 5,000 feet of coastal shorelines that are subject to active shoreline erosion and which are unprotected by a barrier island or peninsula, except as allowed under 30 TAC §335.584(b)(4). N/A
2. Describe the location of the facility with regard to distance to coastal shoreline subject to active shoreline erosion. N/A

XXII. Type I and Type IV Landfill Permit Issuance Prohibited – 30 TAC §330.563

Address the following statements.

1. The commission may not issue a permit for a Type IV landfill that is subject to the conditions specified in Texas Health and Safety Code, §361.122, Denial of Certain Landfill Permits. Is the proposed facility a Type IV landfill located in the area subject to the referenced statute?
 Yes No Explain The facility is not located within 100 feet of a canal that is used for public drinking water source or for irrigation of crops used for human or animal consumption or located in a county with a population of more than 225,000 that is located adjacent to the Gulf of Mexico.
2. The commission may not issue a permit for a Type I or Type IV landfill that is subject to the conditions specified in Texas Health and Safety Code, §361.123, Limitation on Locations of Municipal Solid Waste Landfills. Is the proposed facility a Type I or Type IV landfill located in the area subject to the referenced statute?
 Yes No Explain The location restriction prohibits the issuance of a permit for a new Type I or Type IV landfill or a permit amendment authorizing the conversion of a Type IV landfill to a Type I landfill only if the landfill is located adjacent to a county with a population of more than 3.3 million and inside the boundaries of a national forest, as designated by the U.S. Forest Service, on public or private land. Given that the Royal Oaks Landfill is a Type I landfill and is not located inside the boundaries of a national forest, the site is in compliance with the Type I and Type IV landfill permit issuance prohibited location restriction.

Attachments

Table Att-1. Required Attachments

Attachments	Attachment No.
Existing Conditions Summary	Parts I/II-Section 3
Waste Acceptance Plan Form	Volume I
General Location Maps	Parts I/II, Figure I/II-4.1
Facility Layout Maps	Parts I/II, Figures I/II-3.1 through 3.4
General Topographic Maps	Parts I/II, Figure I/II-4.2
Aerial Photographs	Parts I/II, Figure I/II-6.1
Land Use Map	Parts I/II, Figure I/II-7.1
Transportation and Airport Safety Form	N/A
Federal Aviation Administration Coordination Letters, if applicable	Parts I/IIB, Page I/IIB-2
Entity Exercising Maintenance Resp. of Public Roadway, if applicable	
Fault Lines, if applicable	Parts I/IIC, Figures I/IIC-2 and I/IIC-3
Seismic Impact Zones, if applicable	Parts I/IIC, Figure I/IIC-4
Unstable areas, if applicable	Parts I/II, Section 9.4
Site Specific Groundwater Conditions	Parts I/II, Section 10.1
Site Specific Surface Water Conditions	Parts I/II, Section 10.2
Texas Pollutant Discharge Elimination System (TPDES)	Appendix I/IIE
Abandoned Oil and Water Wells, if applicable	Parts I/II, Section 2.5
FEMA Map	Parts I/II, Figure I/II-11.1
Facility Design Demonstration for Flood Map, or Conditional Letter of Map Amendment from FEMA, if applicable	Not applicable
Wetland Documentation, if applicable	Appendix I/IIC, Section 7
Endangered or Threatened Species Documents, if applicable	Appendix I/IIB, Page 140
Texas Historical Commission Letter(s)	Appendix I/IIB, Page I/IIB-18
Council of Governments/Local Governments Review Request Coordination Letter(s)	Appendix I/IIB
Buffer Zones	Appendix I/IIC, Section 2 and Drawing I/IIC-1
Others (describe):	N/A
Others (describe):	N/A
Others (describe):	N/A
Confidential Documents, if applicable	N/A

WASTE ACCEPTANCE PLAN FORM TCEQ-20873



Texas Commission on Environmental Quality

Waste Acceptance Plan Form Type I and Type IAE Landfill Facilities

This form is designed to address the requirements for Waste Acceptance Plans in Part II of an application, as required by Title 30 Texas Administrative Code, Chapter 330, §330.61(b)(1). Rules are from Chapter 330 unless otherwise specified. If more space is needed for a line item or table item, include the information on a separate sheet and reference the line or table item.

A. Applicant Information

1. Facility Name: Royal Oaks Landfill
2. MSW Permit No.: 1614B

B. Waste Generation Areas and Population Estimates

Table 1. Areas contributing waste to the facility and estimate of population or population equivalent served by the facility. Values are estimates, not permit limits.

Waste Generation Area	Estimate of Population or Population Equivalent Served in each Area
Cherokee County	32,648
Anderson County	32,648
Van Zandt County	32,648
Nachadoches	32,648
Smith	32,648
Henderson	32,648

Estimated population or population equivalent served by the facility
195,890

C. General Sources and Types of Waste to be Accepted at the Facility

General sources of waste to be received (household, commercial, industrial, etc.).

Municipal solid waste, household waste, yard waste, commercial waste, industrial waste (nonhazardous), construction-demolition waste, and some special waste.

2. Types of Waste to be Accepted for Disposal at the Facility

a. Indicate whether the following wastes will be accepted for disposal (check "Yes" for will accept or "No" for will not accept).

- i. Yes No Municipal solid waste [§330.3(88)]
- ii. Yes No Construction or demolition waste [§330.3(33)]
- iii. Yes No Brush [§330.3(18)]
- iv. Yes No Rubbish [§330.3(130)]
- v. Yes No Used or scrap tires that have been processed (such as by splitting, shredding, quartering or sidewall removal) in a manner acceptable to the executive director [§330.3(130)]
- vi. Yes No Class 2 nonhazardous industrial solid waste [§330.3(22), §330.173(i)]
- vii. Yes No Class 3 nonhazardous industrial solid waste [§330.3(23), §330.173(j)]

b. Indicate whether the following special wastes will be accepted for disposal. These wastes must have been or are to be treated and the treated materials have been tested and are certified to contain no free liquids.

- i. Yes No Municipal wastewater treatment plant sludge. [§330.3(148)(D), §330.171(c)(7)]
- ii. Yes No Other types of domestic sewage treatment plant sludge [§330.3(148)(D), §330.171(c)(7)]
- iii. Yes No Municipal water-supply treatment plant sludge. [§330.3(148)(D), §330.171(c)(7)]
- iv. Yes No Septic tank pumping waste [§330.171(c)(7)]
- v. Yes No Grease trap waste. [§330.3(59), §330.171(c)(7)]
- vi. Yes No Grit trap waste [TAC §330.3(60), §330.171(c)(7)]
- vii. Yes No Waste from commercial or industrial wastewater treatment plants [§330.3(148)(G), §330.171(b)]
- viii. Yes No Other liquid waste. Explain _____ [§330.171(c)(7)]
- ix. Specify other special wastes to be accepted for disposal that are not listed above and for which free liquids may be an issue.
N/A

c. Indicate whether the following Special Wastes will be accepted for disposal.

- i. Yes No Municipal hazardous waste from conditionally exempt small quantity generators [§330.171(c)(6), §330.3(32)].
- ii. Yes No Class 1 industrial nonhazardous solid waste (excluding waste that is Class 1 only because of asbestos content). May be accepted only at Type I landfills with a Class 1 cell [§330.3(21), §330.171(b), §330.3(148)(B), §330.173]; may not be accepted at arid exempt [AE] landfills [330.173(a)].
- iii. Yes No Waste that is Class 1 only because of asbestos content [§330.3(21), §330.171(b), §330.3(148)(B), §330.171(c)(3)(I), 30 TAC §330.171(c)(3)]

- iv. Yes No Waste from commercial air pollution control devices [§330.171(b), §330.3(148)(G), §330.331(e)]
- v. Yes No Tanks, drums, or containers that were used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR Part 261, Appendix VII but has not been listed as a commercial chemical product in 40 CFR §261.33(e) or (f) [§330.171(b), §330.3(148)(G)]
- vi. Yes No Drugs, other than those contained in normal household waste [§330.171(b), §330.3(148)(J)]
- vii. Yes No Contaminated foods, other than those contained in normal household waste [§330.171(b), §330.3(148)(J)]
- viii. Yes No Contaminated beverages, other than those contained in normal household waste [§330.171(b), §330.3(148)(J)]
- ix. Yes No Empty containers that have been used for pesticide, herbicide, fungicide, or rodenticide, that have been triple-rinsed before receipt at the landfill, are rendered unusable before receipt or on arrival, and are covered by the end of the same working day they are received [§330.171(c)(5)(A)]
- x. Yes No Empty containers for which triple-rinsing is not feasible or practical (e.g. paper bags, cardboard containers) that are managed as a municipal hazardous waste from a conditionally exempt small quantity generator or in accordance with requirements for disposal of industrial wastes [§330.171(c)(5)(B), §330.171(c)(6), §330.173]
- xi. Yes No Regulated asbestos-containing material (RACM) [40 CFR 261, §330.171(c)(3), §330.3(126)]
- xii. Yes No Non-regulated asbestos-containing material (non-RACM) [40 CFR 261, §330.171(c)(4), §330.3(93)]
- xiii. Yes No Incinerator ash [§330.3(148)(M), §330.171(b)]
- xiv. Yes No Soil contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 mg/kg total petroleum hydrocarbons; or contaminated by constituents of concern that exceed the concentrations listed in §335.521(a)(1) [§330.3(148)(N), §330.171(b)(4)] (may be accepted at Type I landfills with Class 1 cells. [§330.331(e)] (Excluded from Type I AE. [§330.173(a)])
- xv. Yes No Household-generated used oil filters that have been crushed to less than 20% of original volume or processed by a method other than crushing to remove all free-flowing used oil. The processing method may include (1) having the filter separated into component parts and free-flowing used oil removed from the filter element by compression; (2) having a replaceable filter medium that has been compressed to remove free-flowing used oil; **or** (3) having a housing that has been punctured and the filter drained for at least 24 hours. [§330.171(d)].
- xvi. Yes No Waste from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas) [§330.171(b), §330.3(148)(P)]

- xvii. Yes No Waste generated outside the boundaries of Texas that contains any industrial waste; any waste associated with oil, gas, and geothermal exploration; or any of the special wastes that are indicated in §330.3(148) [§330.171(b), §330.3(148)(Q)]
- xviii. Yes No Dead animals [§330.171(c)(2)]
- xix. Yes No Slaughterhouse wastes [§330.171(c)(2)]
- xx. Yes No Treated medical waste from health care-related facilities. [§330.3(85), §326.75(r)]
- xxi. Specify other special wastes to be accepted for disposal that are not listed above:
N/A
-

D. Waste Prohibited from Disposal

The following wastes are prohibited from disposal.

- Any waste not authorized for disposal above, including those for which “No” has been indicated.
- Untreated medical waste. This prohibition may be superseded by the executive director in writing when disposal of untreated medical waste is required to protect human health and the environment from the effects of a natural or man-made disaster. [§330.171(c)(1), §330.3(85)]
- Lead-acid storage batteries. [§330.15(e)(1)]
- Used motor vehicle oil. [§330.15(e)(2)]
- Used oil filters from internal combustion engines except for used oil filters from households that have been processed as described in §330.171(d). [§330.15(e)(3)]
- Whole used or scrap tires. [§330.15(e)(4)]
- Items containing CFCs that have not been handled in accordance with 40 CFR §82.156(f). [§330.15(e)(5)]
- Bulk or noncontainerized liquid waste unless the waste is household waste other than septic waste and as defined by the Paint Filter Test, EPA Method 9095. [§330.15(e)(6), §330.3(81)]
- Containers holding liquids unless: the container is similar in size to those found in household waste, the container is designated to hold liquids for other than storage, **or** the waste is household waste. [§330.15(e)(6), §330.3(81)]
- Regulated hazardous waste [40 CFR §261.3] that is not excluded from regulation as a hazardous waste [40 CFR §261.4(b)] or that was not generated by a conditionally exempt small-quantity generator. [§330.15(e)(7), §330.3(127)]
- Waste that exhibits the characteristics for hazardous waste [40 CFR §261.3] from oil, gas, and geothermal activities subject to regulation by the Railroad Commission of Texas. [§330.15(e)(7)]
- Polychlorinated biphenyl (PCB) wastes, [40 CFR Part 761] unless authorized by the United States Environmental Protection Agency. [§330.15(e)(8)]
- Radioactive materials, [Chapter 336] except as authorized in Chapter 336 or that are subject to an exemption of the Department of State Health Services. [§330.15(e)(9)]

Specify any other wastes to be prohibited for disposal that are not listed above.
Liquid Waste, Class 1 Waste

E. Material Recovery

Will the facility recover materials from incoming waste? Yes No

If yes, provide a descriptive narrative describing the percentage of incoming waste, if applicable, that must be recovered and its intended use.

**F. Estimated Maximum Annual Waste Acceptance Rate Projected for Five Years
[§330.61(b)(1)(C)]**

Provide an **estimated** maximum annual waste acceptance rates at the facility, projected for five years. These rates are not permit limitations.

Table 1. Five-Year Projection for Waste Acceptance.

Year	Estimated Maximum Annual Waste Acceptance Rate
2024	182,036
2025	183,702
2026	185,383
2027	187,079
2028	188,791

G. Storage and Processing Units

Indicate units that will store or process waste at the facility. Describe the wastes that will be stored or processed in these units. Provide the final disposition or use (e.g., landfill disposal, composting) of the processed materials. **Waste storage and processing authorized separately (such as a registered transfer station within the permit boundary of a landfill) should not be included on this form.**

Storage and processing units must be illustrated (or locations described) on site layout figures in Part II of the application.

Examples:

1. Unit: liquid stabilization unit, Purpose: process, Waste Type: liquid waste, Disposition: solidified material to be disposed in a properly authorized landfill; or
2. Unit: grease separation and dewatering unit, Purpose: process, Disposition: water to WWTP and grease to composter or Type I landfill.

Table 1. Waste storage and processing units.

Unit	Purpose	Waste Type Stored or Processed	Final Disposition or Use
Liquid Waste Bulking Facility	<input type="checkbox"/> Store <input checked="" type="checkbox"/> Process		
Citizens Convenience Center	<input type="checkbox"/> Store <input checked="" type="checkbox"/> Process		
	<input type="checkbox"/> Store <input type="checkbox"/> Process		
	<input type="checkbox"/> Store <input type="checkbox"/> Process		
	<input type="checkbox"/> Store <input type="checkbox"/> Process		
	<input type="checkbox"/> Store <input type="checkbox"/> Process		

H. Prohibited from Processing

The following wastes are prohibited from processing:

- Any wastes not authorized for processing above.
- Lead-acid storage batteries may not be incinerated. [§330.15(e)(1)]
- Used motor vehicle oil may not be incinerated. [§330.15(e)(2)]
- Regulated hazardous waste [40 CFR §261.3] that is not excluded from regulation as a hazardous waste [40 CFR §261.4(b)] or that was not generated by a conditionally exempt small-quantity generator. [§330.15(e)(7), §330.3(127)]

Specify any other wastes to be prohibited for storage or processing that are not listed above.

I. Special Waste Acceptance Plan [§330.171(b)(2)]

Does this application include an **optional** Special Waste Acceptance Plan?

Yes No

If yes, please provide its location in the application.

Part IV, Section 4.20 - Disposal of Special Waste

J. Limiting Parameters [§330.61(b)(1)]

1. Regulated Hazardous Waste

MSW landfills may not accept regulated hazardous waste [§330.3(127)] for processing or disposal. The presence or characteristic of any material meeting the definition of a regulated hazardous waste is a limiting parameter for waste disposal or processing.

2. Free Liquids

The presence of free liquids, as defined by the Paint Filter Test, EPA Method 9095, in waste, but not household waste and not liquid in containers similar in size to those found in household waste, is a limiting parameter for waste disposal. [§330.15(e)(6), §330.3(81)]

3. PCBs

The presence of polychlorinated biphenyls (PCB) wastes [40 CFR Part 761] unless authorized by the United States Environmental Protection Agency is a limiting parameter for waste disposal or processing. [§330.15(e)(8)]

4. Radioactive Materials

The presence of radioactive materials [Chapter 336], except as authorized in Chapter 336 or that are subject to an exemption of the Department of State Health Services, is a limiting parameter for waste disposal or processing. [§330.15(e)(9)]

5. Class 1 Solid Waste

For all Type I AE landfills and for Type I landfills that do not have a Class 1 cell [330.331(e)] or have chosen to excluded Class 1 industrial nonhazardous solid waste, 1,500 mg/kg TPH and the concentrations in 30 TAC §335.521(a)(1) are limiting parameters for waste disposal.

6. Other limitations:

N/A

MAILING LABELS (on CD)

**ROYAL OAKS LANDFILL
CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

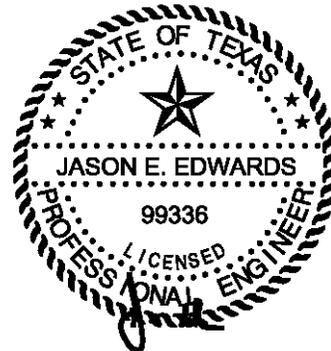
MAJOR PERMIT AMENDMENT APPLICATION

**PARTS I/II
GENERAL APPLICATION REQUIREMENTS**

Prepared for:

Pine Hill Farms Landfill TX, LP

May 2024



05/20/2024

Prepared by:

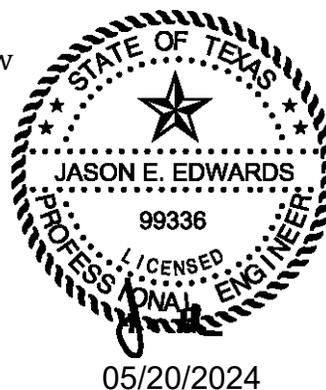
Weaver Consultants Group, LLC
TBPE Registration No. F-3727
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817-735-9770

WCG Project No. 0120-076-11-106

This document intended for permitting purposes only.

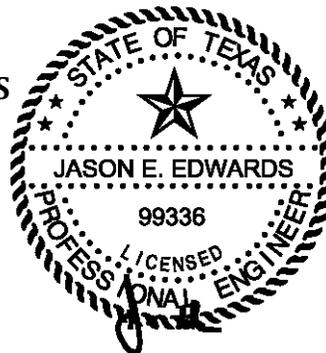
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Weaver Consultants Group, LLC

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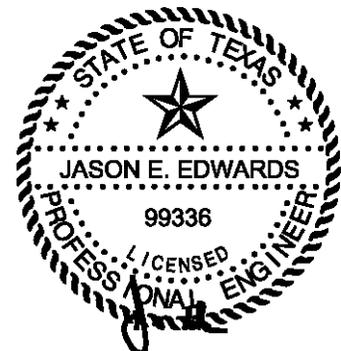
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- Coordination with Texas Parks and Wildlife Department
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- Coordination with East Texas Council of Governments

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- Type I and Type IV Landfill Permit Issuance Prohibited



05/20/2024

APPENDIX I/IID TRANSPORTATION INFORMATION

APPENDIX I/IIIE TPDES PERMIT

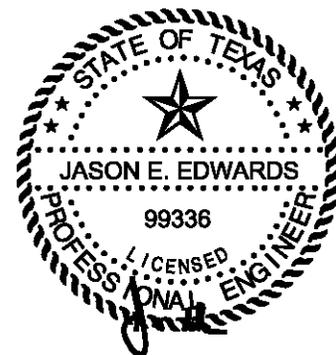
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05/20/2024

LIST OF ACRONYMS

BMPs – best management practices

CFR – Code of Federal Regulations

CLOMR – Conditional Letter of Map Revision

CWA – Clean Water Act

EDE – Elevation of Deepest Excavation

EPA – Environmental Protection Agency

ETJ – extra territorial jurisdiction

FAA – Federal Aviation Administration

FEMA – Federal Emergency Management Agency

FIRM – Flood Insurance Rate Map

FML – flexible membrane liner

ft-msl – feet above mean sea level

FWS – U.S. Fish and Wildlife Service

GCCS – gas collection and control system

GCL – geosynthetic clay liner

GLER – Geomembrane Liner Evaluation Report

GWSAP – Groundwater Sampling and Analysis Plan

HDPE – high density polyethylene

LCS – leachate collection system

LF – landfill

LIST OF ACRONYMNS (Continued)

LFG – landfill gas

LLDPE – linear low density polyethylene

LQCP – Liner Quality Control Plan

MSGP – multi-sector general permit

MSW – municipal solid waste

MW – monitoring well

NAVD – North American Vertical Datum

NESHAP – National Emissions Standards for Hazardous Air Pollutants

NGVD – National Geodetic Vertical Datum

NFIP – National Flood Insurance Program

NOI – Notice of Intent

NSPS/EG – New Source Performance Standards/Emission Guidelines

NWP – Nationwide Permit

PCBs – polychlorinated biphenyls

PI – point of intersection

POC – point of compliance

POTW – publicly owned treatment works

ETCOG – East Texas Council of Governments

PSD – Prevention of Significant Deterioration

PVI – point of vertical intersection

LIST OF ACRONYMNS (Continued)

QA/QC – quality assurance/quality control

SDP – Site Development Plan

SLER – Soils and Liner Evaluation Report

SOP – Site Operating Plan

TAC – Texas Administrative Code

TCEQ – Texas Commission on Environmental Quality

TDSHS – Texas Department of State Health Services

THC – Texas Historical Commission

TPDES – Texas Pollutant Discharge Elimination System

TPWD – Texas Parks and Wildlife Department

TWC – Texas Water Commission

TWDB – Texas Water Development Board

TxDOT – Texas Department of Transportation

USDA – U.S. Department of Agriculture

USACE – U.S. Army Corps of Engineers

USGS – U.S. Geological Survey

UIC – Underground Injection Control

WCG – Weaver Consultants Group, LLC

1 INTRODUCTION

The purpose of this Major Permit Amendment is to secure authorization for an expansion of the existing Royal Oaks Landfill, TCEQ Permit No. MSW-1614A. The permitted 54.5-acre waste disposal area will be expanded to 83.1 acres. No changes will be made to the 144.3-acre existing permit boundary. The maximum permitted final cover elevation will remain unchanged at 776.5 ft-msl. The resulting capacity increase for this amendment is 5,322,400 cubic yards (refer to Section 2.1 for a detailed project overview). This major permit amendment will provide for the long term disposal needs of Cherokee County and surrounding areas.

This section addresses § 330.59, § 330.61, and § 305.45.

The Royal Oaks Landfill has provided for the municipal solid waste (MSW) disposal needs of Cherokee County and surrounding areas for over 40 years. This major permit amendment will ensure that this critical service will continue for the landfill's service area.

The General Application Requirements section (Parts I/II) of this permit amendment application for the Royal Oaks Landfill has been prepared consistent with the State of Texas requirements set forth in Title 30 Texas Administrative Code (TAC) §330.59, §330.61 and §305.45. Part II has been combined with Part I in accordance with Title 30 TAC §330.57(c)(2). Section 2, Supplementary Technical Report, presents an overview of the project and a detailed facility description as well as the types of waste that will be accepted at the facility. The remaining portions of Parts I/II present information on specific existing conditions on and around the site and regulatory matters related to the application process.

2 SUPPLEMENTARY TECHNICAL REPORT

2.1 Facility Location and Project Overview

Site Location

The Royal Oaks Landfill is an existing Type I municipal solid waste (MSW) facility (TCEQ Permit No. MSW-1614A). The landfill is located approximately 2.5 miles north of Jacksonville, Texas and is 0.5 miles east of the intersection of Heath Lane and U.S. Highway 69.

A general site map is provided on Figure I/II-4.1.

*This section addresses
§ 305.45(a)(7),
§ 305.45(a)(8),
§ 330.57(i), § 330.59(b),
§ 330.61(b), § 330.61(l),
§ 330.61(o), and
§ 330.61(p).*

Owner and Operator

The existing landfill is owned by the City of Jacksonville and operated by Pine Hill Farms Landfill TX, LP, which is a limited partnership qualified to do business in Texas. Pine Hill Farms Landfill TX, LP is an indirect, wholly-owned subsidiary of Republic Services, Inc. (Republic). Republic is one of the leading solid waste management companies in the nation. For over 40 years, the landfill has been a part of the community and is the main recipient of waste from the residents and businesses in the Cherokee County and surrounding communities.

Major Permit Amendment Summary

The purpose of this Major Permit Amendment is to secure authorization to horizontally expand the existing Royal Oaks Landfill. Comparisons between (1) the existing permitted and proposed landfill completion plans and (2) the existing permitted and proposed top of liner plans are shown on Figure I/II-2.1 and Figure I/II-2.2, respectively.

The facility serves residences and businesses in Cherokee County and surrounding counties. This service area is based on current economic conditions. As economic

conditions and available landfill disposal capacity change, the landfill may accept waste from areas other than those identified above.

The quantity and types of waste accepted at the landfill and the site design and operations are discussed in the following subsections. Consistent with Title 30 TAC §330.61(b), the sources and characteristics of wastes are detailed in the following sections. In addition, waste screening and acceptance procedures are further discussed in Part IV – SOP. The types of waste to be accepted for disposal per TCEQ Permit No. MSW-1614B will be the same as those currently accepted at the site.

2.1.1 Waste Acceptance Plan

The Royal Oaks Landfill is currently operated as a Type I municipal solid waste disposal facility. The facility accepts waste for disposal from both public and private entities within Cherokee County and surrounding communities. The proposed expansion of the site will not alter the current service area of the site. The design and operation of the facility considers the characteristics of the waste types discussed in this section.

The major classifications of solid waste to be accepted at the Royal Oaks Landfill include municipal solid waste, household waste, yard waste, commercial waste, industrial waste (nonhazardous), construction-demolition waste, and some special wastes. Each classification of waste is defined by Title 30 TAC §330.3 (note that not all of the special wastes listed in §330.3(154) will be accepted at this site – refer to Part IV for additional information):

- **Municipal Solid Waste:** Solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities, including garbage, rubbish, ashes, street cleanings, dead animals, abandoned automobiles, and all other solid waste other than industrial solid waste.
- **Household Waste:** Any solid waste (including garbage, trash, and sanitary waste in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas); does not include brush.
- **Yard Waste:** Leaves, grass clippings, yard and garden debris, and brush, including clean woody vegetative material not greater than 6 inches in diameter, that results from landscaping maintenance and land-clearing operations. The term does not include stumps, roots, or shrubs with intact root balls.
- **Commercial Solid Waste:** All types of solid waste generated by stores, offices, restaurants, warehouses, and other non-manufacturing activities, excluding residential and industrial wastes.

- **Industrial Waste (Nonhazardous):** Solid waste resulting from or incidental to any process of industry or manufacturing, or mining or agricultural operations, classified as follows:
 - Class 2 Industrial Solid Waste – any individual solid waste or combination of industrial solid waste that are not described as hazardous, Class 1 or Class 3 as defined in Title 30 TAC §335.506 (relating to Class 2 Waste Determination).
 - Class 3 Industrial Solid Waste – inert and essentially insoluble industrial solid waste, usually including, but not limited to, materials such as rock, brick, glass, dirt, and certain plastics and rubber, etc., that are not readily decomposable, as further defined in Title 30 TAC §335.507 (relating to Class 3 Waste Determination).
- **Construction-Demolition Waste:** Waste resulting from construction or demolition projects; includes all materials that are directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including but not limited to, paper, cartons, gypsum board, wood, excelsior, rubber, and plastics.
- **Special Waste:** Any solid waste or combination of solid wastes that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect human health or the environment. If improperly handled, transported, stored, processed, or disposed of or otherwise managed, it may pose a present or potential danger to human health or the environment. Refer to Part IV of the application for additional information regarding the acceptance of special waste.

Consistent with Title 30 TAC §330.15, the facility will not accept for disposal liquid waste, regulated hazardous waste, prohibited PCBs, untreated medical waste, and other wastes prohibited by TCEQ regulations.

Liquid wastes may be accepted at the Liquid Waste Bulking Facility. The liquid wastes will be solidified with bulking agents before disposal within the landfill (refers to Parts I/II, Appendix I/IIA, and Part IV, Appendix IVC for additional information).

A Citizen Convenience Center is provided for use by the general public (i.e., small-vehicle landfill customers) to dispose of their waste in an area separate from the MSW working face. This improves site safety by reducing traffic at the MSW working face. Waste material is off-loaded from the small vehicles to roll-off containers. The site then hauls the roll-off containers periodically to the MSW working face for disposal (refer to Parts I/II, Figure I/II-3.4; and Part IV, Sections 4.2.1, 4.2.4, and 7.9 for additional information.)

Waste will only be disposed of in the 83.1-acre proposed solid waste disposal area described in this permit application. No other waste disposal activities will occur within the 144.3-acre Royal Oaks Landfill permit boundary.

2.1.2 Disposal Rate and Volume of Waste

The following two subsections detail the volume of waste disposal capacity and the projected disposal rates.

Volume of Waste Disposal Capacity

The waste disposal capacity of the site is summarized in Table 2-1.

**Table 2-1
Waste Disposal Capacity Summary**

Item	Disposal Capacity ¹	
	Permit No. MSW-1614A	Permit No. MSW-1614B
Consumed Airspace	3,052,470 cy	3,052,470 cy
Remaining Airspace	1,263,500 cy	6,585,900 cy
Airspace Gained by Expansion	---	5,322,400 cy
Total Capacity	5,215,970 cy	10,538,370 cy

¹ Disposal capacity is defined as waste and daily cover. The consumed airspace represents the waste that has been placed at the site as of November 10, 2022.

Disposal Rate Projections

The disposal rate estimate is based on Pine Hill Farms Landfill TX, LP’s knowledge of market conditions, both currently and after the permit is issued.

The disposal rate projections are discussed in detail in Appendix IIIM and summarized in Table 2-2.

**Table 2-2
Solid Waste Disposal Rate Summary**

Initial Waste Inflow	Average Daily Projected Waste Inflow	Maximum Projected Waste Inflow	Population Equivalent (persons)	Site Life (years)
178,750 tons/year 625 tons/day	646 tons/day (184,756 tons/year)	737 tons/day (210,782 tons/year)	202,472	19.5

Pine Hill Farms Landfill TX, LP’s estimate for 2022 waste inflow is approximately 178,750 tons per year (625 tons per day based on a 286-day operating schedule).

After 2022, the waste inflow rate is assumed to increase consistent with the projected growth rate for the facility’s general service area.

Operating criteria for a range of waste acceptance rates are included in Part IV – SOP. The above projections are based on current market conditions and may vary as market conditions change. These waste acceptance rates are not a limiting parameter of this permit. The actual yearly waste acceptance rate is a rolling quantity based on the sum of the previous four quarters of waste acceptance (refer to Part IV – SOP for additional information).

The estimated maximum annual waste acceptance rate for the facility for 7 years is shown in the following table.

Year	Estimated Waste Acceptance Rate (tons per year)
2022	178,750
2023	180,386
2024	182,036
2025	183,702
2026	185,383
2027	187,079
2028	188,791

The projected waste acceptance rate for other years is summarized in Part III, Appendix IIIM.

2.1.3 Solid Waste Containment System

The design objective of the containment system (final cover, Subtitle D liner, and leachate management systems) is to isolate the solid waste and remove leachate that may collect on the liner system. The Subtitle D liner system proposed for the landfill consists of a composite liner (compacted clay or geosynthetic clay liner, 60-mil geomembrane liner, and drainage geocomposite). A generalized detail of the containment system for the Royal Oaks Landfill is shown in Figure 2.1. Design information and the required QA/QC construction procedures for the individual components of the containment system are presented in Part III of this application.

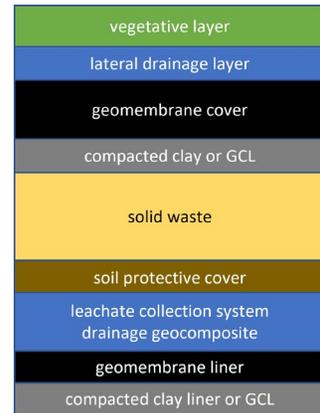


Figure 2.1. The composite liner and cover systems will be designed to meet or exceed all state and federal regulations.

2.1.4 Site Development Plan

The site development plan (SDP) is included in Part III of this application. This plan sets forth the overall design and operating characteristics of the landfill. Drawings

showing the proposed landfill configuration during site development are presented in Parts I/II, Appendix I/IIA – Facility Layout Maps. A summary of the landfill configuration is provided below (refer to Figures I/II-2.1 and I/II-2.2 for additional information).

- The existing permit boundary (TCEQ Permit No. MSW-1614A) will not change and includes an area of 144.3 acres. The legal description for the permit boundary is included in Section 13 of Parts I/II.
- A summary of the capacity (volume of waste and cover soils) of the site is listed below:
 - Remaining capacity of existing site (TCEQ Permit No. MSW-1614A) = 1,263,500 cubic yards (as of November 10, 2022).
 - Increase due to major permit amendment application = 5,332,400 cubic yards.
 - Remaining capacity of the site with the major permit amendment (TCEQ Permit No. MSW-1614B) = 6,585,900 cubic yards (as of November 10, 2022).
- The maximum elevation of the final cover will be 776.5 ft-msl, and the maximum waste elevation will be 773.0 ft-msl.
- The elevation of the deepest excavation (referred to as EDE) will be 504.0 ft-msl (i.e., bottom of underdrain system in deepest sump). This elevation represents the bottom of the underdrain sump elevation.
- A Subtitle D composite liner (2-foot-thick compacted clay liner overlain by a 60-mil HDPE geomembrane liner and leachate collection system) will be constructed according to Title 30 TAC §330.331(a)(2) and §330.333. A GCL may be used in lieu of the compacted clay liner. Details for the liner and LCS are provided in Part III, Appendix IIIA-A.
- Above grade waste disposal will conform to the lines and grades set forth in the Landfill Completion Plan. Side fill slopes will not exceed 25 percent from the toe of the side embankment to the top of the side embankment. The slope of the landfill top deck will be constructed at a four percent maximum slope.
- A final cover system will be constructed over the filled waste material, as shown in Part III, Appendix IIIA-A. The final cover system is designed to minimize stormwater infiltration.
- The major permit amendment includes numerous drainage improvements to the existing permitted drainage system design. The final cover erosion control structures and perimeter channel system have been redesigned to effectively minimize erosion of final cover soils and increase detention of stormwater before it is discharged from the site. The proposed perimeter

drainage system includes detention ponds, channels, and outlet control structures. The perimeter drainage system will be constructed in the general sequence shown in Parts I/II, Appendix I/IIA.

2.1.5 Site Monitoring Systems

To verify the integrity of the environmental protection systems, the following existing and proposed landfill monitoring systems will be installed and/or maintained.

- **Groundwater Monitoring System** – The purpose of the groundwater monitoring system is to verify the integrity of the containment systems and to confirm that area groundwater is not adversely impacted by the landfill. This is accomplished by obtaining groundwater samples from the monitor wells on the perimeter of the landfill, which are screened in the uppermost groundwater zones beneath the landfill unit. Appendix IIIH includes the details of the facility’s existing and proposed groundwater monitoring system networks.

The existing groundwater monitoring system (TCEQ Permit No. 1614A) consists of 13 wells, including two background monitor wells (located hydraulically upgradient from the landfill unit), 10 point of compliance monitor wells (located hydraulically downgradient from the landfill unit), and one observation well. This major amendment application proposes revisions to the groundwater monitoring system that include the installation of additional wells and decommissioning of some of the existing wells to accommodate the phased development of the facility’s proposed lateral waste disposal expansion areas. The proposed groundwater monitoring system network is further discussed in Part III, Appendix IIIH.

- **Landfill Gas Monitoring System** – The purpose of the landfill gas monitoring system is to monitor and verify that landfill gas does not migrate off-site. The existing approved landfill gas monitoring system consists of twenty gas probes located along the existing permit boundary. As a result of the proposed landfill expansion, nine existing LFG monitoring probes will be abandoned, eight new probes will be installed, and eleven existing probes will remain in place. The landfill gas monitoring system is discussed more in Part III, Appendix III I.
- **Texas Pollutant Discharge Elimination System (TPDES) Compliance** – A comprehensive Storm Water Pollution Prevention Plan (SWPPP) has been developed for the facility and is maintained with the site operating record. The SWPPP sets forth the erosion protection, monitoring, and recordkeeping requirements for surface water runoff from the facility. The SWPPP is updated as required by regulation or by changes in site operations, as set forth in the TPDES requirements.

2.1.6 Site Operations

The Royal Oaks Landfill is now and will continue to be operated by trained and TCEQ-certified personnel. The site operating plan (SOP) for the Royal Oaks Landfill is presented in Part IV of this permit application. The operating plan details the equipment, personnel, and safety procedures required to operate the site in accordance with Title 30 TAC §330.65. The active landfill area will be covered each evening with soil or an approved ADC to prevent potential nuisance conditions such as odors and vectors.

As discussed in Part IV – Site Operating Plan, the site will have the option to operate and accept waste 24 hours per day, seven days per week. Hours of operations and waste acceptance may vary within a 24-hour period depending on incoming volumes of waste. Refer to Part IV – SOP for more information.

2.2 Regulatory Agency Coordination

Documentation of coordination with the following regulatory agencies is included in Appendix I/IIB:

- Federal Aviation Administration
- Texas Historical Commission
- Texas Department of Transportation
- Texas Parks and Wildlife Department
- U.S. Army Corps of Engineers
- U.S. Department of the Interior, Fish and Wildlife Service
- East Texas Council of Governments

2.3 Texas Historical Commission Review

As noted in Section 2.2, a Texas Historical Commission (THC) coordination letter is included in Appendix I/IIB. The Historical Commission concluded that no historic properties will be affected by the proposed expansion.

2.4 East Texas Council of Governments

The expansion of the Royal Oaks Landfill is consistent with the East Texas Council of Governments' (ETCOG) Regional Solid Waste Plan. The Royal Oaks Landfill is identified as a key part of the ETCOG Regional Solid Waste Plan. The continued

development of the facility will provide a regional facility that will ensure long-term, cost-effective, and environmentally-suitable disposal capacity for the region. This is a major goal of the ETCOG Regional Plan. A letter documenting that Parts I/II were submitted to the ETCOG is provided in Appendix I/IIB.

2.5 Abandoned Oil and Water Wells

A September 2023 search for water wells within a one-mile radius of the site conducted by Environmental Risk Information Services (ERIS) included a review of records from the Texas Water Development Board, the TCEQ, and other database record. In addition to the database record searches, WCG completed a reconnaissance survey from area roadways to identify potential unregistered water wells that may be located within one-mile of the permit boundary. In summary, no water wells were identified inside or within 500-feet of the permit boundary (see Figure I/II-4.3). Refer to Part III, Appendix IIIG for information regarding water wells, monitor wells, and oil and gas wells located within a one-mile radius of the permit boundary.

If an abandoned water well is located within the permit boundary during the course of facility development, the Landfill Manager will provide written notification to the TCEQ's Executive Director of their location within 30 days after discovery. As the site is developed, if any wells are encountered, the wells will be plugged in accordance with all applicable rules and regulations of the TCEQ, the Railroad Commission of Texas, or other applicable state agency and written certification provided to the Executive Director within 30 days after the plugging is complete.

If crude oil, natural gas wells, or other wells associated with mineral recovery that are under the jurisdiction of the Railroad Commission of Texas are located within the permit boundary during the course of site development, within 30 days after the plugging of any such well, the Landfill Manager will provide the Executive Director of the TCEQ with written notice and shall provide to the Executive Director with certification that all such wells have been properly plugged, capped, and closed in accordance with all applicable rules and regulations of the Railroad Commission of Texas within 30 days after the plugging is complete.

A copy of the well plugging report to be submitted to the appropriate state agency will also be submitted to the Executive Director of the TCEQ within 30 days after the well has been plugged.

In the event that an abandoned well causes a change to the liner installation plan, a permit modification will be submitted to the Executive Director in accordance with Title 30 TAC §330.161(d).

2.6 Internet Posting

In accordance with Title 30 TAC §330.57(i), a complete copy of this permit application will be posted to the internet at the following publicly accessible website: <http://www.ftwweaverboos.com>. All future revisions or supplements to this permit application will also be posted at the same location. This internet posting is for informational purposes only.

2.7 Existing Permits/Authorizations

In accordance with Title 30 TAC §305.45(a)(7), the existing permits and authorizations for the facility are summarized below in Table 2-3.

**Table 2-3
Existing Permits/Authorizations**

Description	Status
Hazardous Waste Management program under the Texas Solid Waste Disposal Act	No submittal is required nor has been applied for under the Hazardous Waste Management Program under the Texas Solid Waste Disposal Act.
Underground Injection Control (UIC) program under the Texas Injection Well Act	No submittal is required nor has been applied for under the Underground Injection Control Program under the Texas Injection Well Act.
Texas Pollutant Discharge Elimination System (TPDES) program under the Federal Clean Water Act (CWA) and Waste Discharge program under the Texas Water Code, Chapter 26	Refer to Appendix I/IIE for more information.
Prevention of Significant Deterioration (PSD) Program under the Federal Clean Air Act	No submittal for a Prevention of Significant Deterioration Program under the Federal Clean Air Act (FCAA) is required or has been applied for.
Nonattainment Program under the Federal Clean Air Act (FCAA)	No submittal for a non-attainment permit under the FCAA is required or has been applied for.
National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the FCAA	No submittal is required nor been applied for under the NESHAPS preconstruction approval under the FCAA.
Ocean dumping permits under the Marine Protection Research and Sanctuaries Act	No submittal is required nor have ocean dumping permits been applied for under the Marine Protection Research and Sanctuaries Act.
Dredge or fill permits under the Federal Clean Water Act	Refer to Parts I/II – Section 11 for additional information.
TCEQ Air Quality Permit or Registration	The emission sources at the landfill are currently authorized by 30 TAC §330, Subchapter U Air Standard Permit, No. 147297 issued September 30, 2021. In addition, the landfill is authorized by a Title V General Operating Permit (Permit No. O-01524) issued on December 3, 2021. The Title V Permit and air authorizations will be updated and revised, when needed.

2.8 Easement Relocation

As shown on Figure I/II-2.1, Oncor has an existing powerline and associated easement currently located within the proposed solid waste disposal area.

An agreement has been reached with Oncor to relocate their easement and powerline to allow the site to develop consistent with the Site Development Plan set forth in Part III of this application. The agreement with Oncor is included in Appendix I/IIF.

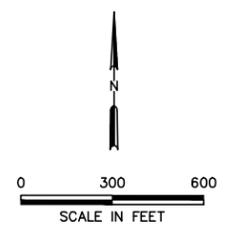
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**PERMITTED LANDFILL COMPLETION PLAN
(TCEQ PERMIT NO. MSW-1614A)**



**PROPOSED LANDFILL COMPLETION PLAN
(TCEQ PERMIT NO. MSW-1614B)**



LEGEND

	PERMIT BOUNDARY
	LIMIT OF WASTE
	EXISTING CONTOUR (SEE NOTE 1)
	FINAL COVER CONTOUR
	EXISTING EASEMENT
	PROPOSED EASEMENT
	DRAINAGE FLUME
	DRAINAGE SWALE
	GABIONS

GENERAL INFORMATION

ITEM	EXISTING PERMIT (TCEQ PERMIT NO. MSW-1614A)	PROPOSED PERMIT (TCEQ PERMIT NO. MSW-1614B)
PERMIT BOUNDARY	144.3 ACRES	144.3 ACRES
WASTE DISPOSAL AREA	54.5 ACRES	83.1 ACRES
PERMITTED TOP DECK ELEVATION	765.0 (FT-MSL)	765.0 (FT-MSL)
MAXIMUM PERMITTED ELEVATION	776.5 (FT-MSL)	776.5 (FT-MSL)

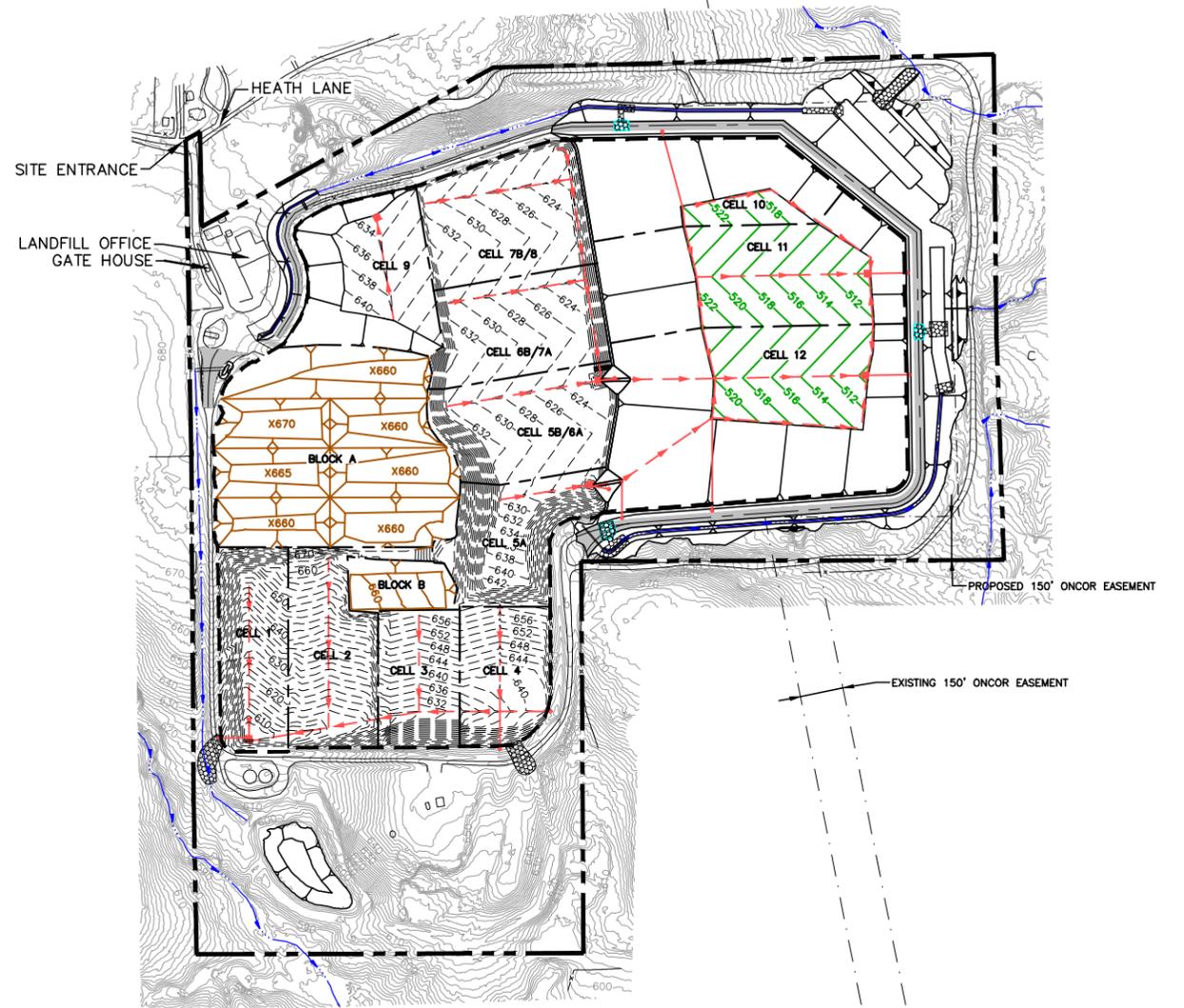
NOTES:
 1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT EXISTING AND PROPOSED LANDFILL COMPLETION PLAN ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS									
	PINE HILL FARMS LANDFILL TX, LP											
DATE: 05/20/2024 FILE: 0120-76-11 CAD: 11-2.1 FINAL COVER COMPARISON.DWG	DRAWN BY: JDW DESIGN BY: JAE REVIEWED BY: JAE	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS			NO.	DATE	DESCRIPTION			
REVISIONS												
NO.	DATE	DESCRIPTION										
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE I/II-2.1									



**PERMITTED TOP OF LINER PLAN
(TCEQ PERMIT NO. MSW-1614A)**



**PROPOSED TOP OF LINER PLAN
(TCEQ PERMIT NO. MSW-1614B)**

LEGEND

	PERMIT BOUNDARY
	LIMIT OF WASTE
	EXISTING EASEMENT
	PROPOSED EASEMENT
	EXISTING CONTOUR (SEE NOTE 1)
	TOP OF LINER CONTOUR
	APPROXIMATE TOP OF PRE-SUBTITLE D LINER
	AS-BUILT TOP OF LINER
	LEACHATE COLLECTION PIPE
	LEACHATE COLLECTION SUMP
	LEACHATE RISER PIPE

NOTES:
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.



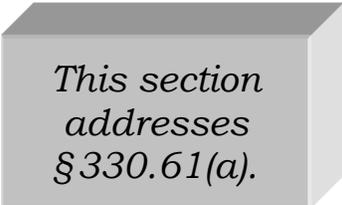
05/20/2024

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL TX, LP		MAJOR PERMIT AMENDMENT EXISTING AND PROPOSED LANDFILL TOP OF LINER PLAN ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS									
	DATE: 05/20/24 FILE: 0120-76-11 CADD: II-2.2 LINER COMPARISON.DWG	DRAWN BY: JDW DESIGN BY: JAE REVIEWED BY: JAE			REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION			
NO.	DATE	DESCRIPTION										
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM		FIGURE 1/II-2.2								

3 EXISTING CONDITIONS SUMMARY

3.1 Site History

The Royal Oaks Landfill is an existing 144.3-acre municipal solid waste facility (TCEQ Permit No. MSW-1614A) within the limits of Cherokee County. An existing site plan is provided on Figure I/II-3.1.



*This section
addresses
§ 330.61(a).*

The site was originally permitted as a 144.3-acre Type I MSW disposal facility in 1984 (Permit No. MSW-1416). The original site permit provided for waste placement in a series of 49 clay-lined trenches in 10 designated blocks over the 144.3-acre site. However, waste placement only occurred in Block A and a portion of Block B as indicated on Figure I/II-3.1. Since Block A and Block B were constructed prior to Subtitle D, a leachate collection system was not installed in these areas. These areas have received intermediate cover consisting of at least 12 inches of soil cover. The site was upgraded to Subtitle D standards in 1994. The Subtitle D modifications included modifying the landfilling activities from a trench and fill method to an area fill method. As part of the Subtitle D upgrades, the remainder of the revised footprint of the landfill was designed with a composite liner/leachate collection system. TCEQ Permit No. MSW-1614A was issued in 1996 to vertically and horizontally expand the landfill. The current permit boundary size is 144.3 acres and the currently permitted waste disposal footprint is approximately 54.5 acres. The existing permitted final cover plan and excavation plan are provided in Figures I/II-3.2 and I/II-3.3.

3.2 Existing Liner Systems

The filled areas of the existing landfill were constructed consistent with the permit requirements in effect at that time. The existing site consists of approximately 15.2 acres of pre-Subtitle D area and 39.3 acres of Subtitle D lined area. The existing liner systems are discussed below, as well as the existing leachate collection and storage systems.

3.2.1 Pre-Subtitle D Areas

The pre-Subtitle D area includes two areas totaling 15.2-acres adjacent to the developed Subtitle D portion of the site. Figure I/II-3.1 shows the location of the

pre-Subtitle D areas. The pre-subtitle D units were constructed between 1984 and 1994. Consistent with MSW regulations at that time, the pre-Subtitle D liners consisted of in-situ liners.

3.2.2 Subtitle D Lined Areas

Cells 1 through 9 were constructed to Subtitle D standards, under Permit No. MSW-1614A. Cells 1 through 9 were constructed with a liner system consisting of either a two-foot compacted clay liner or a geosynthetic clay liner, 60-mil HDPE geomembrane liner, drainage geocomposite, and a protective cover layer.

3.2.3 Existing Leachate Collection System

The existing Subtitle D lined areas were constructed with a geocomposite leachate collection layer. The leachate collection layer slopes to drain toward perforated leachate collection pipes surrounded by drainage stone. The leachate collection pipes convey leachate to the leachate collection sumps. Leachate from the leachate collection sumps is pumped via a leachate forcemain to leachate storage tanks.

3.3 Groundwater Monitoring System

The existing and installed Subtitle D groundwater monitoring system (Permit No. MSW-1614A) consists of 13 wells, including two background monitor wells (located hydraulically upgradient from the landfill unit), 10 point of compliance monitor wells (located hydraulically downgradient from the landfill unit), and one observation well. This major amendment application proposes revisions to the groundwater monitoring system that include the installation of additional wells and decommissioning of some of the existing wells to accommodate the phased development of the facility's proposed lateral waste disposal expansion areas. The proposed groundwater monitoring system network is further discussed in Part III, Appendix IIIH.

This permit amendment proposes revisions to the groundwater monitoring system that include the installation of additional wells and decommissioning of existing wells to accommodate the phased development of the facility's proposed lateral waste disposal expansion area. The proposed groundwater monitoring system network is further discussed in Part III, Appendix IIIH. At the time of this submittal all wells are in detection monitoring status, except for monitor wells MW-20 and MW-21 which are in assessment monitoring status for acetone, total barium, and total copper. The groundwater monitoring system is further discussed in Appendix IIIH and Appendix IIIG of Part III.

3.4 Landfill Gas Monitoring System

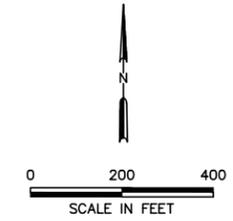
The existing TCEQ-approved landfill gas monitoring system consists of twenty gas probes and a utility trench vent located along the permit boundary. Monitoring is conducted quarterly. The site currently has an existing LFG system which consists of vertical LFG extraction wells, a piping network, and solar flares. The gas collection piping system conveys the extracted LFG from the collection points (i.e., vertical wells/horizontal collectors) to the solar flares.

3.5 Existing Landfill Air Permits

The site currently has a Title V Operating Permit approved on December 3, 2021, Permit No. O-01524.

3.6 Citizens Convenience Center

The Citizens Convenience Center is located along the western portion of the site south of the existing entrance facilities (refer to Figure I/II-3.4). The convenience center allows small vehicle landfill customers to transfer their waste into a roll-off container without having to travel to the working face. Royal Oaks Landfill personnel will take the roll-off containers to the working face for disposal as needed.



LEGEND

- PERMIT BOUNDARY
- PERMITTED LIMIT OF WASTE
- CELL BOUNDARY
- EXISTING EASEMENT
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- EXISTING SUBTITLE D COMPOSITE LINED AREA
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING GAS PROBE

NOTES:

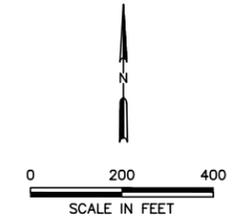
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER COMPANY, DATED APRIL 1995.



05/20/2024

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT EXISTING SITE PLAN (TCEQ PERMIT NO. MSW-1614A) ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/20/24 FILE: 0120-76-11 CAD: 3.1-EXISTING SITE PLAN.DWG	DRAWN BY: JDW DESIGN BY: SAB REVIEWED BY: KDG	REVISIONS		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NO.	DATE	DESCRIPTION
WWW.WCGRP.COM		FIGURE 1/II-3.1		

O:\0120\76\EXPANSION 2023\PARTS 1-II\3.1-SITE PLAN.dwg, byoung, 1:2



LEGEND

- PERMIT BOUNDARY
- LIMIT OF WASTE
- EXISTING EASEMENT
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- PROPOSED FINAL COVER CONTOUR
- DRAINAGE SWALE
- DRAINAGE LETDOWN
- CHANNEL CENTERLINE
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- GP-1 EXISTING GAS PROBE

NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
3. THE PERMITTED FINAL COVER CONTOURS WERE REPRODUCED FROM A PERMIT MODIFICATION PREPARED BY WEAVER BOOS CONSULTANTS, LLC-SOUTHWEST DATED JULY 2005.



05/20/2024

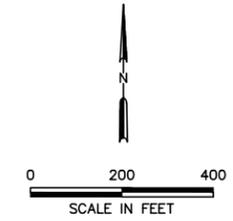
<input type="checkbox"/> DRAFT	PREPARED FOR
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY	PINE HILL FARMS LANDFILL TX, LP
<input type="checkbox"/> ISSUED FOR CONSTRUCTION	
DATE: 05/20/2024	DRAWN BY: JDW
FILE: 0120-76-11	DESIGN BY: BPY
CAD: 3.2-PERM COMPLETION PLAN.DWG	REVIEWED BY: JAE
Weaver Consultants Group	
TBPE REGISTRATION NO. F-3727	

REVISIONS		
NO.	DATE	DESCRIPTION

MAJOR PERMIT AMENDMENT
 PERMITTED FINAL COVER PLAN
 (TCEQ PERMIT NO. MSW-1614A)
 ROYAL OAKS LANDFILL
 CHEROKEE COUNTY, TEXAS

WWW.WCGRP.COM FIGURE 1/II-3.2

C:\0120\76\EXPANSION 2023\PARTS 1-II\3.2-PERMITTED COMPLETION PLAN.dwg, byoung, 1:2



LEGEND

- PERMIT BOUNDARY
- LIMIT OF WASTE
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- EXISTING EASEMENT
- AS-BUILT TOP OF LINER
- APPROXIMATE TOP OF PRE-SUBTITLE D LINER (SEE NOTE 4)
- LEACHATE COLLECTION PIPE
- LEACHATE COLLECTION SUMP
- EXISTING GROUNDWATER MONITORING WELL
- EXISTING GAS PROBE

NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
3. THE PERMITTED TOP OF WASTE CONTOURS WERE REPRODUCED FROM AS-BUILT INFORMATION FROM 1994 TO 2022.
4. TOP OF PRE-SUBTITLE D LINER ARE APPROXIMATE AND WAS REPRODUCED FROM CROSS-SECTIONS INCLUDED IN THE 1983 PERMIT APPLICATION PREPARED BY STOKES & ASSOCIATES.

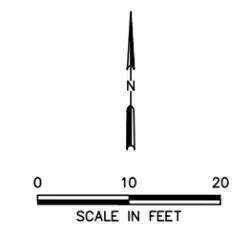
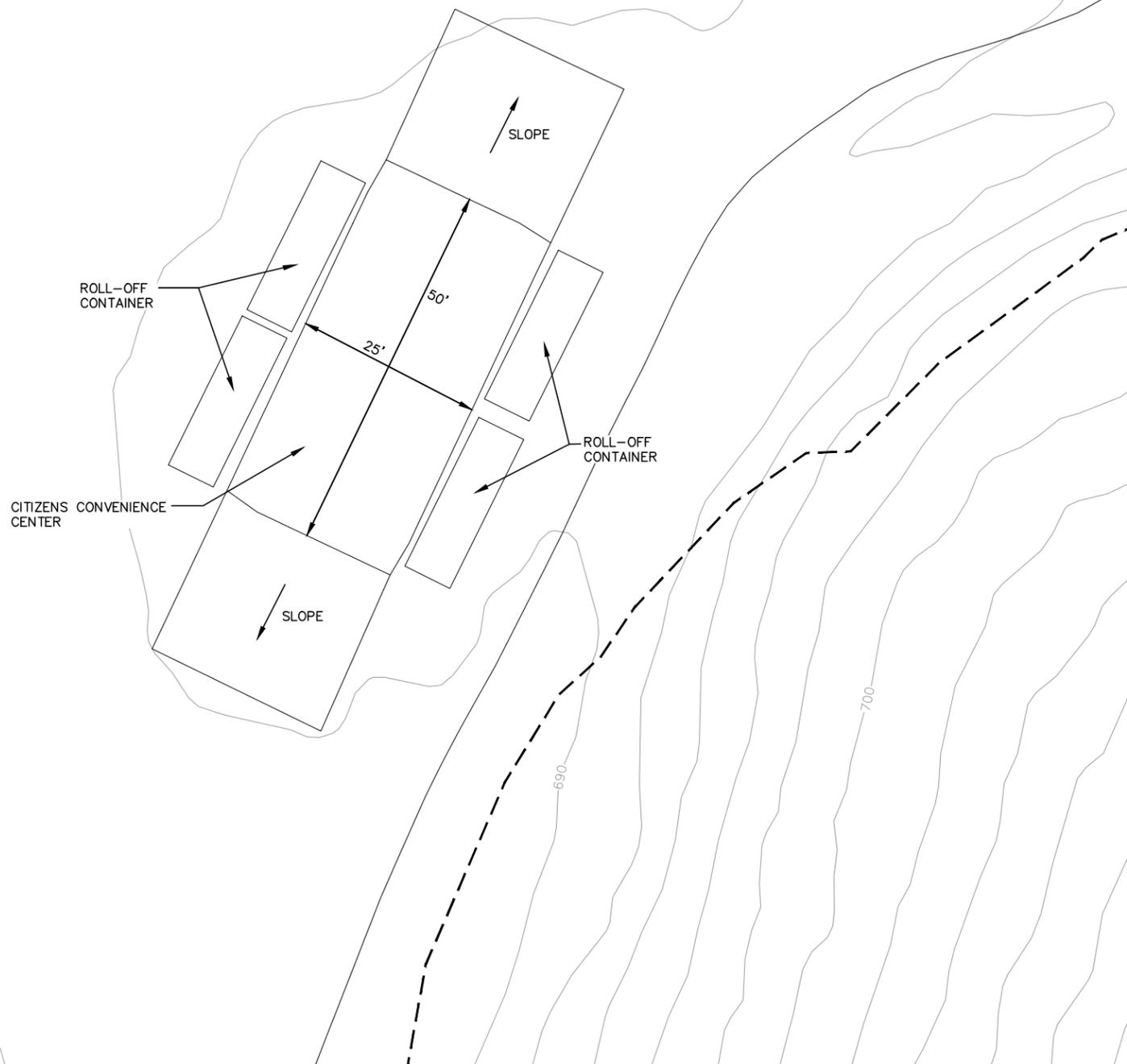


05/20/2024

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT PERMITTED EXCAVATION PLAN (TCEQ PERMIT NO. MSW-1614A) ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/20/24 FILE: 0120-76-11 CAD: 3.2-PERM EXCAVATION PLAN.DWG	DRAWN BY: JDW DESIGN BY: BPY REVIEWED BY: JAE	REVISIONS		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NO.	DATE	DESCRIPTION
WWW.WCGRP.COM		FIGURE 1/II-3.3		

C:\0120\76\EXPANSION 2023\PARTS 1-II\3.3-PERMITTED EXCAVATION PLAN.dwg, byoung, 1:2

C:\0120\76\EXPANSION 2023\PARTS 1-II\3.4-EXISTING CONVENIENCE PLAN.dwg, byoung, 1:2



- LEGEND**
- LANDFILL PERMIT BOUNDARY
 - LIMIT OF WASTE
 - 690 EXISTING CONTOUR

- NOTES:**
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
 2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.



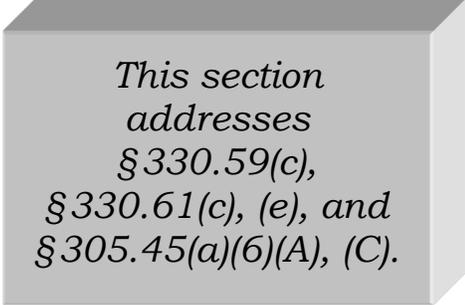
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<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT CITIZENS CONVENIENCE CENTER PLAN															
	PINE HILL FARMS LANDFILL TX, LP																	
DATE: 05/2024 FILE: 0120-76-11 CAD: 3.4-CONVENIENCE CENTER PLAN.DWG	DRAWN BY: RAA DESIGN BY: BPY REVIEWED BY: JAE	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																		
NO.	DATE	DESCRIPTION																
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS	WWW.WCGRP.COM DRAWING 1/II-3.4															

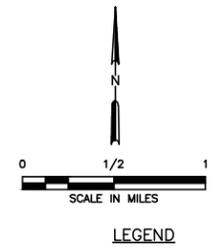
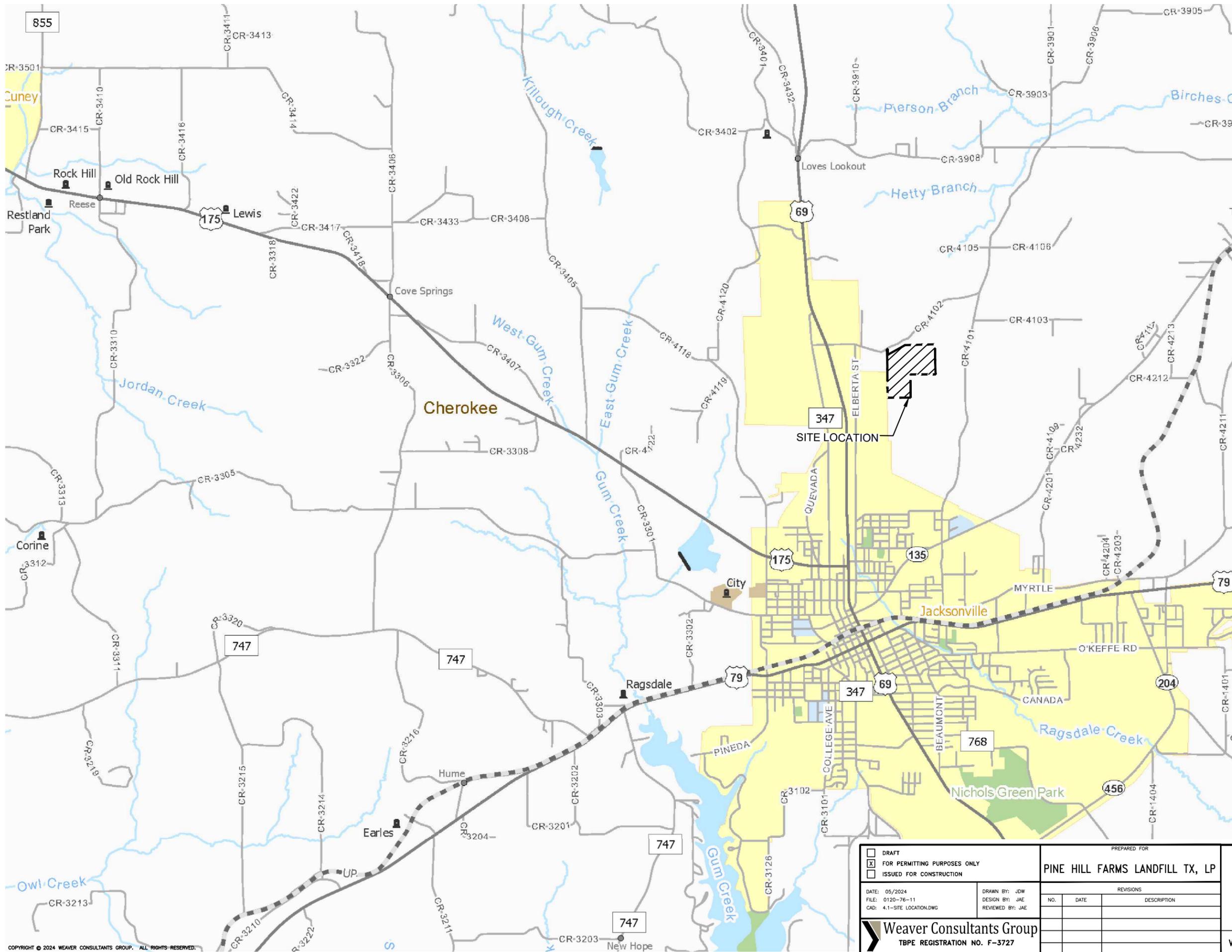
4 MAPS

A site location map and general topographic map are presented on Figures I/II-4.1 and I/II-4.2. Structures and inhabitable buildings located within 500 feet, as well as the nearest residence, are shown on Figure I/II-4.3.

Figure I/II-4.1 and Figure I/II-4.2 show surface water bodies in accordance with Title 30 TAC §330.59(c)(1) and §305.45(a)(6)(A). Water wells within 500 feet are shown on Figure I/II-4.3.



*This section
addresses
§ 330.59(c),
§ 330.61(c), (e), and
§ 305.45(a)(6)(A), (C).*



- 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

LANDFILL PROPERTY

NOTES:
 1. REPRODUCED FROM 2018 TEXAS DEPARTMENT OF TRANSPORTATION COUNTY MAPS, CHEROKEE COUNTY.



05/20/2024

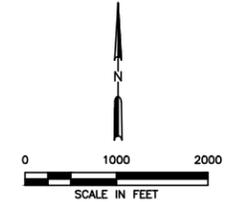
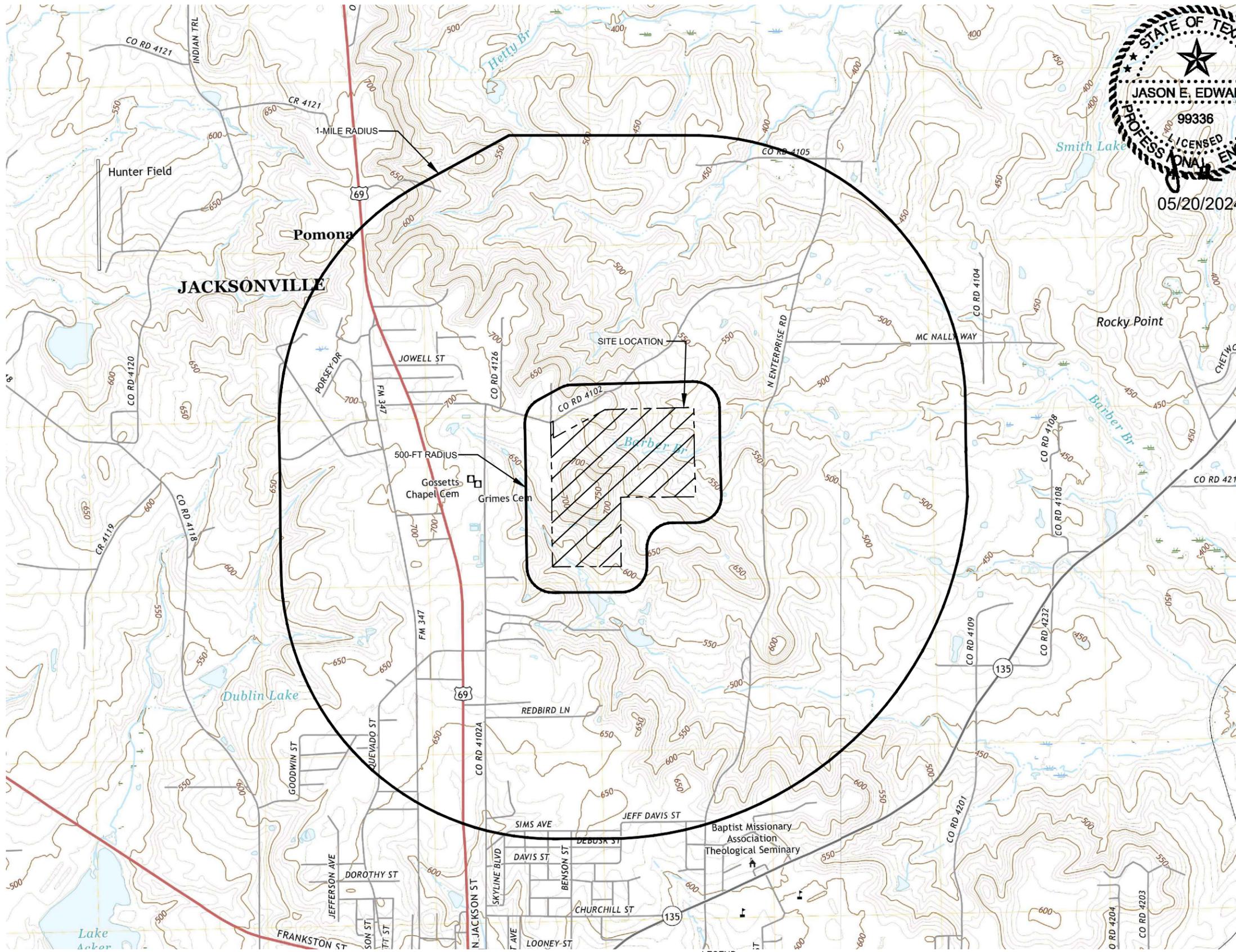
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DATE: 05/20/24 FILE: 0120-76-11 CAD: 4.1-SITE LOCATION.DWG	DRAWN BY: JDW DESIGN BY: JAE REVIEWED BY: JAE															
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REVISIONS																
NO.	DATE	DESCRIPTION														

**MAJOR PERMIT AMENDMENT
 SITE LOCATION MAP**

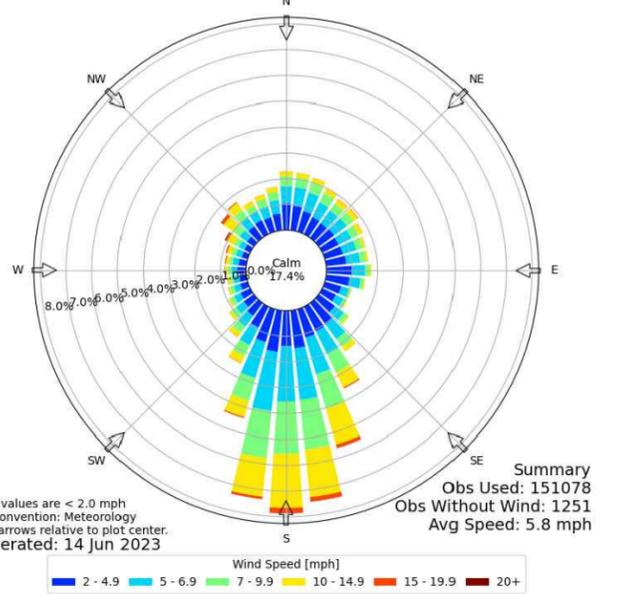
ROYAL OAKS LANDFILL
 CHEROKEE COUNTY, TEXAS

WWW.WCGRP.COM **FIGURE 1/II-4.1**

o:\0120\76\EXPANSION 2023\PARTS 1-11\4.1 - SITE LOCATION.dwg, byoung, 1:2



Windrose Plot for [JSO] JACKSONVILLE
Obs Between: 09 Jul 2003 08:05 AM - 10 Jun 2023 04:35 PM America/Chicago



- NOTES:
1. THE PRIMARY SITE ACCESS ROADS WITHIN ONE MILE OF THE SITE INCLUDE U.S. HIGHWAY 69, HEATH LANE AND COUNTY ROAD 4102.
 2. SEE FIGURE 1/I-5.1 FOR PROPERTY OWNERS WITHIN 1/4-MILE OF THE SITE.
 3. SEE SECTION 7.7 FOR DISCUSSION OF WATER WELLS. WATER WELLS LOCATED WITHIN 500 FEET OF THE PERMIT BOUNDARY ARE SHOWN ON FIGURE 1/I-4.3. REFER TO APPENDIX III G FOR WATERWELLS WITHIN ONE MILE OF THE PERMIT BOUNDARY.
 4. NO SPRINGS ARE DOCUMENTED WITHIN ONE MILE OF THE PERMIT BOUNDARY.
 5. REFER TO FIGURE 4.3 FOR LOCATION OF THE NEAREST RESIDENCE.
 6. REFER TO SECTION 8 FOR AIRPORTS LOCATED WITHIN 6 MILES OF THE PERMIT BOUNDARY.
 7. REFER TO SECTION 13 FOR EASEMENT INFORMATION AND DRAWING 1/IIA.11 FOR ACCESS CONTROL INFORMATION.
 8. THE WIND ROSE IS REPRODUCED FROM THE AUTOMATED SURFACE OBSERVING SYSTEM (ASOS) AT JACKSONVILLE, TEXAS AND GENERATED FROM THE IOWA ENVIRONMENTAL MESONET. THE ASOS IS A JOINT PROGRAM OF THE NATIONAL WEATHER SERVICE, THE FEDERAL AVIATION ADMINISTRATION AND THE DEPARTMENT OF DEFENSE.
 9. REPRODUCED FROM 7.5 MINUTE, JACKSONVILLE WEST, JACKSONVILLE EAST, MOUNT SELMAN, AND TECULA TEXAS QUADRANGLE USGS MAP DATED 2022.

JACKSONVILLE WEST, TX 2022 JACKSONVILLE EAST, TX 2022 MOUNT SELMAN, TX 2022 TECULA, TX 2022

LEGEND

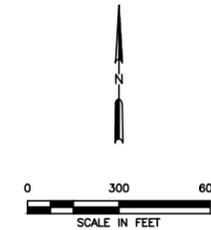
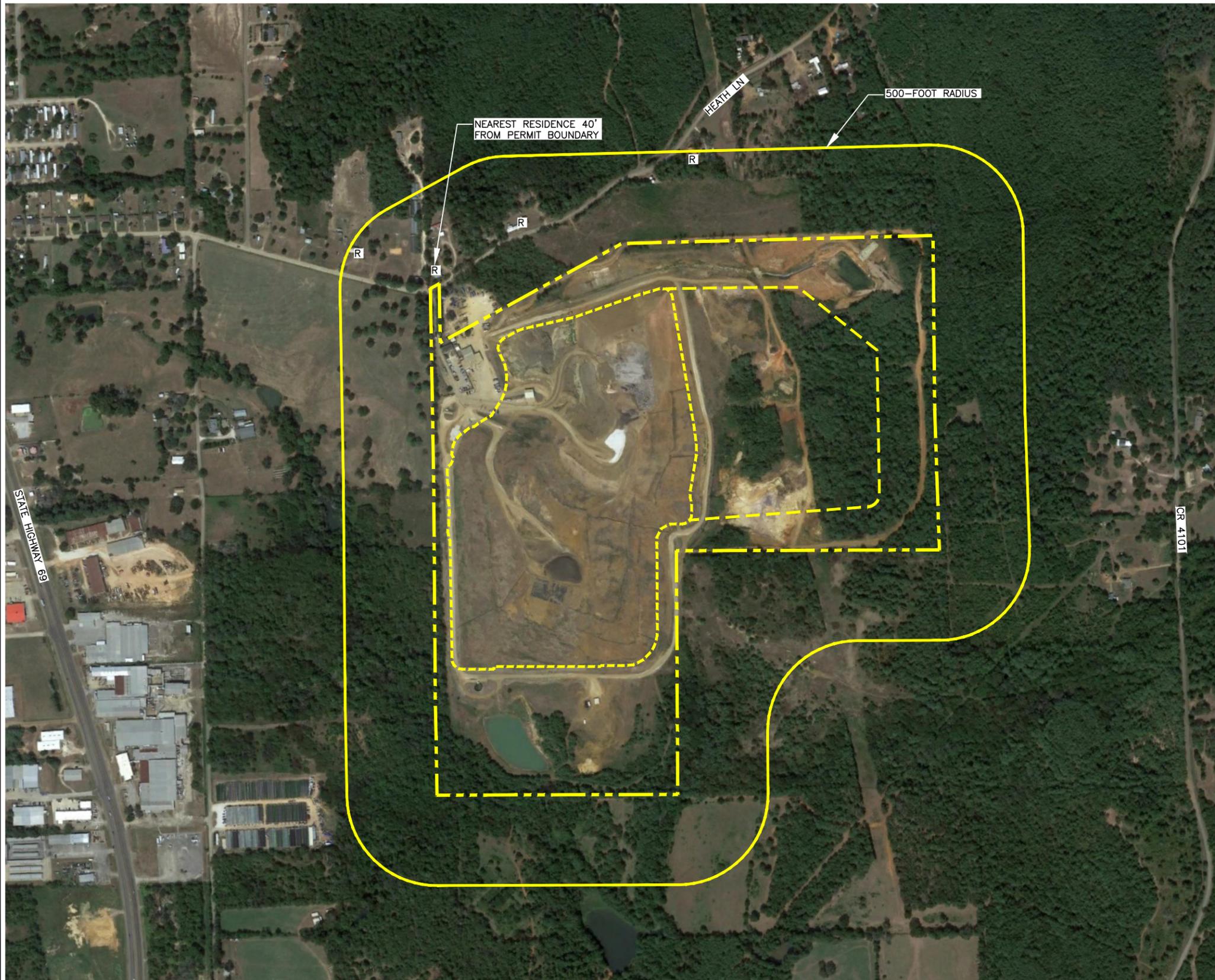
ROAD CLASSIFICATION	
Expressway	Local Connector
Secondary Hwy	Local Road
Ramp	4WD
Interstate Route	US Route
	State Route
	LANDFILL PROPERTY

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<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY	PINE HILL FARMS LANDFILL TX, LP
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FILE: 0120-76-11	DESIGN BY: JAE
CAD: 4.2-GENERAL TOPO.DWG	REVIEWED BY: JAE
Weaver Consultants Group	
TBPE REGISTRATION NO. F-3727	

REVISIONS		
NO.	DATE	DESCRIPTION

MAJOR PERMIT AMENDMENT GENERAL TOPOGRAPHIC MAP	
ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS	
WWW.WCGRP.COM	FIGURE 1/II-4.2

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LEGEND

- PERMIT BOUNDARY
- AUTHORIZED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE
- R RESIDENTIAL BUILDING (SEE NOTE 2)

NOTE:

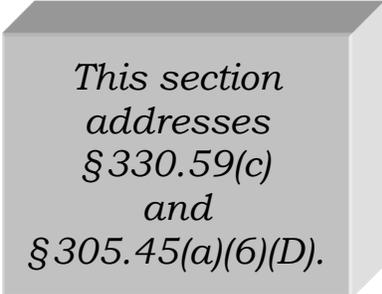
1. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH DATED 09-09-2021.
2. ALL STRUCTURES WITHIN 500 FEET ARE SHOWN ON THIS FIGURE. EACH STRUCTURE IS ASSUMED TO BE HABITABLE. LAND USE WITHIN A 500 FOOT RADIUS OF THE SITE CONSISTS OF RESIDENTIAL, INDUSTRIAL AND AGRICULTURAL AREAS.
3. REFER TO APPENDIX III G FOR ADDITIONAL WATER WELL INFORMATION.
4. A SEARCH TO IDENTIFY WATER WELLS WITHIN A 1-MILE RADIUS OF THE LANDFILL PERMIT BOUNDARY WAS COMPLETED BY ENVIRONMENTAL RISK INFORMATION SERVICES (ERIS) AND WCG IN SEPTEMBER 2023. NO WATER WELL WERE IDENTIFIED INSIDE OR WITHIN 500 FEET OF THE PERMIT BOUNDARY.

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DATE: 05/2024 FILE: 0120-076-11 CAD: 4.3-STRUCTURES.DWG	DRAWN BY: RAA DESIGN BY: SSM REVIEWED BY: RJS	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 85%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DATE	DESCRIPTION									
NO.	DATE	DESCRIPTION													
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE 1/11-4.3												

5 PROPERTY OWNERS LIST AND MAP

The following list and figure provide the names, mailing addresses, and locations of the “Adjacent and Potentially Affected Landowners” within ¼ mile of the Royal Oaks Landfill. The numbers on the landowner list correspond to the numbers listed on Figure I/II-5.1. The list is based on records of the Cherokee County Appraisal District as of May 2024. In accordance with Title 30 Texas Administrative Code §330.59(c)(3), the availability of mineral ownership beneath the facility has been investigated. Based on communication with the Cherokee County Central Appraisal District, they do not maintain mineral ownership records.



*This section
addresses
§ 330.59(c)
and
§ 305.45(a)(6)(D).*

TABLE 5-1
PROPERTY OWNERS LIST

1. CITY OF JACKSONVILLE PO BOX 1390 JACKSONVILLE TX 75766	11. NEELY JADE LANE ETAL 389 CR 3908 JACKSONVILLE TX 75766
2. HAIGHT ROBERTA MAE 1615 CR 4101 JACKSONVILLE TX 75766	12. ROWE RODNEY 187 CR 1402 JACKSONVILLE TX 75766
3. HOOTON KENNETH W 460 CR 2408 RUSK TX 75785	13. ROWE RODNEY 1407 N BOLTON STREET JACKSONVILLE TX 75766
4. HOOTON KENNETH W AND ALANA S 460 CR 2408 RUSK TX 75785	14. 11X17 OFFICE SOLUTIONS LLC PO BOX 117 JACKSONVILLE TX 75766
5. DANIELS KIMMI ETAL 2425 HOLLY ST JACKSONVILLE TX 75766	15. SNOKE SPECIAL PRODUCTS CO INC 1385 GOLDEN GATE DR GOLDEN CO 80403
6. WILLIAMS LONNIE 2033 ELKINS PLACE ARCADIA CA 91006	16. AGAPE CHRISTIAN FELLOWSHIP PO BOX 2375 JACKSONVILLE TX 75766
7. ALLEN EARLE L SR AND BONNIE R LIFE ESTATE 408 LENORA ST JACKSONVILLE TX 75766	17. PIERCE TIM & DEBRA S 1828 ELBERTA STREET JACKSONVILLE TX 75766
8. KINGDOM ENERGY HOLDINGS LLC 110 N COLLEGE AVE STE 1900 TYLER TX 75701	18. CONAWAY DOUGLAS AND KIM PO BOX 1343 JACKSONVILLE TX 75766
9. LOPEZ BENJAMIN BECERRA 1512 ELBERTA STREET JACKSONVILLE TX 75766	19. SERVIN JOSE ANTONIO 435 CR 4102 JACKSONVILLE TX 75766
10. ALLEN TROY D 1528 ELBERTA STREET JACKSONVILLE TX 75766	20. SERVIN VENANCIO 229 CR 4126 JACKSONVILLE TX 75766

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

21. WRIGHT KEITH & CAROLYN 3815 CR 1120 TYLER TX 75704	31. FLORES VERONICA MARTINEZ AND JANICE WASHBURN ESTATE 733 CR 4102 JACKSONVILLE TX 75766
22. CONAWAY DOUGLAS R & KIMBERLY PO BOX 1343 JACKSONVILLE TX 75766	32. RODRIGUEZ MARIA D AND EDUARDO D 1508 BURLESON ST JACKSONVILLE TX 75766
23. KELLY JOYCE D 5491 ST HIGHWAY I35N JACKSONVILLE TX 75766	33. NORTH CHEROKEE WATER SUPPLY CORPORATION PO BOX 1021 JACKSONVILLE TX 75766
24. RESENDIZ ZACARIAS & MARTHA MARTINEZ 145 CR 4126 JACKSONVILLE TX 75766	34. DODD BRIAN A AND SHANNON 883 CR 4102 JACKSONVILLE TX 75766
25. GROGAN EVERETT PAUL 254 CR 4126 JACKSONVILLE TX 75766	35. GRIFFIN TOMMY J & DEBRA D PO BOX 1835 JACKSONVILLE TX 75766
26. CLEMENTS SUSAN MELIAN LIFE ESTATE 472 CR 4126 JACKSONVILLE TX 75766	36. SHIRLEY CLARA L 1043 CR 4102 JACKSONVILLE TX 75766
27. HERERRA JOSE AND RAFAELA 593 CR 4102 JACKSONVILLE TX 75766	37. LUNA MARTIN 1024 CR 4102 JACKSONVILLE TX 75766
28. JACKSONVILLE ECONOMIC DEVELOPMENT CORPORATION 309 E COMMERCE ST JACKSONVILLE TX 75766	38. SERVIN ANDRES 1084 CR 4102 JACKSONVILLE TX 75766
29. RIOS ANTONIO L & SOLEDAD H 653 CR 4102 JACKSONVILLE TX 75766	39. BALDERAS ALFREDO 1132 CR 4102 JACKSONVILLE TX 75766
30. PHILLIPS TOBY W AND LAURA A 707 CR 4102 JACKSONVILLE TX 75766	40. J AND K PROPERTIES LTD 2070 EQUESTRIAN TYLER TX 75703

TABLE 5-1
PROPERTY OWNERS LIST (Continued)

- 41. RIOS ANTONIO
659 CR 4102
JACKSONVILLE TX 75766

- 42. RIOS CIPRIANO
1007 DEATON ST
JACKSONVILLE TX 75766

- 43. ZAVALA GUADALUPE AND JUAN C
1220 CR 4102
JACKSONVILLE TX 75766

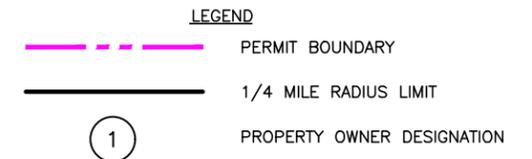
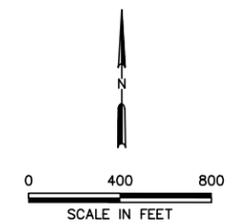
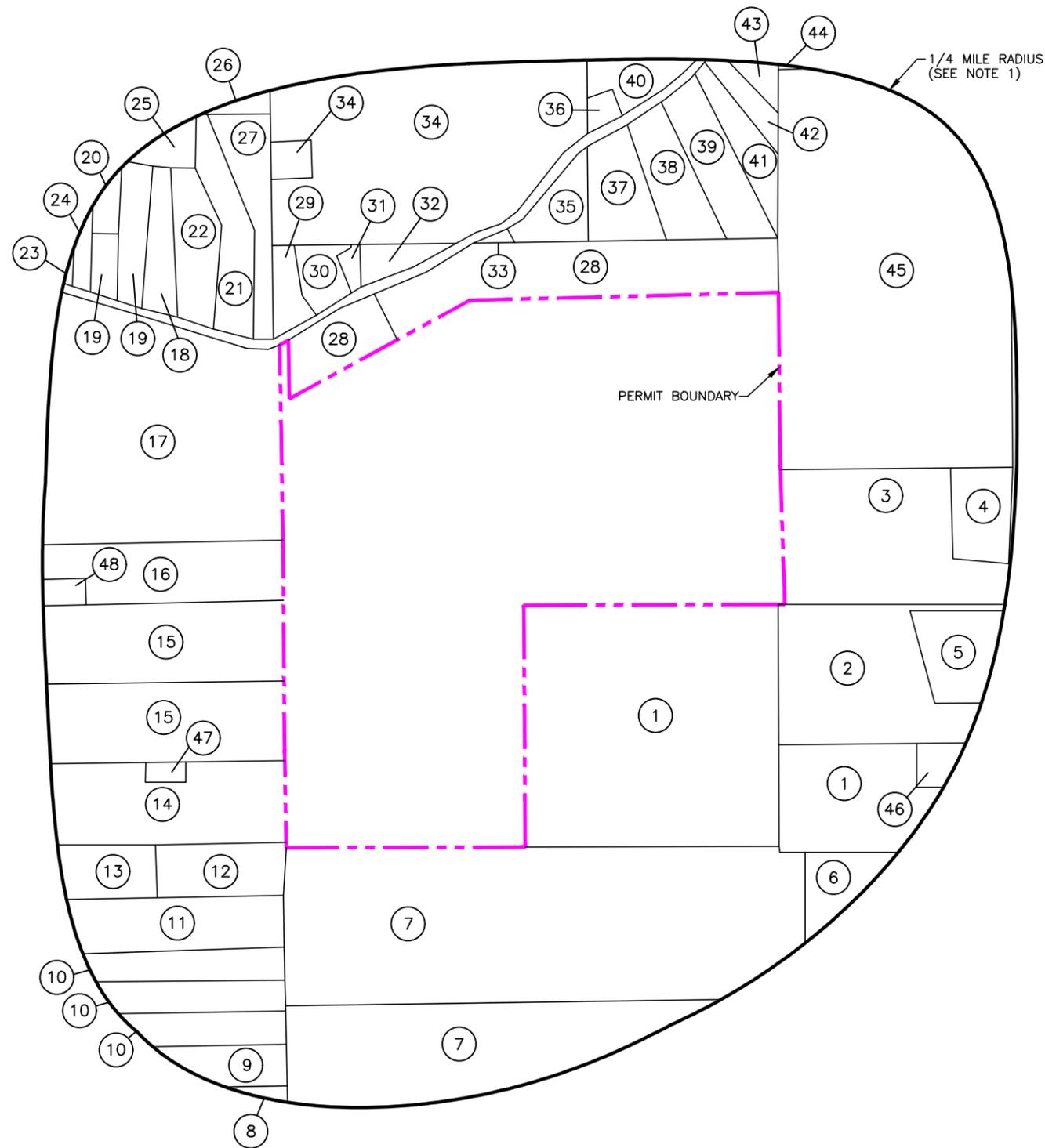
- 44. LARRY ODOM ESTATE AND TERRY
1342 CR 4102
JACKSONVILLE TX 75766

- 45. JARRATT KELLENE S
122 LA COLINA
EDGEWATER FL 32141

- 46. BOB E WALLACE
1505 CUSHING
TYLER TX 75702

- 47. CITY OF JACKSONVILLE
(PURCHASE OF HUBERT H & ANNA LOVE 5-16-
94) 75766

- 48. SHCARA LONDON JOHNSON
PO BOX 882
WYLIE TX 75098



NOTE:

1. THIS LINE REPRESENTS A 1/4-MILE DISTANCE FROM THE PERMIT BOUNDARY.
2. PROPERTY OWNERS LIST WAS DEVELOPED FROM CHEROKEE COUNTY APPRAISAL DISTRICT RECORDS AS OF SEPTEMBER 28, 2018.
3. 1 REFERS TO PROPERTY OWNERS LISTED ON PROPERTY OWNERS LIST IN SECTION 5, PROPERTY OWNERS LIST AND MAP.

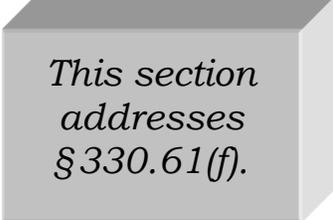


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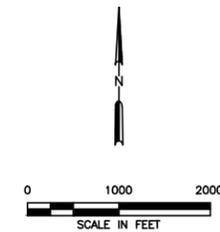
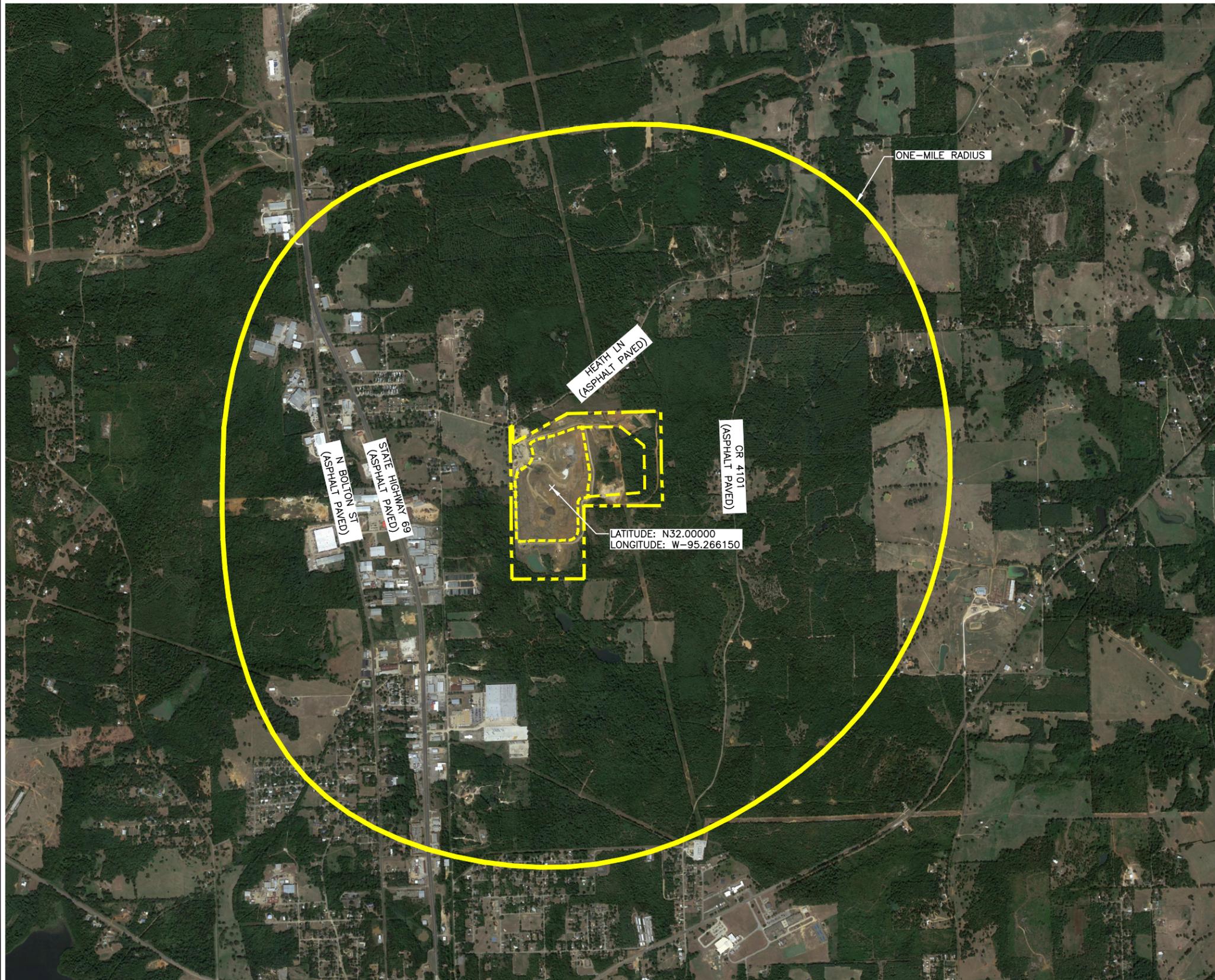
<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL TX, LP	MAJOR PERMIT AMENDMENT PROPERTY OWNERS MAP
DATE: 05/2024 FILE: 0120-76-11 CAD: 5.1-LAND OWNER MAP.DWG	DRAWN BY: RCE DESIGN BY: SSM REVIEWED BY: RCE	ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1/II-5.1

6 AERIAL PHOTOGRAPH

An aerial photograph of the site and the surrounding area (minimum of 1-mile radius from the site) is presented on Figure I/II-6.1.



*This section
addresses
§ 330.61(f).*



LEGEND

- PERMIT BOUNDARY
- AUTHORIZED LIMITS OF WASTE
- PROPOSED LIMITS OF WASTE

NOTE:

1. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH DATED 09-09-2021.



05/20/2024

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL TX, LP	MAJOR PERMIT AMENDMENT AERIAL PHOTOGRAPH		
DATE: 05/2024 FILE: 0120-076-11 CAD: 6.1-AERIAL PHOTOGRAPH.DWG	DRAWN BY: RAA DESIGN BY: SSM REVIEWED BY: RJS	REVISIONS		
		NO.	DATE	DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS		
		WWW.WCGRP.COM FIGURE I/II-6.1		

0:\0120\76\EXPANSION 2023\PARTS I-II\6.1-AERIAL PHOTOGRAPH.dwg, byyoung, 1:2

7 LAND USE

7.1 Character of Surrounding Land and Land Use

A land use evaluation was performed for the area within one mile of the Royal Oaks Landfill permit boundary. Growth trends within 5 miles of the facility were also evaluated. Land use information is summarized on the following maps.

This section addresses §330.61(g), §330.61(h), and §305.45(a)(6)(B).

- Figure I/II-7.1 (Land Use Map – Aerial). This map highlights land use within a one-mile radius of the site on an aerial photograph.
- Figure I/II-7.2 (Land Use Map). This map indicates major land uses within 1 mile of the site.
- Figure I/II – 7.3 (Zoning Map). This map summarizes the zoning description for each area within a two-mile radius of the permit boundary.
- Figure I/II-7.4 (Cities within 5 Miles – Aerial). This map is used to show area cities within 5 miles.

7.2 Location and Zoning

The landfill is approximately 2.5 miles north of the center of the City of Jacksonville. The site lies wholly outside its city limits but within its extraterritorial jurisdiction (ETJ); therefore, is not subject to zoning. The site is adjacent to the city limits boundary. Zoning in the vicinity of the site is shown graphically on Figure I/II-7.3.

7.3 Surrounding Land Use

As shown on Figures I/II-7.1 and I/II-7.2, land use within one mile of the site consists of predominantly agricultural and residential (approximately 72 percent of area within a mile of the permit boundary). The remaining area within a 1-mile radius of the permit boundary consists primarily of industrial, manufacturing, and commercial land. Major commercial/light industrial facilities are located primarily to the east within the 1-mile radius of the landfill property. South and west of the landfill property, undeveloped, or agricultural land is predominately found.

There are several rural residential areas scattered around the landfill property, including single-family, multi-family, and mobile home residences.

7.4 Growth Trends of the Nearest Communities

As shown on Figure I/II-7.4, the City of Jacksonville, is located within five miles of the site. Census data was used to determine the growth trend (or percent change in population) for the City of Jacksonville as well as Cherokee County. The census information and growth trends for these communities are presented in Table 7-1, Growth Trends. The growth rates were developed from population projections from the Texas Water Development Board (TWDB) as presented in their 2021 Regional Water Plan.

**Table 7-1
Growth Trends**

Entity	2010 Census	2020 Census	Growth Rate ¹			
			2021-2030	2031-2040	2041-2050	2051-2060
Jacksonville	14,544	13,497	9.7%	8.5%	9.5%	9.0%
Cherokee County	50,845	51,645	9.7%	8.6%	9.5%	9.1%

¹ The Growth Rates presented represent growth over a ten year period.

It is projected that area growth patterns will be consistent with the growth patterns over the last several years (i.e., residential homes and businesses may continue to be built in the area).

7.5 Proximity to Residences and Other Uses

Based on a ground survey and an examination of a recent aerial photograph, it is estimated that there are 100 residences and 50 businesses located within a mile of the permit boundary. The nearest residence is approximately 40 feet from the northern portion of the permit boundary (approximately 500 feet from the limits of waste).

There are no schools, one licensed day care facility, 3 churches, and no hospitals within 1 mile of the site. In addition, there are not any archaeologically significant sites, historical sites, or sites of exceptional aesthetic quality within one mile of the permit boundary. There is 1 cemetery (Grimes Cemetery) located approximately 1,400 feet from the western boundary of the site. The proximity of residences and other uses are shown on the Land Use Map – Aerial (Figure I/II-7.1).

7.6 Land Use Conclusions

The use of this land for a municipal solid waste site represents a compatible land use for the following reasons.

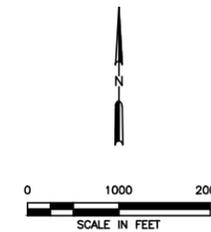
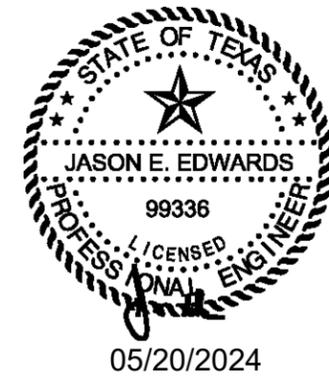
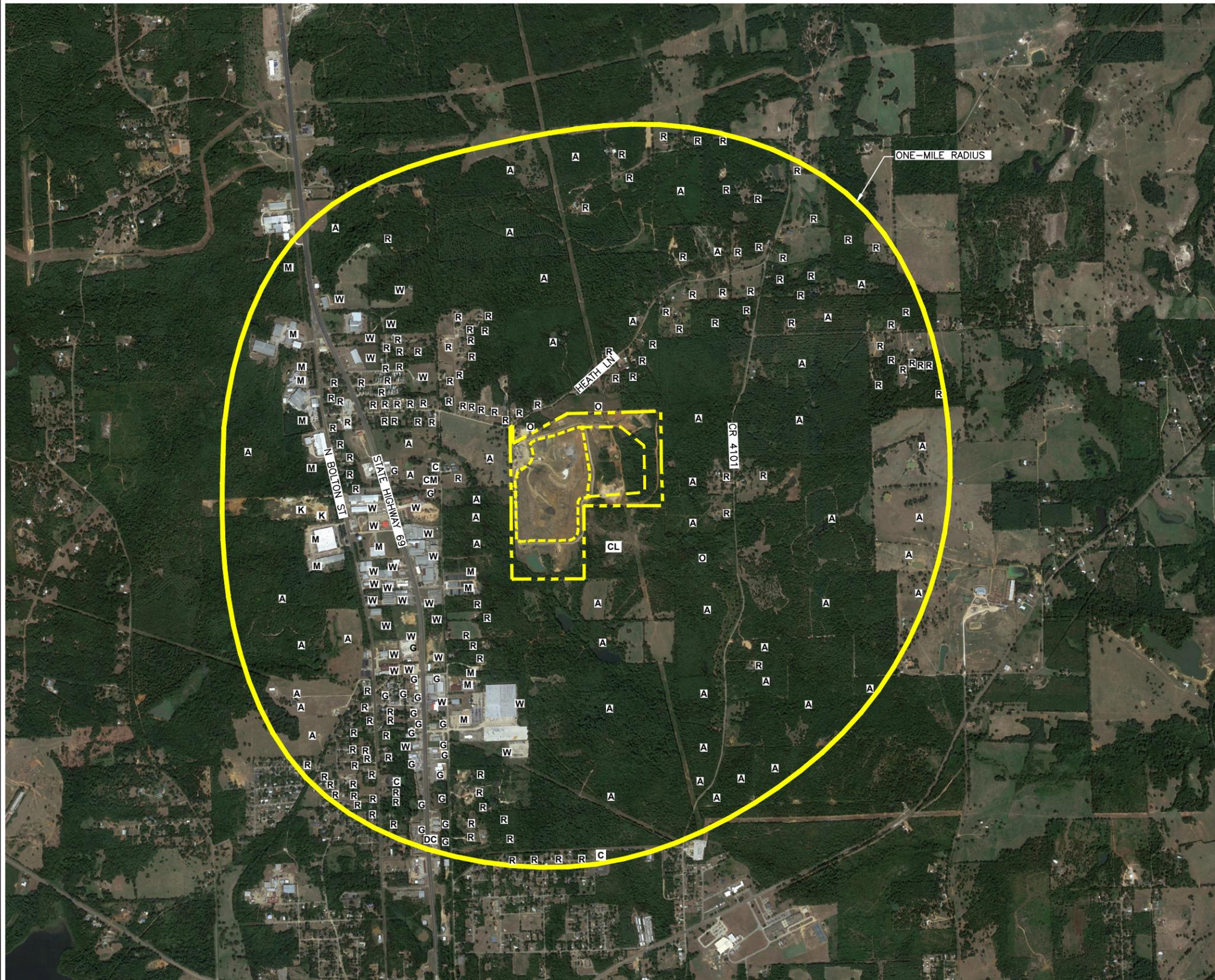
- The site has been permitted as a landfill for over 40 years.
- The waste placement footprint represents only 83.1 acres out of a permit boundary of 144.3 acres.
- The site has not and will not affect area growth trends.

In summary, the existing site has long been established as a disposal facility. The expansion of the Royal Oaks Landfill will provide long term waste disposal for area communities at a facility that will continue to be developed to meet or exceed all regulatory requirements.

7.7 Water Wells Within 500 Feet

A search to identify water wells within a one-mile radius of the landfill permit boundary was completed in September 2023 by ERIS and WCG. The results of this search are provided in Part III, Appendix IIIG. The water well locations are plotted on Figure IIIG-A-6 (Water Well Location Map). In summary, no water wells were located inside or within 500-feet of the facility permit boundary.

As the site is developed, any wells encountered in the waste cell construction areas will be plugged in accordance with the Site Operating Plan and the applicable rules and regulations of the TCEQ, the TWDB, the Railroad Commission of Texas, or other applicable state agencies.



LEGEND

	PERMIT BOUNDARY
	AUTHORIZED LIMITS OF WASTE
	PROPOSED LIMITS OF WASTE
R	RESIDENCE
A	AGRICULTURAL
G	COMMERCIAL
W	WAREHOUSE, WHOLESALE, AND MANUFACTURING
M	HEAVY MANUFACTURING
O	GOVERNMENT OWNED
K	INDUSTRIAL
DC	DAY CARE
C	CHURCH
CL	CLOSED LANDFILL
CM	CEMETERY

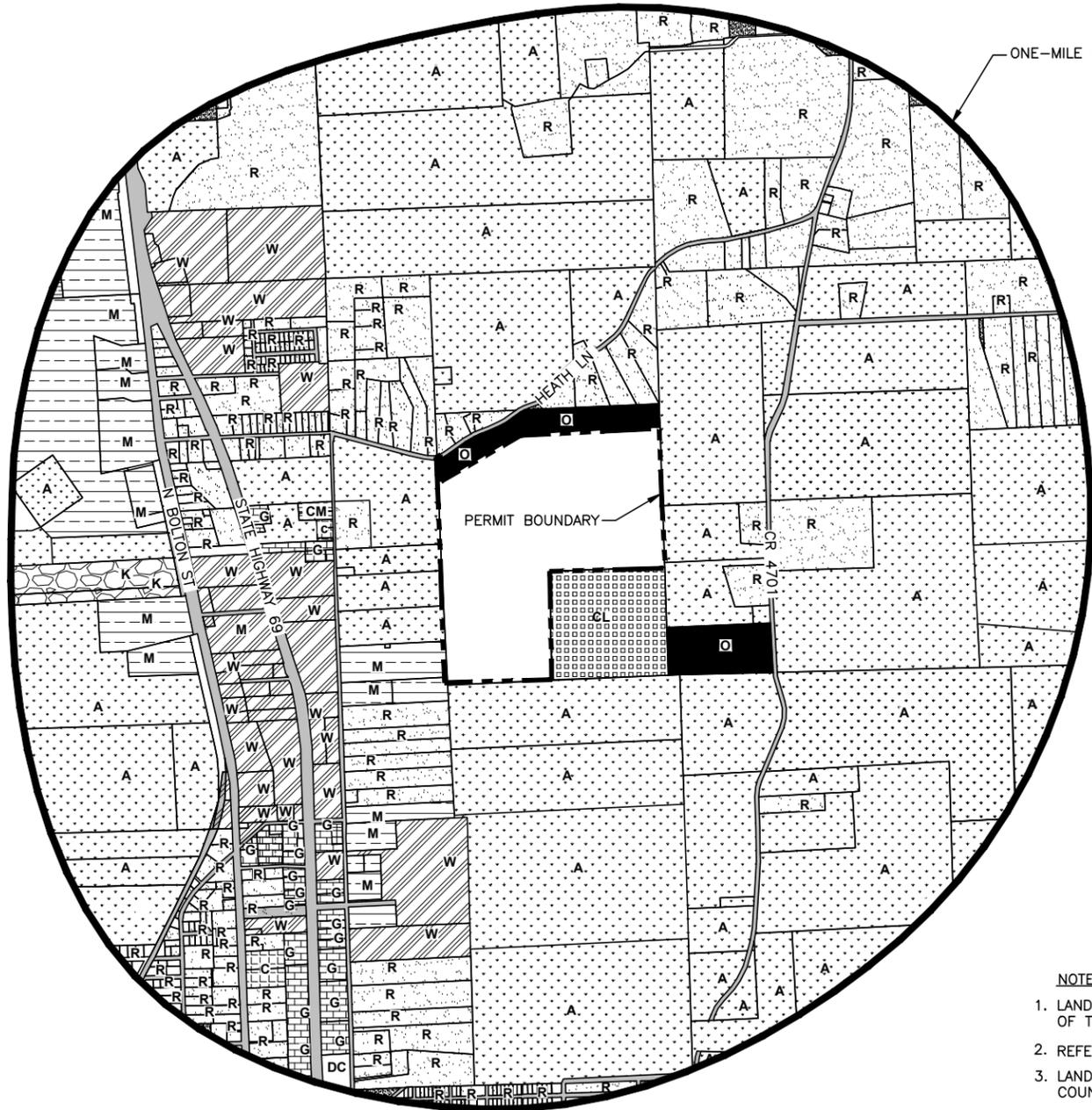
NOTE:

1. AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH DATED 09-09-2021.
2. LAND USE IS SHOWN WITHIN THE ONE-MILE BOUNDARY OF THE SITE.
3. REFER TO FIGURE 1/II-7.3 FOR SITE ZONING INFORMATION.
4. REFER TO FIGURE 1/II-4.3 FOR INFORMATION REGARDING STRUCTURES AND INHABITABLE BUILDINGS LOCATED WITHIN 500-FOOT OF THE PERMIT BOUNDARY.

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<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION		PREPARED FOR PINE HILL FARMS LANDFILL TX, LP		MAJOR PERMIT AMENDMENT LAND USE MAP – AERIAL													
DATE: 05/2024 FILE: 0120-076-11 CAD: 7.1-AERIAL PHOTOGRAPH.DWG		DRAWN BY: JDW DESIGN BY: SSM REVIEWED BY: RJS		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DATE	DESCRIPTION									
NO.	DATE	DESCRIPTION															
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS FIGURE 1/II-7.1													

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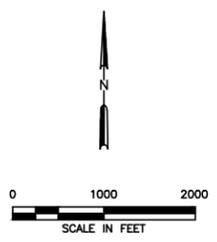


ONE-MILE RADIUS

PERMIT BOUNDARY

LEGEND

- PERMIT BOUNDARY
- GOVERNMENT OWNED
- RESIDENTIAL
- AGRICULTURE
- INDUSTRIAL
- WAREHOUSE AND MANUFACTURING
- COMMERCIAL
- HEAVY MANUFACTURING
- DAYCARE
- CHURCH
- CLOSED LANDFILL
- TRANSPORTATION CORRIDOR
- CEMETERY



LAND USE WITHIN ONE MILE OF PERMIT BOUNDARY		
ZONE DESCRIPTION	ACREAGE	PERCENT OF AREA
ROYAL OAKS LANDFILL PERMIT BOUNDRY	144	4.2%
AGRICULTURE	1,625	47.4%
RESIDENTIAL	758	22.1%
INDUSTRIAL	230	6.7%
WAREHOUSE AND MANUFACTURING	243	7.1%
COMMERCIAL	45	1.3%
HEAVY MANUFACTURING	175	5.1%
GOVERNMENT OWNED	36	1.1%
DAY CARE	3	0.1%
CHURCH	6	0.2%
CLOSED LANDFILL	44	1.3%
TRANSPORTATION CORRIDOR	120	3.5%
CEMETARY	2	0.1%
TOTAL	3,432	100%

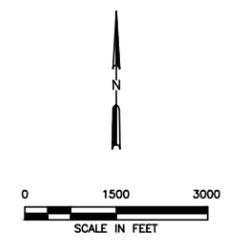
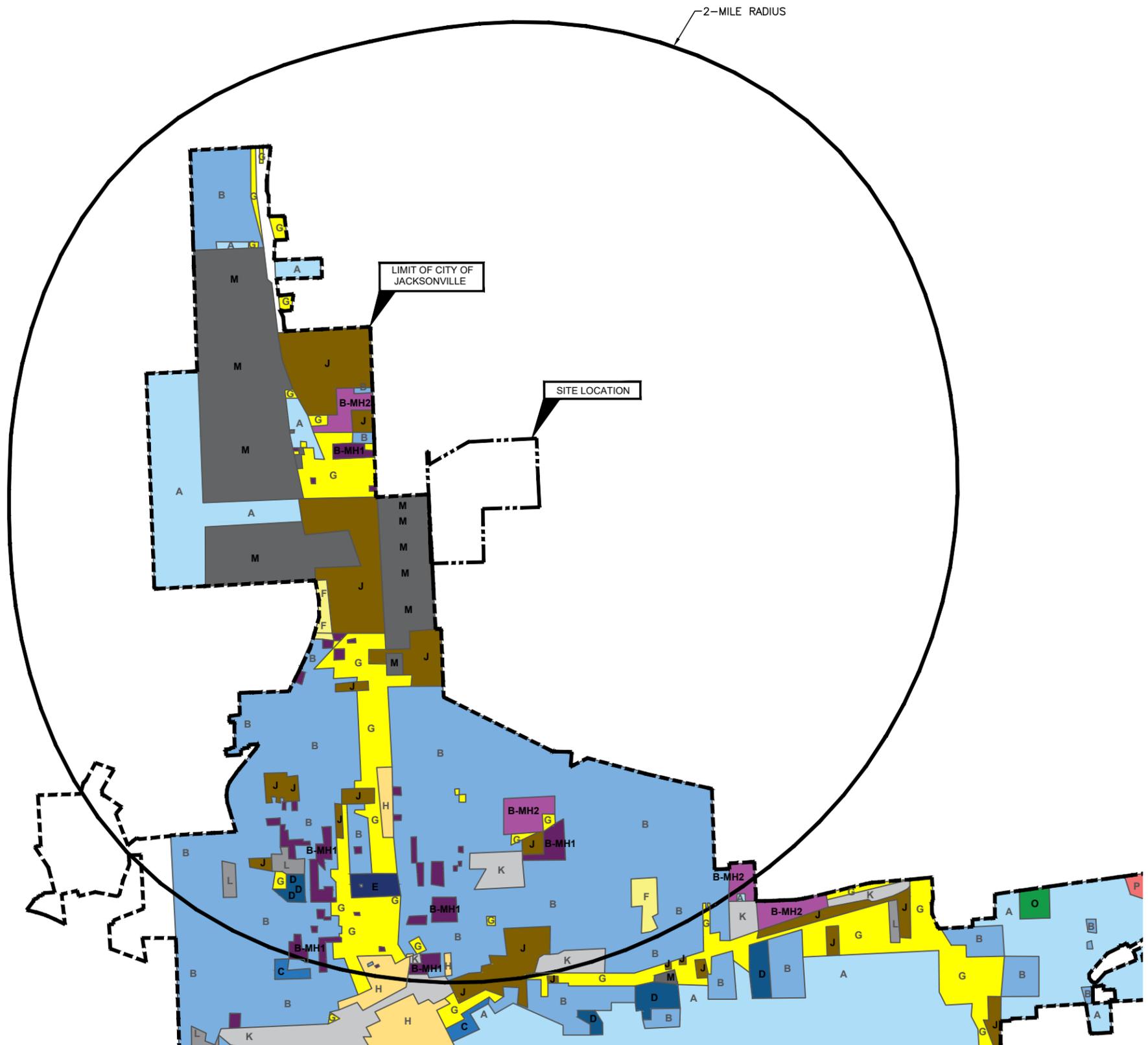
- NOTE:
1. LAND USE IS SHOWN WITHIN THE ONE-MILE BOUNDARY OF THE SITE.
 2. REFER TO FIGURE 1/II-7.3 FOR SITE ZONING INFORMATION.
 3. LAND USE MAP WAS REPRODUCED FROM THE CHEROKEE COUNTY GIS MAPS.



05/20/2024

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NO.	DATE	DESCRIPTION												
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1/II-7.2												

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LEGEND

PERMIT BOUNDARY
 CITY LIMITS

CITY OF JACKSONVILLE ZONING

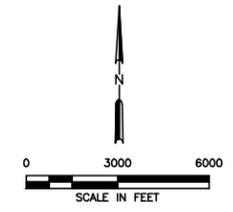
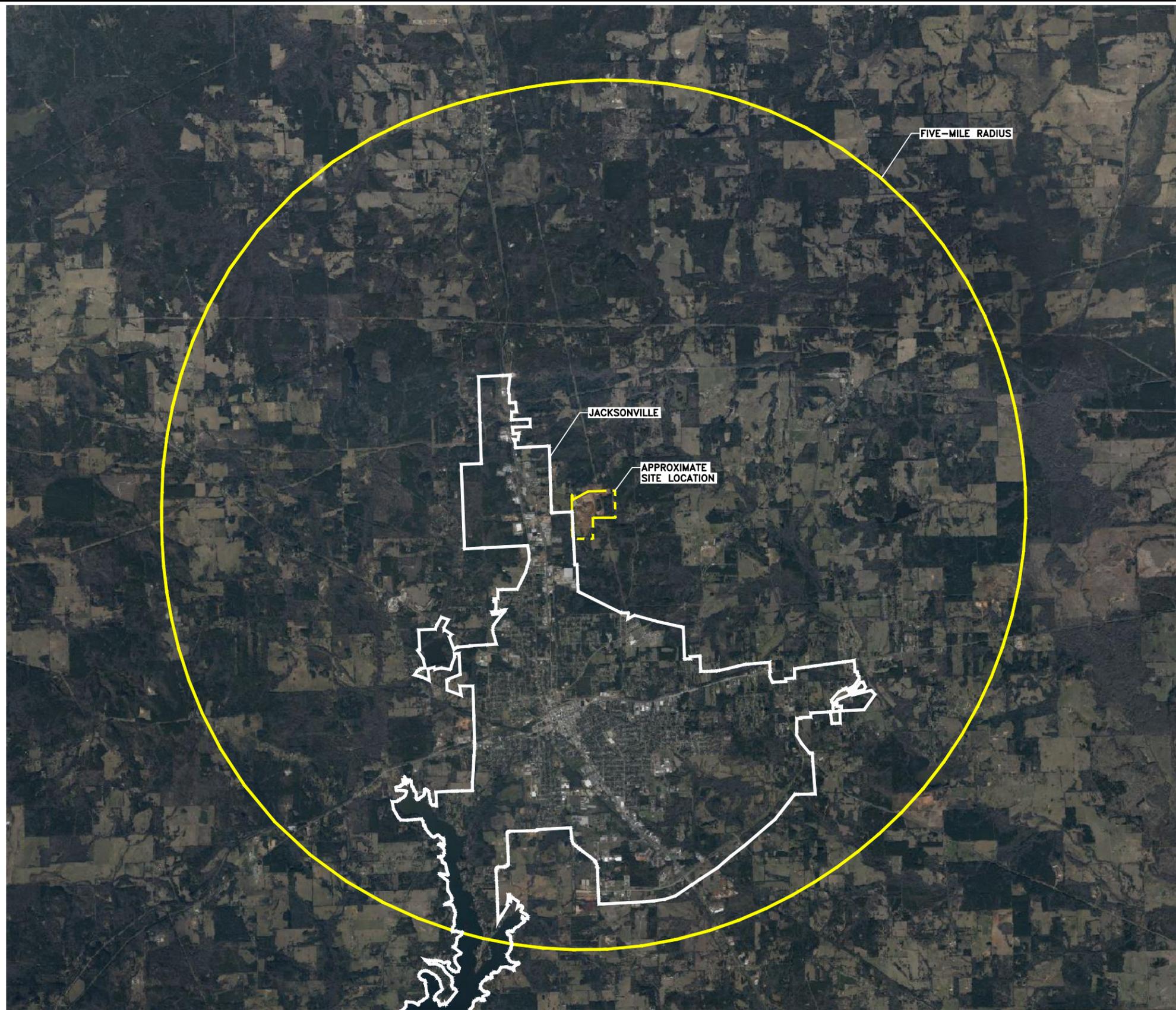
A	SINGLE FAMILY
A-3	A-3 SINGLE FAMILY
B	ONE AND TWO FAMILY
B-MH1	MOBILE HOME SINGLE
B-MH2	MOBILE HOME
C	MULTI-FAMILY (LOW DENSITY)
D	MULTI-FAMILY (MEDIUM DENSITY)
E	MULTI-FAMILY (HIGH DENSITY)
F	LOCAL RETAIL
G	COMMERCIAL
H	CENTRAL BUSINESS
J	WHOLESALE, WAREHOUSE, AND MANUFACTURING
K	INDUSTRIAL
L	LIGHT MANUFACTURING
M	HEAVY MANUFACTURING
O	AGRICULTURAL OPEN SPACE
P	PLANNED DEVELOPMENT



05/20/2024

NOTE:
1. REPRODUCED FROM 2017 JACKSONVILLE, TX ZONING MAP.

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DATE: 05/20/24 FILE: 0120-076-11 CAD: 7.3-ZONING MAP.DWG	DRAWN BY: RAA DESIGN BY: JNG REVIEWED BY: RJS	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																	
NO.	DATE	DESCRIPTION															
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM FIGURE 1/II-7.3															



NOTE:
 1. CITY BOUNDARIES OBTAINED FROM TxDOT GIS BOUNDARY MAPS DATED 2023.



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 FOR PERMITTING PURPOSES ONLY
 ISSUED FOR CONSTRUCTION

DATE: 05/2024
 FILE: 0120-076-11
 CAD: 7.4-CITIES 5 MILE.DWG

DRAWN BY: JDW
 DESIGN BY: SSM
 REVIEWED BY: RJS

Weaver Consultants Group
 TBPE REGISTRATION NO. F-3727

PREPARED FOR		
PINE HILL FARMS LANDFILL TX, LP		
REVISIONS		
NO.	DATE	DESCRIPTION

**MAJOR PERMIT AMENDMENT
 CITIES WITHIN 5-MILE RADIUS**

ROYAL OAKS LANDFILL
 CHEROKEE COUNTY, TEXAS

WWW.WCGRP.COM FIGURE 1/II-7.4

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8 TRANSPORTATION

8.1 Traffic Information

8.1.1 Availability and Adequacy of Roads

The Royal Oaks Landfill is located approximately 0.5 miles east of the intersection of Heath Lane and U.S. Highway 69, in Cherokee County. The primary access roadways to the site are U.S. Highway 69 and Heath Lane.

*This section
addresses
§ 330.61(i).*

An engineering study was prepared by Weaver Consultants Group, LLC (WCG) in November 2023 to evaluate the continued operation of the Royal Oaks Landfill on local roadways and traffic. The traffic impact analysis is included in Parts I/II, Appendix I/IID.

In summary, the traffic impact analysis concludes that access roads within 1 mile of the landfill will continue to provide adequate access to the site. The permit amendment does not result in any changes to the traffic flow or access route along Heath Lane into the site. Coordination with TxDOT regarding traffic and location restrictions is included in Appendix I/IIB (TxDOT Tab).

8.2 Airport Impact

TCEQ distance restrictions set forth in Title 30 TAC §330.545 require municipal solid waste disposal facilities to be located no closer than 10,000 feet to any runway end used by turbojet aircraft or no closer than 5,000 feet to any runway end used by piston-engine aircraft. As shown on Figure I/II-8.1, there is one airport designed as private use located within a 10,000 foot radius of the site (Hunter Field Airport).

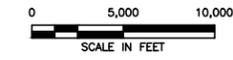
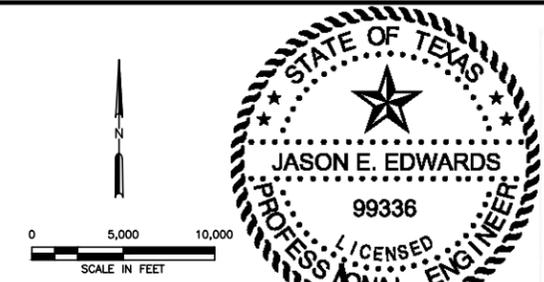
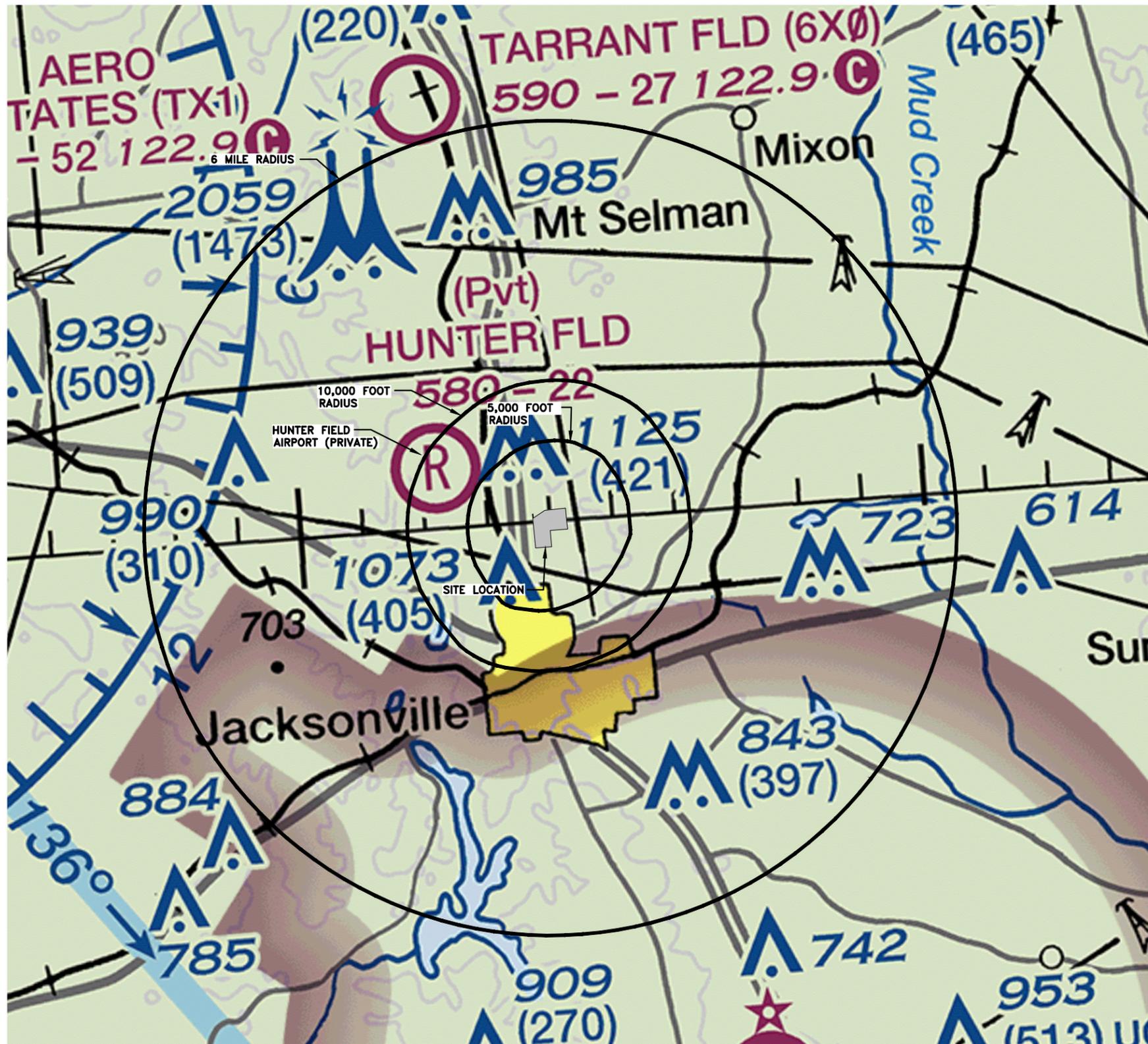
The FAA reviewed the proposed changes to determine the potential for the site to be a hazard to air navigation. As documented in the letter dated December 21, 2023, the FAA has determined that the proposed changes do not pose a hazard to air navigation (refer to Appendix I/IIB for more information).

As noted in the FAA approval letters in Appendix I/IIB, obstruction lights must be installed in accordance with *FAA Advisory Circular 70/7460-I-M, Obstruction Marking and Lighting, Red Lights – Chapters 4, 5 (Red) & 15*. It is anticipated that

approximately seven observation lights will be needed to mark the landfill top deck. The proposed layout of the obstruction lights for the final condition is shown on Figure I/II-8.2.

In addition, Title 30 TAC §330.545(b) requires that small general service airports located within a 6-mile radius of a lateral expansion be notified of the proposed expansion. Title 30 TAC §330.545(b) also requires that large general public commercial airports located within a 5-mile radius of a lateral expansion be notified of the proposed expansion. As shown on Figure 1/II-8.1, no small general services airports are located within a 6-mile radius of the site and no large general public commercial airports are located within a 5-mile radius of the site. The closest private use airport is Hunter Field Airport, which is approximately 1.8 miles northwest of the landfill (distance is measured from the airport runway to the closest part of the landfill).

The Airport Safety Location Restriction is included in Appendix I/II.C.



AIRPORTS 05/20/2024

- Other than hard-surfaced runways
- Hard-surfaced runways 1500 ft. or greater
- Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-DME, or VORTAC location.

ADDITIONAL AIRPORT INFORMATION

- Private "(Pvt)" - Non-public use having emergency or landmark value.
- Military - Other than hard-surfaced. All military airports are identified by abbreviations AFB, NAS, AAF, etc. For complete airport information consult DOD FLIP.
- Helipad Selected
- Unverified
- Abandoned - paved having landmark value, 3000 ft. or greater
- Ultralight Flight Park Selected

Services-fuel available and field tended during normal working hours depicted by use of ticks around basic airport symbol. (Normal working hours are Mon thru Fri 10:00 A.M. to 4:00 P.M. local time.) Consult A/FD for service availability at airports with hard-surfaced runways 1500 ft. or greater.

☆ Rotating airport beacon in operation Sunset to Sunrise.

TOPOGRAPHIC INFORMATION

- Roads
- Road Markers
- Railroad
- Bridges And Viaducts
- Power Transmission Lines
- Aerial Cable
- Landmark Feature - stadium, factory, school, golf course, etc.
- Outdoor Theatre
- Lookout Tower P-17 (Site Number) 618 (Elevation Base of Tower)
- Coast Guard Station
- Race Track
- Tank - water, oil or gas
- Oil Well
- Water Well
- Mines And Quarries
- Mountain Pass
- 11823 (Elevation of Pass)

(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 or near mountain passes.)

RADIO AIDS TO NAVIGATION AND COMMUNICATION BOXES

122.1R 122.6 123.6
OAKDALE
362 *116.8 OAK

122.1R
CHICAGO CHI

122.1R
MIAMI

Underline indicates no voice on this frequency.

* - Operates less than continuous or On-Request.

T - TWEE H - HIWAS

A - ASOS/ AWOS

FSS providing voice communication

Heavy line box indicates Flight Service Station (FSS). Frequencies 121.5, 122.2, 243.0, and 255.4 (Canada - 121.5, 126.7 and 243.0) are normally available at all FSSs and are not shown above boxes. All other frequencies are shown. For Local Airport Advisory use FSS frequency 123.6.

R - Receive only

Frequencies above thin line box are removed to NAVAID site. Other frequencies at FSS providing voice communication may be available as determined by altitude and terrain. Consult Airport/Facility Directory for complete information.

OBSTRUCTIONS

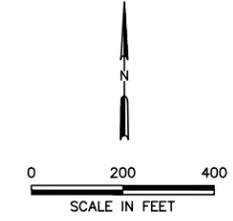
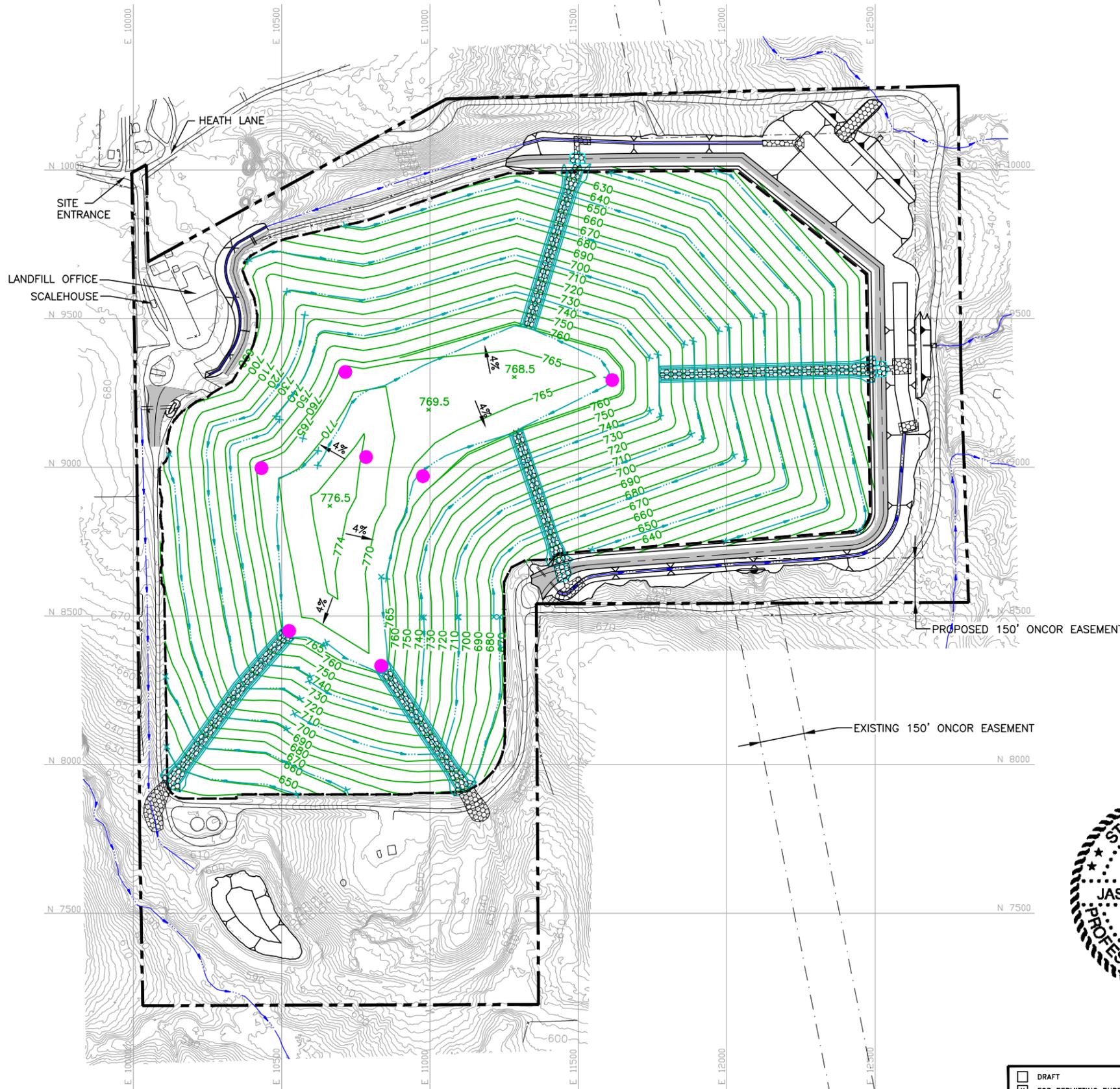
- 1000 ft. and higher AGL
- below 1000 ft. AGL
- Group Obstruction
- Obstruction with high-intensity lights May operate part-time
- Elevation of the top above mean sea level
- Height above ground
- Under construction or reported: position and elevation unverified

NOTICE: Guy wires may extend outward from structures.

- NOTES:**
- THIS MAP REPRODUCED FROM THE FAA HOUSTON SECTIONAL AERONAUTICAL CHARTS DATED DECEMBER 29, 2022
 - THERE ARE NO PUBLIC AIRPORTS WITHIN A 10,000 FOOT RADIUS OF THE SITE.
 - THERE IS ONE SMALL PRIVATELY OWNED, PRIVATE USE AIRPORTS WITHIN A 6-MILE RADIUS OF THE SITE.

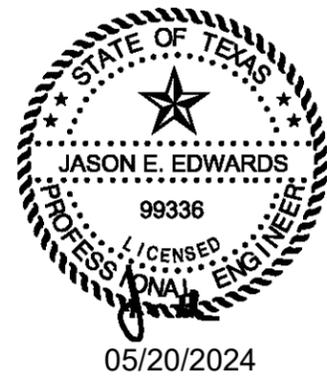
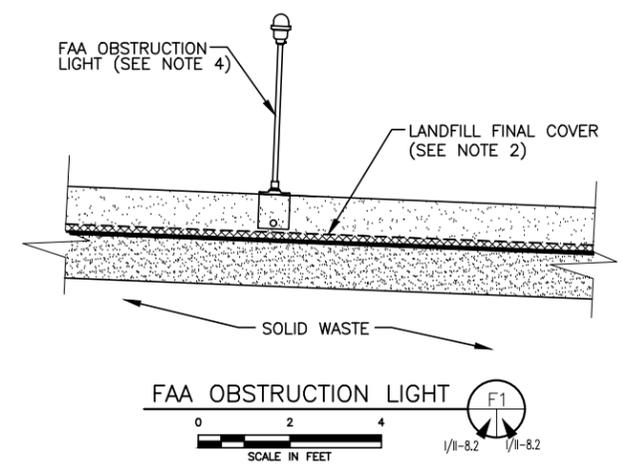
<input type="checkbox"/> DRAFT	PREPARED FOR	PINE HILL FARMS LANDFILL TX, LP	MAJOR PERMIT AMENDMENT AREA AIRPORTS
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY			
<input type="checkbox"/> ISSUED FOR CONSTRUCTION			
DATE: 05/20/24	DRAWN BY: JDW	REVISIONS	
FILE: 0120-076-11	DESIGN BY: SSM	NO.	DATE
CAD: 8.1-AREA AIRPORTS.DWG	REVIEWED BY: JAE		DESCRIPTION
Weaver Consultants Group			
TBPE REGISTRATION NO. F-3727			
		WWW.WCGRP.COM	FIGURE 1/11-8.1

D:\0120\76\EXPANSION 2023\PARTS 1-H\8.1-AREA AIRPORTS.dwg, byyoung, 1:2



- LEGEND**
- PERMIT BOUNDARY
 - LIMIT OF WASTE
 - EXISTING EASEMENT
 - PROPOSED EASEMENT
 - SITE GRID
 - EXISTING CONTOUR (SEE NOTE 1)
 - PROPOSED FINAL COVER CONTOUR
 - DRAINAGE SWALE
 - DRAINAGE LETDOWN
 - CHANNEL CENTERLINE
 - RED OBSTRUCTION LIGHTS REQUIRED BY FAA (SEE NOTE 4)

- NOTES:**
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
 2. FINAL COVER DETAILS ARE PROVIDED IN APPENDIX IIIA-A.
 3. MAXIMUM FINAL COVER ELEVATION IS 776.5 FT-MSL. MAXIMUM TOP OF WASTE ELEVATION IS 773.0 FT-MSL.
 4. AS DISCUSSED IN SECTION 8.2, ONCE THE TOP DECK REACHES 200 FEET ABOVE GRADE, LIGHTS WILL BE INSTALLED PER ADVISORY CIRCULAR 70-7460-IM, OBSTRUCTION MARKING AND LIGHTING, RED LIGHTS-CHAPTERS 4,5(REDF) AND 15. THE LIGHTS WILL BE EVENLY SPACED, AS PRACTICAL, TO MARK THE TOP DECK.



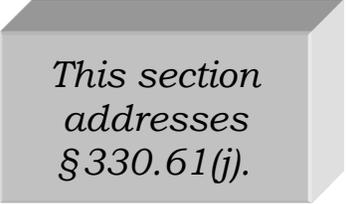
<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT FAA OBSTRUCTION LIGHTS TYPICAL LAYOUT ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS
	PINE HILL FARMS LANDFILL TX, LP		
DATE: 05/20/2024 FILE: 0120-76-11 CAD: 8.2 FAA POINT LOCATIONS.DWG	DRAWN BY: JDW DESIGN BY: SSM REVIEWED BY: BPY	REVISIONS	
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NO. DATE DESCRIPTION	WWW.WCGRP.COM FIGURE 1/II-8.2

O:\0120\76\EXPANSION 2023\PARTS 1-II\8.2 FAA POINT PLAN.dwg, byyoung, 1:2

9 GENERAL GEOLOGY AND SOILS STATEMENT

9.1 Geology and Soils

According to the Bureau of Economic Geology (Geologic Atlas of Texas: Palestine Sheet [1975] and Tyler Sheet [1993]), the Royal Oaks Landfill is located upon Eocene-age Sparta Sand, Weches, and Queen City formation sediments.



*This section
addresses
§ 330.61(j).*

The Sparta Sand overlies the Weches Formation with both formations outcropping in the topographically highest portions of the facility within the western permit boundary areas. Underlying the Weches Formation, the Queen City Formation outcrops at lower elevation within the easternmost portions of the permit boundary. The Queen City Formation overlies the Reklaw and Carrizo Sand formations. Sediments of the Wilcox Group underly the Carrizo Sand.

The Queen City Formation is classified by the Texas Water Development Board as a minor Texas aquifer (Queen City Aquifer) and overlies the Reklaw Formation. The Reklaw Formation sediments are described as predominately low permeability clays and silts which function regionally as a lower confining unit to the overlying Queen City Aquifer. The Carrizo Sand Formation and Wilcox Group sediments are classified by the TWDB as a major Texas aquifer (Carrizo-Wilcox Aquifer) and underlie the low permeability sediments of the Reklaw Formation.

Based on the lithologic logs from 88 facility boreholes and review of nearby water well driller logs, subsurface geology can be divided into five site-specific stratigraphic units. These site-specific geologic units include (in descending order): Surficial Sediments (Sparta and Weches Formation), Stratum A (Weches Formation), Stratum B (Uppermost Queen City Formation), Stratum C (Mid Queen City Formation), and Stratum D (Lower Queen City Formation). Site-specific strata A through D are comprised of an uppermost component of coarse-grained saturated sediments (Aquifers A through D) and an underlying component of fine-grained unsaturated sediments (Aquitards A through D). Regional and site-specific geologic and hydrogeologic conditions are discussed in detail in Part III, Appendix IIIG.

9.2 Fault Areas

The Royal Oaks Landfill and the surrounding area were examined for the presence of geologic faulting in conformance with Title 30 TAC §330.555 criteria. This included a physical inspection of the site and surrounding area, review of previous fault investigations, available literature and maps, and a current aerial photograph.

No unusual scarps or topographic breaks were interpreted within 200 feet of the site. No evidence of faulting was found associated with on-site or adjacent roadways. No structural influence of stream courses was observed within 200 feet of the facility permit boundary. In addition, no unusual relief or topographic features, such as sag ponds, truncated alluvial spurs, or offset tributary alignments, were observed. Therefore, the site is in compliance with the fault areas location restriction. The certification of compliance with the fault area location restriction is presented in Appendix I/IIC.

9.3 Seismic Impact Zones

The seismic impact zone location restriction defined by Title 30 TAC §330.557 is an area with a 10 percent or greater probability that the maximum horizontal acceleration in rock, expressed as a percentage of the earth's gravitational pull, will exceed 0.10g in 250 years. According to the U.S.GS earthquake hazard data, the site-specific maximum horizontal seismic acceleration estimated at a 10 percent probability of exceedance in a 250-year time period is 0.0549g (5.49 percent of the force of gravity as estimated from the USGS seismic impact zone map). As such, the USGS-derived site-specific horizontal acceleration is lower than the 10 percent of the force of gravity or greater horizontal acceleration required for seismic impact zone classification. Drawing I/IIC-4 in Appendix I/IIC presents the USGS Seismic Impact Zone Map. As shown on this drawing, the site is not located within a seismic impact zone. For these reasons, the Royal Oaks Landfill is in compliance with the seismic impact zone location restriction. The seismic impact zone location restriction demonstration is included in Appendix I/IIC.

9.4 Unstable Areas

Title 30 TAC §330.359 notes that an unstable area is defined to be a location that is susceptible to natural or human-induced events or forces capable of impairing the integrity of some or all of a landfill's structural components responsible for preventing releases from the landfill: unstable areas can include poor foundation conditions, areas susceptible to mass movement, and karst terrains. As discussed in Appendix I/IIC, Section 10, the bottom liner is founded within Queen City Formation facies that will provide an excellent foundation layer, the final cover system is

designed to withstand the predicted differential settlement, and the stability analysis shows that each landfill component will be stable and no mass movements will occur. The unstable areas location restriction demonstration is included in Appendix I/IIC.

10 GROUNDWATER AND SURFACE WATER STATEMENT

10.1 Groundwater Statement

Groundwater conditions at the site were determined using data from piezometers and monitor wells that are part of the approved Subtitle D groundwater monitoring system. Details and logs of on-site borings, monitor wells and piezometers, as well as potentiometric surface contour maps, are provided in Part III, Appendix IIIG. The uppermost aquifer, for groundwater monitoring purposes, is contained within the course-grained sediments of four site-specific aquifers (Aquifers A through D). The lower confining unit beneath the landfill unit is comprised of low permeability clays of the lower Queen City Formation sediments at the base of site-specific Stratum D which act as an aquiclude to restrict the downward vertical movement of Uppermost Aquifer groundwater.

*This section
addresses
§ 330.61(k).*

10.2 Surface Water Statement

The 144.3-acre Royal Oaks Landfill permit boundary is located approximately 2.5 miles north of the City of Jacksonville and 0.5 miles east of Heath Lane, and is located within the Ragsdale Creek Watershed, which is a part of the Neches River Basin. The permit boundary is located near the headwater of the Ragsdale Creek. The site drains to Barbers Branch on the east side of the permit boundary and to Keys Creek on the south side of the permit boundary. Barbers Branch and Keys Creek discharges to Ragsdale Creek approximately 7 miles southeast of the landfill.

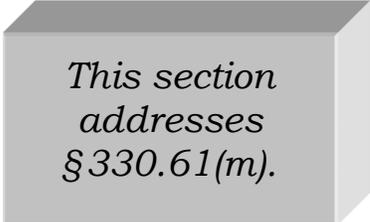
For the proposed landfill expansion, the final cover system will include erosion control structures to effectively minimize erosion of final cover soils. The proposed drainage system also includes a perimeter channel system that will convey stormwater collected from the landfill area to one of three detention ponds. The stormwater detention ponds are designed to attenuate stormwater flow before stormwater is discharged into existing drainage features located downstream of the site. As discussed in Appendix IIIF, the site's stormwater management system is designed to not adversely alter existing permitted drainage patterns or have any adverse impact on offsite drainage features.

The facility has been designed to prevent discharge of pollutants into waters of the State or waters of the United States, as defined by the Texas Water Code and the Federal Clean Water Act, respectively. The Royal Oaks Landfill has a current Texas Pollution Discharge Elimination System (TPDES) multi-sector general permit (MSGP) for industrial activity as stipulated under Section 402 of the Clean Water Act and under Chapter 26 of the Texas Water Code, the TPDES program. A copy of the multi-sector permit is included in Parts I/II, Appendix I/IIE. Any stormwater that has become contaminated by contact with the working face or with leachate will be handled in accordance with Appendix IIC – Leachate and Contaminated Water Management Plan. The facility maintains a current Stormwater Pollution Prevention Plan prepared consistent with the provisions of TPDES MSGP (Permit No. TXR05K666). Given the above, the applicant is in full compliance with TPDES under the Clean Water Act, Section 402, as amended.

11 FLOODPLAINS AND WETLANDS STATEMENT

11.1 Floodplains Statement

As shown on Figure I/II-11.1, the proposed landfill permit boundary is located over 1 mile from the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA), Flood Insurance Rate Map (FIRM) for Cherokee County, Texas, and incorporated areas (Map Numbers 48073C0175D and 48073C0285D).



*This section
addresses
§330.61(m).*

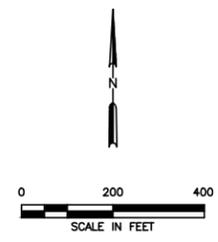
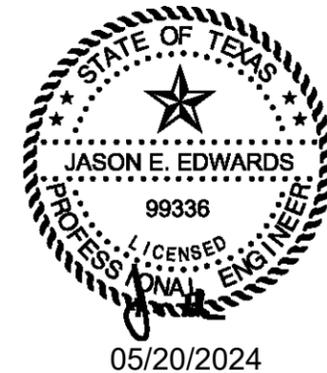
Compliance with the floodplain location restriction is further discussed in Appendix I/IIC.

11.2 Wetlands Statement

The area within the existing permit boundary of the Royal Oaks Landfill was evaluated for compliance with wetlands provisions, including the determination and identification requirements in Title 30 TAC §330.61(m)(2) and (3) and the wetlands location restriction in §330.553(b).

A waters of the U.S. and wetlands determination/delineation was performed by Hydrex Environmental, Inc. Excerpts from their March 2024 report is included in Appendix I/IIB which describes and identifies wetlands located within the facility boundary.

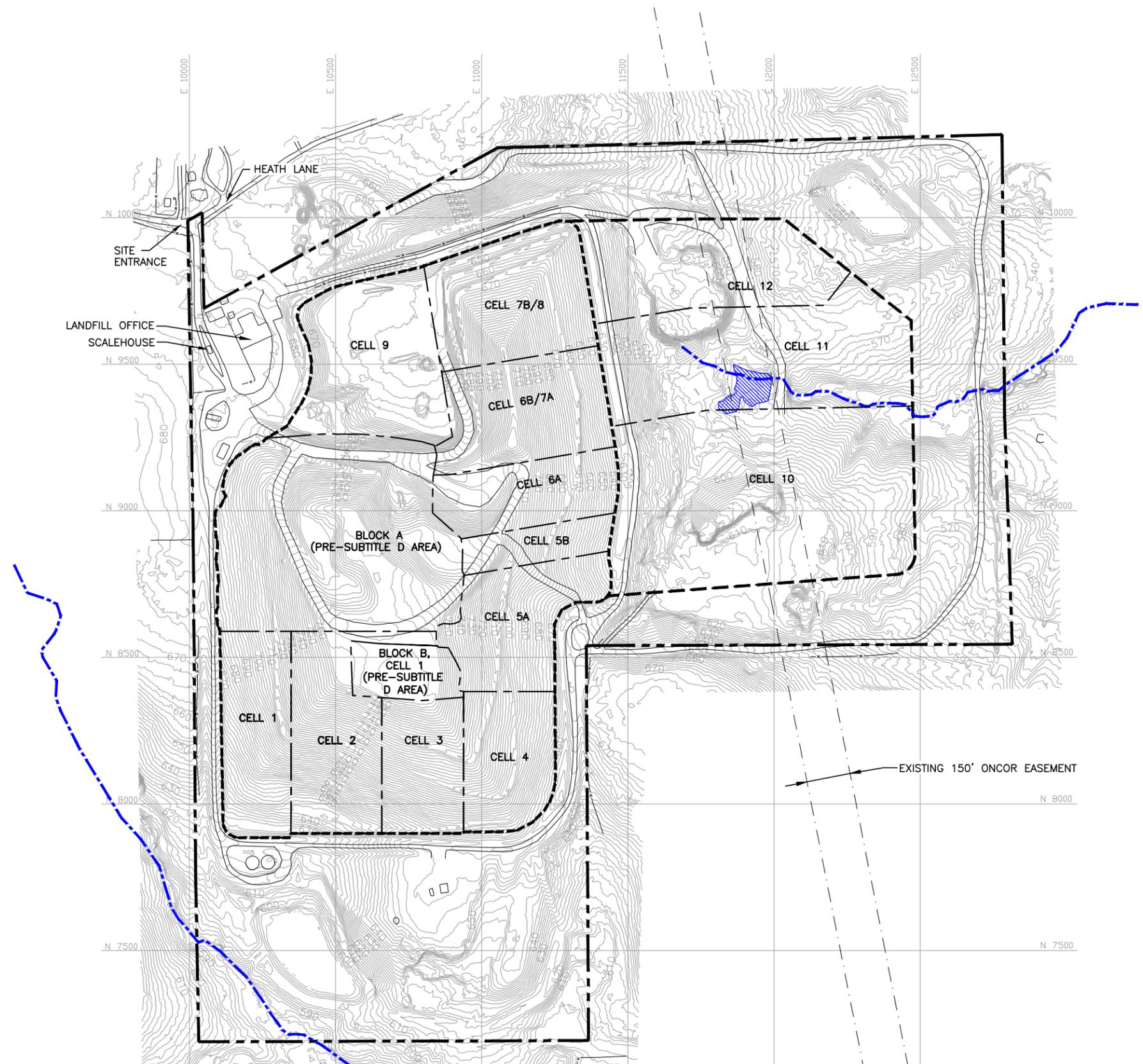
The proposed post-development condition of the landfill will require excavation of additional waters of the U.S. previously delineated as intermittent/RPW and scrub-scrub wetland. Coordination with the USACE for the proposed Project (SWF-2021-00405) is included in Appendix I/IIB.



LEGEND

	PERMIT BOUNDARY
	AUTHORIZED LIMITS OF WASTE
	PROPOSED LIMITS OF WASTE
	EXISTING EASEMENT
	SITE GRID
	EXISTING CONTOUR (SEE NOTE 1)
	SECTOR BOUNDARY
	USACE SECTION 404 JURISDICTIONAL WATERS OF THE U.S. (SEE NOTE 3)
	SCRUB-SHRUB WETLAND (SEE NOTE 3)

- NOTE:**
- EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
 - PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER COMPANY, DATED APRIL 1995.
 - WETLANDS AND STREAMS SHOWN ON FIGURE WERE REPRODUCED FROM FIGURE 2 INCLUDED IN REPORT TITLED "WILDFIRE HABITAT ASSESSMENT PROGRAM" PREPARED BY HYDREX ENVIRONMENTAL, INC., MARCH 2024.

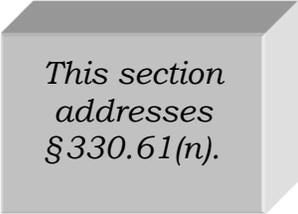


<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT WETLAND LOCATION MAP	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/2024 FILE: 0120-076-11 CAD: 11.2 WETLAND MAP.DWG	DRAWN BY: RAA DESIGN BY: SSM REVIEWED BY: RJS	REVISIONS		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NO.	DATE	DESCRIPTION
WWW.WCGRP.COM		FIGURE 1/II-11.2		

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12 PROTECTION OF ENDANGERED SPECIES

A Biological Assessment Report for the Royal Oaks Landfill was prepared by Hydrex Environmental in August 2023. The report, including the findings related to threatened or endangered species and their critical habitats, was sent to the U.S. Fish and Wildlife Service (FWS) and the Texas Parks and Wildlife Department (TPWD), seeking concurrence that the project would not impact threatened or endangered species, or their critical habitat. Correspondence with the FWS and TPWD is included in Appendix I/IIB.



*This section
addresses
§ 330.61(n).*

The 2023 Hydrex study concluded that the area within the landfill permit boundary does not provide suitable habitat for any species listed for Cherokee County, nor has critical habitat been designated in the project area for any threatened or endangered species.

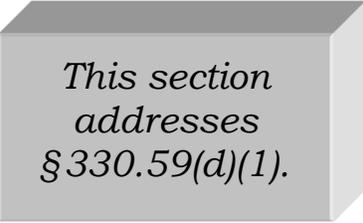
Therefore, it is concluded that the expansion of the Royal Oaks Landfill will not result in the destruction or adverse modification of the critical habitat of any threatened or endangered species, or cause or contribute to the taking of any threatened or endangered species.

Given the above, the facility is in compliance with all applicable federal, state, and local laws regarding threatened or endangered species.

13 LEGAL DESCRIPTION

A legal description of the existing 144.3-acre permit boundary is included on the following pages. This area is shown on the attached drawing.

The area within the permit boundary is owned by City of Jacksonville. Current ownership records for the property may be found in Cherokee County Real Property records.



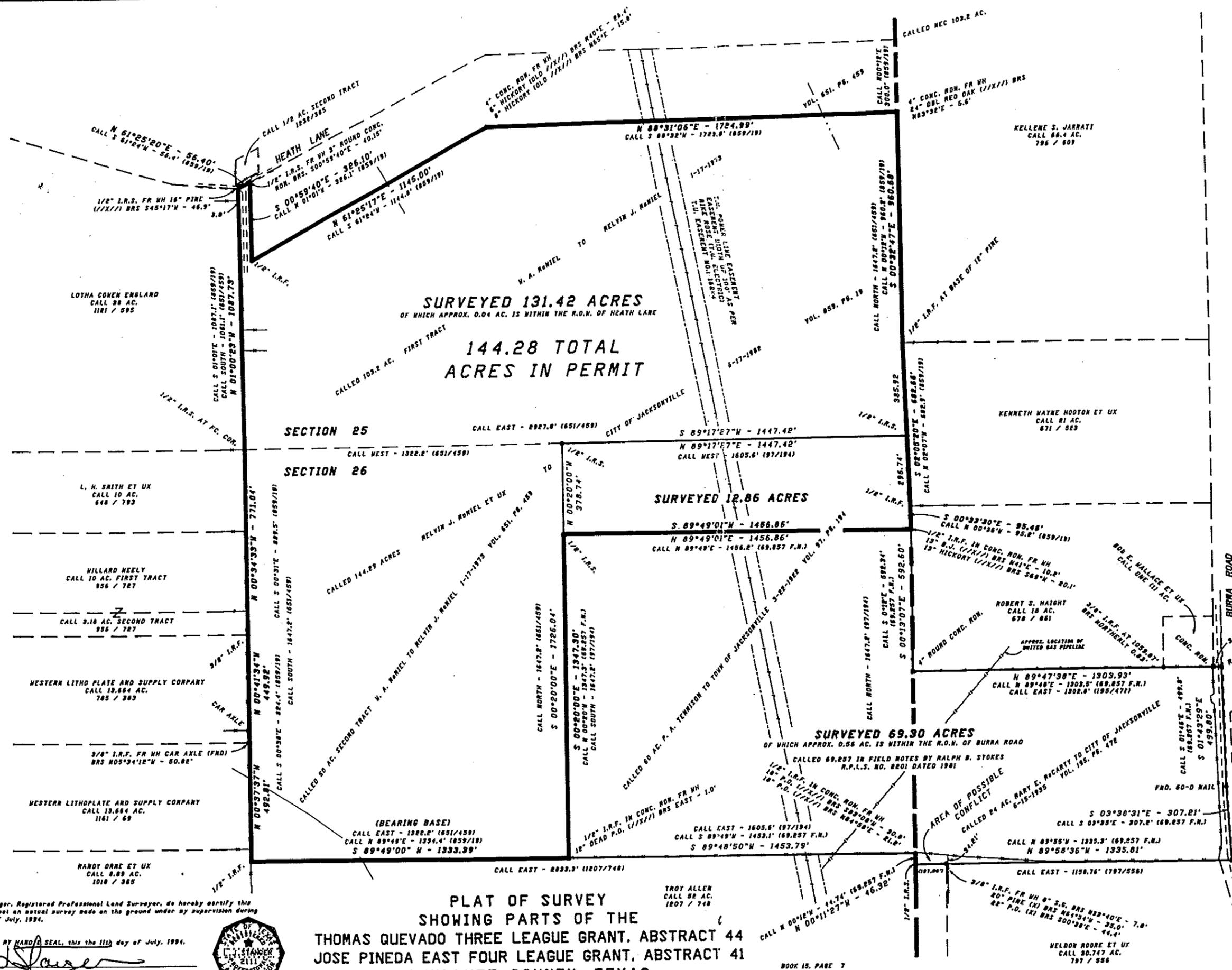
*This section
addresses
§ 330.59(d)(1).*

THOMAS QUEVADO THREE LEAGUE GRANT, ABSTRACT 44

JOSE PINEDA EAST FOUR LEAGUE GRANT, ABSTRACT 41



STANGER
SURVEYING COMPANY
2440 East Fifth Street, Suite 100
Tyler, Texas 75701
(800) 535-8285



PLAT OF SURVEY
SHOWING PARTS OF THE
THOMAS QUEVADO THREE LEAGUE GRANT, ABSTRACT 44
JOSE PINEDA EAST FOUR LEAGUE GRANT, ABSTRACT 41
CHEROKEE COUNTY, TEXAS

I, L. J. Stanger, Registered Professional Land Surveyor, do hereby certify this plat to reflect an actual survey made on the ground under my supervision during the month of July, 1994.
GIVEN UNDER MY HAND AND SEAL, this the 11th day of July, 1994.
L. J. Stanger
Registered Professional Land Surveyor State of Texas No. 2111



BOOK 15, PAGE 7
BOOK 41, PAGE 1
BOOK 74, PAGE 46
DRAWN BY: EJK CHECKED BY: LJS
REVISED: 4-6-1995
SCALE IN FEET
FILE: 85084.GCD JOB NO. 85084

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144.28 ACRES - PAGE 2 OF 3

Southwest corner of a certain First Tract (called 103.2 acres) described in the above mentioned Volume 651, Page 459, and being in the division line between the North boundary line of the above mentioned Section 26 and the South boundary line of the above mentioned Section 25, Thomas Quevado Grant;

THENCE North 01 degrees 00 minutes 23 seconds West, for a distance of 1087.73 feet, continuing with the West boundary line of said 144.29 acre tract, with the West boundary line of the above mentioned 103.2 acre tract, with the East boundary line of the above mentioned 38 acre tract, to a 1/2" iron rod (set) at the Northwest corner of said 144.29 acre tract, also being at the Northwest corner of said 103.2 acre tract, also being at the Northeast corner of said 38 acre tract, and being in or near the center of Heath Lane, from said 1/2" iron rod a 16" Pine (marked //x//) bears South 45 degrees 17 minutes West, 46.9 feet;

THENCE North 61 degrees 25 minutes 20 seconds East, for a distance of 56.40 feet, with the most Westerly North boundary line of said 144.29 acre tract, with the North boundary line of said 103.2 acre tract and along or near the center of the above mentioned Heath Lane, to a 1/2" iron rod (set) at the most Westerly Northeast corner of said 144.29 acre tract, from which a 3" round concrete monument bears South 00 degrees 59 minutes 40 seconds East, 40.15 feet;

THENCE South 00 degrees 59 minutes 40 seconds East, for a distance of 326.10 feet, to a 1/2" iron rod (found) at an interior corner of said 144.29 acre tract;

THENCE North 61 degrees 25 minutes 17 seconds East, for a distance of 1145.00 feet, to a 4" concrete monument (found) at an angle break in the North boundary line of said 144.29 acre tract, from which a 6" Hickory (old //x//) bears North 40 degrees East, 26.4 feet and an 8" Hickory (old //x//) bears North 65 degrees East, 15.8 feet;

THENCE North 88 degrees 31 minutes 06 seconds East, for a distance of 1724.99 feet, to a 4" concrete monument (found) at the Northeast corner of said 144.29 acre tract, also being in the East boundary line of said 103.2 acre tract, also being in the East boundary line of said Section 25, Thomas Quevado Grant, and being in the West boundary line of a certain called 66.4 acre tract described in a deed to Kellene S. Jarratt, and recorded in Volume 796, Page 609, from said 4" concrete monument a 24" double Red Oak (marked //x//) bears North 83 degrees 32 minutes East, 5.6 feet and the called Northeast corner of said 103.2 acre tract bears a called North 00 degrees 12 minutes East, 300.0 feet;

THENCE South 00 degrees 32 minutes 47 seconds East, for a distance of 960.68 feet, with the most Northerly East boundary line of said 144.29 acre tract, with the East boundary line of said 103.2 acre tract, with the East boundary line of said Section 25 and with the West boundary line of the above mentioned 66.4 acre tract, to a 1/2" iron rod (found at the base of a 12" Pine) at the Southwest corner of said 66.4 acre tract, also being at the Northwest corner of a certain called 21 acre tract described in a deed to Kenneth Wayne Hooten et ux, and recorded in Volume 671, Page 523;

THENCE South 02 degrees 05 minutes 20 seconds East, continuing with the most Northerly East boundary line of said 144.29 acre tract, with the East boundary line of said 103.2 acre tract, with the East boundary line of said Section 25 and with the West boundary line of the above mentioned 21 acre tract, at 385.92 feet pass a 1/2" iron rod (set) at the Southeast corner of said 103.2 acre tract, also being at the apparent Southeast corner of said Section 25, also being at the apparent Northeast corner of said Section 26, and being at the Northeast corner of the above mentioned 60 acre tract (as described in Volume 97, Page 194), continue a total distance of 682.66 feet to a 1/2" iron rod (found) at the Southwest corner of said 21 acre tract, also being at the Northwest corner of a certain called 18 acre tract described in a deed to Robert S. Haight, and recorded in Volume 678, Page 861;

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THOMAS QUEVADO THREE LEAGUE GRANT, ABSTRACT 44
SECTION 25 AND 26
CHEROKEE COUNTY, TEXAS
95084 74/46

METES AND BOUNDS DESCRIPTION FOR 144.28 ACRES OF LAND

BEING 144.28 acres of land situated in the Thomas Quevado Three League Grant, Abstract 44, Section 25 and 26, Cherokee County, Texas, and being all of that certain called 144.29 acre tract described in a deed from Melvin J. McNeil et ux to the City of Jacksonville, dated June 17, 1982, and recorded in Volume 859, Page 19 of the Deed Records of Cherokee County, Texas, said 144.28 acres to be more particularly described by metes and bounds as follows:

BEGINNING at a 1/2" iron rod (found in a concrete monument) at the most Southerly Southeast corner of the above mentioned 144.29 acre tract, also being at the Southeast corner of a certain Second Tract (called 50 acres) described in a deed to Melvin J. McNeil, and recorded in Volume 651, Page 459, also being at the Southwest corner of a certain called 60 acre tract described in a deed to the Town of Jacksonville, and recorded in Volume 97, Page 194, also being at the most Westerly Southwest corner of a certain called 69.257 acre tract described in a set of Field Notes by Ralph B. Stokes, R.P.L.S. No. 2201, dated 1981, and being in the North boundary line of a certain called 52 acre tract described in a deed to Troy Allen, and recorded in Volume 1207, Page 748;

THENCE South 89 degrees 49 minutes 00 seconds West, for a distance of 1333.39 feet, with the North boundary line of the above mentioned 52 acre tract, to a 1/2" iron rod (found) at the Southwest corner of said 144.29 acre tract, also being at the Southwest corner of the above mentioned 50 acre tract, also being at the Northwest corner of said 52 acre tract, and being in the East boundary line of a certain called 8.89 acre tract described in a deed to Randy Orme et ux, and recorded in Volume 1018, Page 365;

THENCE North 00 degrees 37 minutes 37 seconds West, for a distance of 492.81 feet, with the West boundary line of said 144.29 acre tract, with the West boundary line of said 50 acre tract, with the East boundary line of the above mentioned 8.89 acre tract and with the East boundary line of a certain called 13.664 acre tract described in a deed to Western Lithoplate and Supply Company, and recorded in Volume 1161, Page 69, to a 3/8" iron rod (found) at the Northeast corner of said 13.664 acre tract, also being at the Southeast corner of another called 13.664 acre tract described in a deed to Western Litho Plate and Supply Company, and recorded in Volume 785, Page 383, from said 3/8" iron rod a car axle (found) bears North 05 degrees 34 minutes 12 seconds West, 50.82 feet;

THENCE North 00 degrees 41 minutes 34 seconds West, for a distance of 449.92 feet, continuing with the West boundary line of said 144.29 acre tract and with the West boundary line of said 50 acre tract, to a 3/8" iron rod (found) at the Northeast corner of the above second mentioned 13.664 acre tract, also being at the Southeast corner of a certain Second Tract (called 3.18 acres) described in a deed to Willard Neely, and recorded in Volume 956, Page 727;

THENCE North 00 degrees 34 minutes 33 seconds West, for a distance of 771.04 feet, continuing with the West boundary line of said 144.29 acre tract, with the West boundary line of said 50 acre tract, with the East boundary line of the above mentioned 3.18 acre tract, with the East boundary line of a certain First Tract (called 10 acres) described in the above mentioned Volume 956, Page 727, and with the East boundary line of a certain called 10 acre tract described in a deed to L. H. Smith et ux, and recorded in Volume 648, Page 793, to a 1/2" iron rod (set at fence corner) at the Northwest corner of said 50 acre tract, also being at the Northeast corner of said L. H. Smith 10 acre tract, also being at the Southeast corner of a certain called 38 acre tract described in a deed to Lotha Cowen England, and recorded in Volume 1121, Page 595, also being at the

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144.28 ACRES - PAGE 3 OF 3

THENCE South 00 degrees 33 minutes 30 seconds East, for a distance of 95.46 feet, continuing with the East boundary line of said 60 acre tract (as described in Volume 97, Page 194), with the East boundary line of said 144.29 acre tract, with the apparent East boundary line of said Section 26, with the West boundary line of said 18 acre tract, to a 1/2" iron rod (found in a concrete monument) at the most Northerly Southeast corner of said 144.29 acre tract, also being at the called Northeast corner of said 60 acre tract (as described in Volume 859, Page 19), and being at the most Northerly Northeast corner of the above mentioned 69.257 acre tract, from said 1/2" iron rod a 13" Black Jack (marked //x//) bears North 41 degrees East, 10.2 feet and a 13" Hickory (marked //x//) bears South 69 degrees West, 20.1 feet; ;

THENCE South 89 degrees 49 minutes 01 seconds West, for a distance of 1456.86 feet, to a 1/2" iron rod (set) at an interior ell corner of said 144.29 acre tract, also being at the called Northwest corner of said 60 acre tract (as described in Volume 859, Page 19), also being at the Northwest corner of said 69.257 acre tract, also being in the West boundary line of said 60 acre tract (as described in Volume 97, Page 194), and being in the East boundary line of said 50 acre tract;

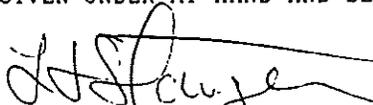
THENCE South 00 degrees 20 minutes 00 seconds East, for a distance of 1347.30 feet, with the West boundary line of said 60 acre tract (as described in Volume 97, Page 194) and with the East boundary line of said 50 acre tract, back to the place of beginning and containing 144.28 acres of land, of which approximately 0.04 of an acre is within the right-of-way of said Heath Lane.

Bearings are based on the monumented most Westerly South boundary line of the above mentioned 144.29 acre tract, as recorded in Volume 859, Page 19.

See Plat of Survey prepared even date.

I, L. J. Stanger, Registered Professional Land Surveyor, do hereby certify that the above description was prepared from an actual survey made on the ground during the month of July, 1994.

GIVEN UNDER MY HAND AND SEAL, this the 6th day of April, 1995.


L. J. Stanger
Registered Professional
Land Surveyor No. 2111

FN95084.doc



14 PROPERTY OWNER AFFIDAVIT

The property owner affidavit from City of Jacksonville with attached legal description is included on the following pages.

*This section
addresses
§ 330.59(d)(2).*

STATE OF TEXAS §
COUNTY OF CHEROKEE §

PROPERTY OWNER'S AFFIDAVIT

On this day, James Hubbard, appeared before me, the undersigned notary public, and after I administered an oath to him, upon his oath he said:

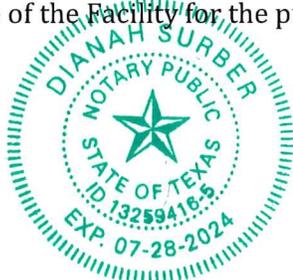
"My name is James Hubbard. I am the City Manager of City of Jacksonville, and I am authorized to make the following statements on behalf of City of Jacksonville."

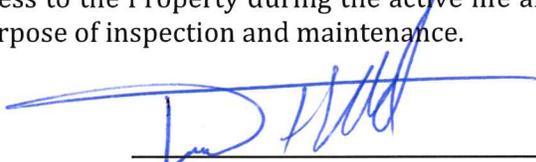
City of Jacksonville is the owner of certain real property in Cherokee County, Texas, including the tract(s) described in Exhibit A attached hereto ("the Property"), which City of Jacksonville is requesting be included within the permitted area of its Royal Oaks Landfill municipal solid waste landfill facility ("the Facility"), pursuant to amendment of Texas Commission on Environmental Quality Permit No. MSW-1614B.

City of Jacksonville hereby acknowledges that the State of Texas may hold the property owner of record either jointly or severally responsible for the operation, maintenance, and closure and post-closure care of the Facility on the Property.

City of Jacksonville hereby acknowledges that the owner of the Property has the responsibility to file in the deed records of Cherokee County an affidavit to the public advising that the Property 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 on the Property, and to file a final recording upon completion of disposal operations and closure of the landfill units on the Property in accordance with 30 TAC §330.19.

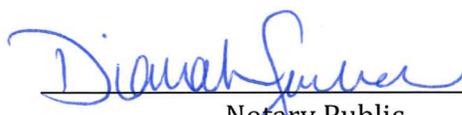
City of Jacksonville hereby acknowledges that the Facility owner or operator and the State of Texas shall have access to the Property during the active life and post-closure care of the Facility for the purpose of inspection and maintenance.





James Hubbard
City Manager
City of Jacksonville

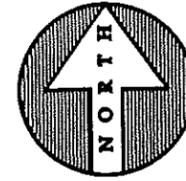
SWORN TO AND SUBSCRIBED before me by James Hubbard on the 20th
day of May 20, 2024.



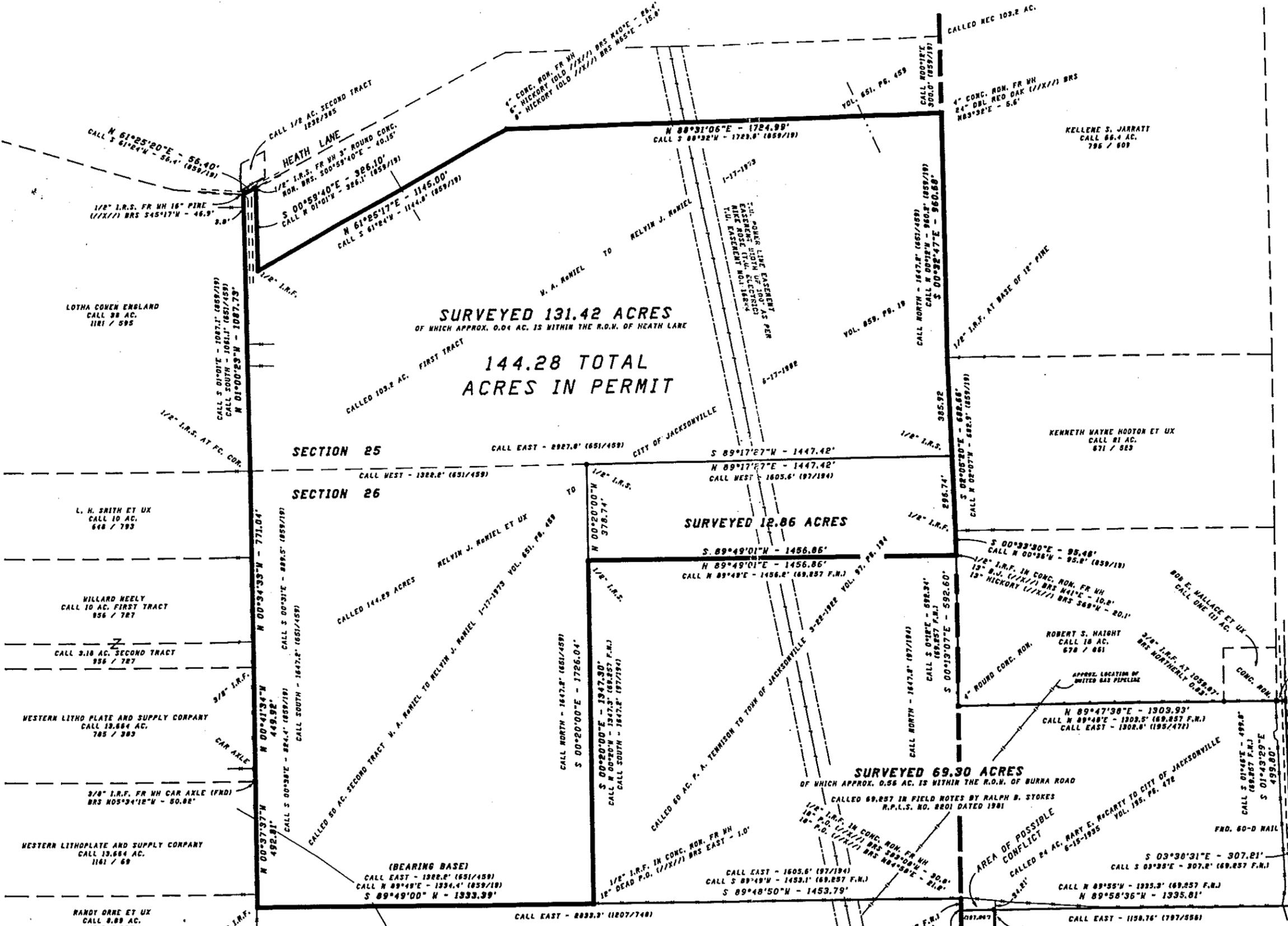
Notary Public

THOMAS QUEVADO THREE LEAGUE GRANT, ABSTRACT 44

JOSE PINEDA EAST FOUR LEAGUE GRANT, ABSTRACT 41



STANGER
SURVEYING COMPANY
2440 East Fifth Street, Suite 100
Tyler, Texas 75701
(800) 535-8285



PLAT OF SURVEY
SHOWING PARTS OF THE
THOMAS QUEVADO THREE LEAGUE GRANT, ABSTRACT 44
JOSE PINEDA EAST FOUR LEAGUE GRANT, ABSTRACT 41
CHEROKEE COUNTY, TEXAS

I, L. J. Stanger, Registered Professional Land Surveyor, do hereby certify this plat to reflect an actual survey made on the ground under my supervision during the month of July, 1994.
GIVEN UNDER MY HAND AND SEAL, this the 11th day of July, 1994.
L. J. Stanger
Registered Professional Land Surveyor State of Texas No. 2111



BOOK 15, PAGE 7
BOOK 41, PAGE 1
BOOK 74, PAGE 45
DRAWN BY: EJK CHECKED BY: LJS
REVISED: 4-6-1995
SCALE IN FEET
400 0 400
FILE: 85084.GCD JOB NO. 85084

STANGER

SURVEYING COMPANY

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Tyler, Texas 75701
(903) 535-8295

144.28 ACRES - PAGE 2 OF 3

Southwest corner of a certain First Tract (called 103.2 acres) described in the above mentioned Volume 651, Page 459, and being in the division line between the North boundary line of the above mentioned Section 26 and the South boundary line of the above mentioned Section 25, Thomas Quevado Grant;

THENCE North 01 degrees 00 minutes 23 seconds West, for a distance of 1087.73 feet, continuing with the West boundary line of said 144.29 acre tract, with the West boundary line of the above mentioned 103.2 acre tract, with the East boundary line of the above mentioned 38 acre tract, to a 1/2" iron rod (set) at the Northwest corner of said 144.29 acre tract, also being at the Northwest corner of said 103.2 acre tract, also being at the Northeast corner of said 38 acre tract, and being in or near the center of Heath Lane, from said 1/2" iron rod a 16" Pine (marked //x//) bears South 45 degrees 17 minutes West, 46.9 feet;

THENCE North 61 degrees 25 minutes 20 seconds East, for a distance of 56.40 feet, with the most Westerly North boundary line of said 144.29 acre tract, with the North boundary line of said 103.2 acre tract and along or near the center of the above mentioned Heath Lane, to a 1/2" iron rod (set) at the most Westerly Northeast corner of said 144.29 acre tract, from which a 3" round concrete monument bears South 00 degrees 59 minutes 40 seconds East, 40.15 feet;

THENCE South 00 degrees 59 minutes 40 seconds East, for a distance of 326.10 feet, to a 1/2" iron rod (found) at an interior corner of said 144.29 acre tract;

THENCE North 61 degrees 25 minutes 17 seconds East, for a distance of 1145.00 feet, to a 4" concrete monument (found) at an angle break in the North boundary line of said 144.29 acre tract, from which a 6" Hickory (old //x//) bears North 40 degrees East, 26.4 feet and an 8" Hickory (old //x//) bears North 65 degrees East, 15.8 feet;

THENCE North 88 degrees 31 minutes 06 seconds East, for a distance of 1724.99 feet, to a 4" concrete monument (found) at the Northeast corner of said 144.29 acre tract, also being in the East boundary line of said 103.2 acre tract, also being in the East boundary line of said Section 25, Thomas Quevado Grant, and being in the West boundary line of a certain called 66.4 acre tract described in a deed to Kellene S. Jarratt, and recorded in Volume 796, Page 609, from said 4" concrete monument a 24" double Red Oak (marked //x//) bears North 83 degrees 32 minutes East, 5.6 feet and the called Northeast corner of said 103.2 acre tract bears a called North 00 degrees 12 minutes East, 300.0 feet;

THENCE South 00 degrees 32 minutes 47 seconds East, for a distance of 960.68 feet, with the most Northerly East boundary line of said 144.29 acre tract, with the East boundary line of said 103.2 acre tract, with the East boundary line of said Section 25 and with the West boundary line of the above mentioned 66.4 acre tract, to a 1/2" iron rod (found at the base of a 12" Pine) at the Southwest corner of said 66.4 acre tract, also being at the Northwest corner of a certain called 21 acre tract described in a deed to Kenneth Wayne Hooten et ux, and recorded in Volume 671, Page 523;

THENCE South 02 degrees 05 minutes 20 seconds East, continuing with the most Northerly East boundary line of said 144.29 acre tract, with the East boundary line of said 103.2 acre tract, with the East boundary line of said Section 25 and with the West boundary line of the above mentioned 21 acre tract, at 385.92 feet pass a 1/2" iron rod (set) at the Southeast corner of said 103.2 acre tract, also being at the apparent Southeast corner of said Section 25, also being at the apparent Northeast corner of said Section 26, and being at the Northeast corner of the above mentioned 60 acre tract (as described in Volume 97, Page 194), continue a total distance of 682.66 feet to a 1/2" iron rod (found) at the Southwest corner of said 21 acre tract, also being at the Northwest corner of a certain called 18 acre tract described in a deed to Robert S. Haight, and recorded in Volume 678, Page 861;

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THOMAS QUEVADO THREE LEAGUE GRANT, ABSTRACT 44
SECTION 25 AND 26
CHEROKEE COUNTY, TEXAS
95084 74/46

METES AND BOUNDS DESCRIPTION FOR 144.28 ACRES OF LAND

BEING 144.28 acres of land situated in the Thomas Quevado Three League Grant, Abstract 44, Section 25 and 26, Cherokee County, Texas, and being all of that certain called 144.29 acre tract described in a deed from Melvin J. McNeil et ux to the City of Jacksonville, dated June 17, 1982, and recorded in Volume 859, Page 19 of the Deed Records of Cherokee County, Texas, said 144.28 acres to be more particularly described by metes and bounds as follows:

BEGINNING at a 1/2" iron rod (found in a concrete monument) at the most Southerly Southeast corner of the above mentioned 144.29 acre tract, also being at the Southeast corner of a certain Second Tract (called 50 acres) described in a deed to Melvin J. McNeil, and recorded in Volume 651, Page 459, also being at the Southwest corner of a certain called 60 acre tract described in a deed to the Town of Jacksonville, and recorded in Volume 97, Page 194, also being at the most Westerly Southwest corner of a certain called 69.257 acre tract described in a set of Field Notes by Ralph B. Stokes, R.P.L.S. No. 2201, dated 1981, and being in the North boundary line of a certain called 52 acre tract described in a deed to Troy Allen, and recorded in Volume 1207, Page 748;

THENCE South 89 degrees 49 minutes 00 seconds West, for a distance of 1333.39 feet, with the North boundary line of the above mentioned 52 acre tract, to a 1/2" iron rod (found) at the Southwest corner of said 144.29 acre tract, also being at the Southwest corner of the above mentioned 50 acre tract, also being at the Northwest corner of said 52 acre tract, and being in the East boundary line of a certain called 8.89 acre tract described in a deed to Randy Orme et ux, and recorded in Volume 1018, Page 365;

THENCE North 00 degrees 37 minutes 37 seconds West, for a distance of 492.81 feet, with the West boundary line of said 144.29 acre tract, with the West boundary line of said 50 acre tract, with the East boundary line of the above mentioned 8.89 acre tract and with the East boundary line of a certain called 13.664 acre tract described in a deed to Western Lithoplate and Supply Company, and recorded in Volume 1161, Page 69, to a 3/8" iron rod (found) at the Northeast corner of said 13.664 acre tract, also being at the Southeast corner of another called 13.664 acre tract described in a deed to Western Litho Plate and Supply Company, and recorded in Volume 785, Page 383, from said 3/8" iron rod a car axle (found) bears North 05 degrees 34 minutes 12 seconds West, 50.82 feet;

THENCE North 00 degrees 41 minutes 34 seconds West, for a distance of 449.92 feet, continuing with the West boundary line of said 144.29 acre tract and with the West boundary line of said 50 acre tract, to a 3/8" iron rod (found) at the Northeast corner of the above second mentioned 13.664 acre tract, also being at the Southeast corner of a certain Second Tract (called 3.18 acres) described in a deed to Willard Neely, and recorded in Volume 956, Page 727;

THENCE North 00 degrees 34 minutes 33 seconds West, for a distance of 771.04 feet, continuing with the West boundary line of said 144.29 acre tract, with the West boundary line of said 50 acre tract, with the East boundary line of the above mentioned 3.18 acre tract, with the East boundary line of a certain First Tract (called 10 acres) described in the above mentioned Volume 956, Page 727, and with the East boundary line of a certain called 10 acre tract described in a deed to L. H. Smith et ux, and recorded in Volume 648, Page 793, to a 1/2" iron rod (set at fence corner) at the Northwest corner of said 50 acre tract, also being at the Northeast corner of said L. H. Smith 10 acre tract, also being at the Southeast corner of a certain called 38 acre tract described in a deed to Lotha Cowen England, and recorded in Volume 1121, Page 595, also being at the

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144.28 ACRES - PAGE 3 OF 3

THENCE South 00 degrees 33 minutes 30 seconds East, for a distance of 95.46 feet, continuing with the East boundary line of said 60 acre tract (as described in Volume 97, Page 194), with the East boundary line of said 144.29 acre tract, with the apparent East boundary line of said Section 26, with the West boundary line of said 18 acre tract, to a 1/2" iron rod (found in a concrete monument) at the most Northerly Southeast corner of said 144.29 acre tract, also being at the called Northeast corner of said 60 acre tract (as described in Volume 859, Page 19), and being at the most Northerly Northeast corner of the above mentioned 69.257 acre tract, from said 1/2" iron rod a 13" Black Jack (marked //x//) bears North 41 degrees East, 10.2 feet and a 13" Hickory (marked //x//) bears South 69 degrees West, 20.1 feet; ;

THENCE South 89 degrees 49 minutes 01 seconds West, for a distance of 1456.86 feet, to a 1/2" iron rod (set) at an interior ell corner of said 144.29 acre tract, also being at the called Northwest corner of said 60 acre tract (as described in Volume 859, Page 19), also being at the Northwest corner of said 69.257 acre tract, also being in the West boundary line of said 60 acre tract (as described in Volume 97, Page 194), and being in the East boundary line of said 50 acre tract;

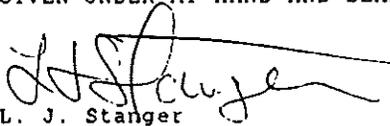
THENCE South 00 degrees 20 minutes 00 seconds East, for a distance of 1347.30 feet, with the West boundary line of said 60 acre tract (as described in Volume 97, Page 194) and with the East boundary line of said 50 acre tract, back to the place of beginning and containing 144.28 acres of land, of which approximately 0.04 of an acre is within the right-of-way of said Heath Lane.

Bearings are based on the monumented most Westerly South boundary line of the above mentioned 144.29 acre tract, as recorded in Volume 859, Page 19.

See Plat of Survey prepared even date.

I, L. J. Stanger, Registered Professional Land Surveyor, do hereby certify that the above description was prepared from an actual survey made on the ground during the month of July, 1994.

GIVEN UNDER MY HAND AND SEAL, this the 6th day of April, 1995.

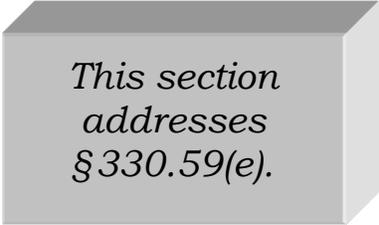

L. J. Stanger
Registered Professional
Land Surveyor No. 2111

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15 LEGAL AUTHORITY

The certificates provided on the following pages document the legal status of the applicant.



*This section
addresses
§330.59(e).*



Office of the Secretary of State

The undersigned, as Secretary of State of Texas, does hereby certify that the attached is a true and correct copy of each document on file in this office as described below:

Pine Hill Farms Landfill TX, LP
Filing Number: 10372711

Amended Registration of Limited Partnership

November 08, 2006

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on December 29, 2023.



A handwritten signature in black ink that reads "Jane Nelson".

Jane Nelson
Secretary of State

**Form 406
(Revised 02/06)**

Return in duplicate to:
Secretary of State
P.O. Box 13697
Austin, TX 78711-3697
512 463-5555
FAX: 512/463-5709
Filing Fee: See instructions



Amendment to Registration

This space reserved for office use.

FILED
In the Office of the
Secretary of State of Texas

NOV 08 2006

Corporations Section

Entity Information

The legal name of the filing entity is:

Pine Hill Farms Landfill TX, LP

State the name of the entity as currently shown in the records of the secretary of state.

If the entity attained its registration under an assumed name, the qualifying assumed name as shown on the records of the secretary of state is:

The application for registration was issued to the entity on: 12/12/1997

mm/dd/yyyy

The file number issued to the filing entity by the secretary of state is: 0010372711

Amendments to Application

A. The application for registration is amended to change the legal name of the entity as amended in the entity's jurisdiction of formation. The new name is:

The entity was registered with the secretary of state before January 1, 2006, and has not elected early adoption of the BOC and in accordance with the law applicable to the entity has attached a certificate from the proper filing office in the jurisdiction of formation evidencing the name change.

The entity was registered with the secretary of state on or after January 1, 2006, or has filed an early adoption statement with the secretary of state and is not required to attach a certificate evidencing the name change in the jurisdiction of formation.

B. The new name of the entity is not available for use in Texas or fails to include an appropriate organizational designation. Or, the entity wishes to amend the qualifying assumed name stated on its registration or amended registration. The assumed name the entity elects to adopt for purposes of maintaining its registration is:

C. The application for registration is amended to change the business or activity stated in its application for registration. The business or activity that the entity proposes to pursue in this state is:

The entity is authorized to pursue the same business or activity under the laws of the entity's jurisdiction of formation.

Other Changes to the Application for Registration

The foreign filing entity desires to amend its application for registration to make changes other than or in addition to those stated above. Statements contained in the original application or any amended application are identified by number or description and changed to read as follows:

The new principal business address is: 18500 North Allied Way, Phoenix, Arizona 85054

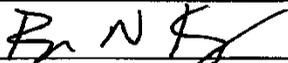
Effectiveness of Filing (see instructions)

- A. This document becomes effective when the document is filed by the secretary of state.
- B. This document becomes effective at a later date, which is not more than ninety (90) days from the date of signing. The delayed effective date is: November 13, 2006
- C. This document takes effect upon the occurrence of a future event or fact, other than the passage of time. The 90th day after the date of signing is: _____
- The following event or fact will cause the document to take effect in the manner described below:
- _____
- _____

Declaration

The undersigned signs this document subject to the penalties imposed by law for the submission of a materially false or fraudulent instrument.

Date: 11/6/06


Ryan N. Kenigsberg, Attorney-In-Fact
Signature and title of authorized person(s) (see instructions)

16 EVIDENCE OF COMPETENCY

16.1 Solid Waste Sites

The Royal Oaks Landfill is owned and operated by Pine Hill Farms Landfill TX, LP. Pine Hill Farms Landfill TX, LP is an indirect, wholly-owned subsidiary of Republic Services (Republic). Republic has owned or operated the sites in Texas listed in Table 16-1 within the last ten (10) years. Republic has a direct financial interest in the sites outside of Texas listed in Table 16-2. A listing of the state regulatory agencies for these landfills is provided in Table 16-3. Republic acquires, operates, and develops nonhazardous waste disposal facilities on a national basis and is one of the largest providers of municipal waste services in the United States. Republic shares are publicly traded on the New York stock exchange.

*This section
addresses
§ 330.59(f).*

16.2 Royal Oaks Landfill Key Personnel

The key personnel involved in the management and operations of the Royal Oaks Landfill are listed below.

Yasser Brenes, Area President

Mr. Brenes is responsible for all hauling, transfer stations, and landfill operations in the Texas area. Responsibilities include financial planning and environmental compliance, as well as other management responsibilities. Also, he oversees operations; sales and marketing; and finance for Republic's landfills, transfer stations, recycling, and waste collection operations.

Scott A. Trebus, Area Environmental Manager

Mr. Trebus is responsible for the engineering management, regulatory coordination, and environmental compliance of Republic's landfills, transfer stations, and hauling facilities in Texas.

Bill Firestone, General Manager

Mr. Firestone is responsible for operations of the Royal Oaks Landfill and other hauling and landfill facilities in the east Texas area. Generally, Mr. Firestone responsibilities include management of all operational aspects of these facilities, such as engineering, construction, environmental compliance, equipment

maintenance, operational strategy, safety programs, financial planning and budgeting. Additionally, Mr. Firestone plays a key role in securing new permits and permit expansions, and he assists with community relations, as well as customer development.

Austin Sparks, Environmental Manager

Mr. Sparks has management and oversight responsibilities for environmental compliance at Republic's landfills, transfer stations, and hauling facilities in north and east Texas. Mr. Sparks has primary responsibility for permitting and environmental compliance at the Royal Oaks Landfill.

Duane Weatherford, Site Manager

Mr. Weatherford is responsible for the daily operations of the Royal Oaks Landfill. His responsibilities include oversight of hourly employees, equipment maintenance, construction management, and operations compliance. Mr. Weatherford has a Texas Class A license for MSW Landfill Management and Operations.

16.3 Equipment

The equipment listed in Part IV, Site Operating Plan – Table 3.1 is used to operate this site. Additional or different units of equipment may be provided as necessary to enhance operational efficiency. Other equivalent types of equipment may be substituted for this equipment on an as-needed basis.

Table 16-1
List of Republic Services Texas Solid Waste Facilities
Owned or Operated Last Ten Years
(as of March 2024)

Name & Location	Permit Type & No.	Dates of Operation ¹
NORTH TEXAS AREA		
Southwest Landfill Randall County	Type 1, MSW No. 1663C	1985 to present
Abilene Regional Landfill Jones County	Type 1, MSW No. 1469A	1983 to present
Brazos Transfer Station Parker County	Type 5TS, MSW No. 2356	April 7, 2008, to present
Camelot Landfill Denton County	Type 1, MSW No. 1312B	Dec. 1979 to present
Charter Waste Landfill Ector County	Type 1, MSW No. 2158A	May 26, 1992, to present
Royal Oaks Landfill Cherokee County	Type 1, MSW No. 1614A	March 14, 1978, to present
City of Fort Worth Southeast Landfill Tarrant County	Type 1, MSW No. 218C	1976 to present
CSC Landfill Ellis County	Type 1, MSW No. 1209B	July 15, 1999, to present
ECD Landfill Ellis County	Type 1, MSW No. 1745B	1988 to present
Fort Worth Regional Landfill Tarrant County	Type 1, MSW No. 464A	Mar. 1987 to Oct. 1995 (CLOSED)
Fort Worth Transfer Station Tarrant County	Type V, MSW No. 2275	2001 to present
Greenwood Farms Landfill Smith County	Type 1, MSW No. 1972A	Sept. 1988 to present
Hutchins Landfill Dallas County	Type 1, MSW No. 1236A	CLOSED in 1992
Itasca Landfill Hill County	Type 1, MSW No. 241D	1988 to present
Lewisville Landfill Denton County	Type 1V, MSW No. 1749B	1986 to present
Maloy Landfill Hunt County	Type 1, MSW No. 1614A	January 23, 1979, to present
Mexia Landfill Limestone County	Type 1, MSW No. 1558A	1983 to present
Mill Creek Landfill Tarrant County	Type 1, MSW No. 208A	1973 to Nov. 2001 (CLOSED)

Table 16-1
List of Republic Services Texas Solid Waste Facilities
Owned or Operated Last Ten Years
(as of March 2024)

Name & Location	Permit Type & No.	Dates of Operation ¹
NORTH TEXAS AREA (Continued)		
Pinehill Landfill Gregg County	Type 1, MSW No. 1327B	Dec. 1987 to present
Pleasant Oaks Landfill Titus County	Type 1, MSW No. 797A	1960 to present
Quail Canyon Landfill Lubbock County	Type 1, MSW No. 987A	1977 to 1992 (CLOSED)
Royal Oaks Landfill Cherokee County	Type 1, MSW No. 1614A	Dec. 1988 to present
Trinity Oaks Landfill Dallas County	Type 1, MSW No. 556	1976 to Nov. 2002 (CLOSED)
SOUTH TEXAS AREA		
BFI Burnet TS Burnet County	Registration No. 40035	Aug. 17, 1994 to present
BFI Sealy TS Austin County	Registration No. 40025	April 19, 1995 to present
BFI Corpus Christi Recyclery Nueces County	Registration No. 65019	July 31, 2002 to present
BFI Galveston County TS Galveston County	Registration No. 1680	Oct. 4, 1989 to present
Blue Ridge Landfill Fort Bend County	Type 1, MSW No. 1505A	Dec. 10, 1990, to present
Cefe Valenzuela Landfill Nueces County	Type 1, MSW No. 2269	July 22, 2005 to present
City of El Campo CCS Wharton County	Type 5CC, MSW No. 120025	March 17, 2009, to present
El Centro Landfill Nueces County	Type 1, MSW No. 2267	2003 to present
Galveston County Landfill Galveston County	Type 1, MSW No. 1149B	January 14, 1971, to present
Golden Triangle Landfill Jefferson County	Type 1, MSW No. 2027	May 24, 1991, to present
Gulf West Landfill Chambers County	Type 1, MSW No. 39039	March 1991 to present
Hardin County Landfill Hardin County	Type 1, MSW No. 2214A	September 2017 to the present
Holmes Road Landfill Harris County	Type 1, MSW No. 38 (N ½) & MSW No. 377 (S ½)	CLOSED in 1978
Houston Northwest TS Harris County	Type 5TS, MSW No. 1092	Jan. 12, 1999 to present
Houston Southeast TS Harris County	Type 5TS, MSW No. 1074	December 22, 1983, to present
Houston Southwest TS Harris County	Type 5TS, MSW No. 1091	November 23, 1977, to present

Table 16-1
List of Republic Services Texas Solid Waste Facilities
Owned or Operated Last Ten Years
(as of March 2024)

Name & Location	Permit Type & No.	Dates of Operation ¹
SOUTH TEXAS AREA (Continued)		
Kerrville Landfill Kerr County	Type 1, MSW No. 1506A	1984 to present
La Feria TS Cameron County	Type 5TS, MSW No. 2375	November 9, 2011, to present
La Gloria Ranch Landfill Hidalgo County	Type 1, MSW No. 2348	May 24, 2007, to present
La Porte LF Harris County	Type 1, MSW No. 1765	Closed in 1988
McCarty Road Landfill Harris County	Type 1, MSW No. 261B	1972 to present
North County Landfill Galveston County	Type 4, MSW No. 1849B	April 24, 1998, to present
Pinn Road 1 Landfill Bexar County	Type 1 and IV, MSW No. 92	Type 1: 1975 to April 1986; revised to Type 1V to Sept. 1991 (CLOSED)
Pinn Road 2 Landfill Bexar County	Type 1, MSW No. 14	Jul. 1975 to 1994 (CLOSED)
Port Arthur Landfill Jefferson County	Type 1, MSW No. 1815	CLOSED in 1985
Rio Grande Valley Landfill Hidalgo County	Type 1, MSW No. 1948A	Jan. 19, 1994, to 2017 (CLOSED)
Sinton Landfill San Patricio County	Type 1, MSW No. 242A	Sept. 8, 1972, to 2003 (CLOSED)
Sunset Farms Landfill Travis County	Type 1, MSW No. 1447	May 17, 1982, to 2017 (CLOSED)
Tessman Road Landfill Bexar County	Type 1, MSW No. 1410B	1981 to present
Total Roll-Offs TS Washington County	Registration No. 40173	Sept. 4, 2001 to present
Victoria Landfill Victoria County	Type 1, MSW No. 1522A	Nov. 15, 1982, to present
Whispering Pines Landfill Harris County	Type 1, MSW No. 1193	Jan. 1, 1984, to present

¹This list includes the approximate dates of operation of the facility. This includes the previous owner/operators of certain facilities prior to the facility being acquired by Republic Services, Inc., or its subsidiaries.

Table 16-2
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
Mobile TS	Mobile	AL	TS	June 1980 to Present
Marshall County TS	Albertville	AL	TS	March 1999 to Present
Andalusia TS	Andalusia	AL	TS	April 2000 to Present
BFI Waste Services of Anniston / Albertville TS	Albertville	AL	TS	June 2003 to Present
Little Creek TS	Guin	AL	TS	December 1999 to Present
BFI Waste Services of Greenville	Greenville	AL	TS	December 1993 to Present
BFI Huntsville MRF	Huntsville	AL	MRF	December 1975 to Present
Prattville C&D Landfill	Prattville	AL	LF	November 2004 to Present
Prattville Transfer Station	Prattville	AL	TS	December 1999 to Present
BFI Athens TS	Athens	AL	TS	December 1999 to Present
BFI Selma TS	Selma	AL	TS	May 1995 to Present
Brundidge LF	Brundidge	AL	LF	May 2000 to Present
Chilton Landfill	Clanton	AL	CLF	Closed
Sand Valley LF	Collinsville	AL	LF	May 2000 to Present
Greenville TS	Greenville	AL	TS	December 1993 to Present
Morris Farms LF	Hillsboro	AL	LF	June 1996 to Present
Pineview LF	Dora	AL	LF	March 1993 to Present
Talledaga TS	Lincoln	AL	TS	December 1999 to Present
Timberlands LF	Brewton	AL	LF	August 1993 to Present
Willow Ridge LF	Haleyville	AL	LF	May 2000 to Present
Bella Vista Hauling & TS	Bella Vista	AR	TS	August 1996 to Present
Model Fill LF	Little Rock	AR	LF	February 1991 to Present
7th Street TS	Phoenix	AZ	TS	*
7th Street MRF	Phoenix	AZ	MRF	*
Central Arizona Transfer	Queen Creek	AZ	TS	December 1999 to Present
Cave Creek Transfer Station	Phoenix	AZ	TS	December 1999 to Present
Aztec Waste	Phoenix	AZ	TS	December 1999 to Present
Apache Junction LF	Apache Junction	AZ	LF	October 1993 to Present
Cactus Landfill	Eloy	AZ	LF	December 2004 to Present
Chandler LF Services	Chandler	AZ	LF	August 1982 to Present
Cocopah Landfill	Somerton	AZ	CLF	Closed
Copper Mountain LF	Wellton	AZ	LF	June 2000 to Present
La Paz County LF	Parker	AZ	LF	November 1993 to Present
Lake Havasu LF Services	Lake Havasu	AZ	LF	May 1997 to Present
Mesa TS	Queen Creek	AZ	TS	*
Mohave Valley LF	Fort Mohave	AZ	LF	October 1996 to Present
Paradise Waste TS	Phoenix	AZ	TS	January 1998 to Present
Allied Waste Transfer Services of Page	Page	AZ	TS	April 1997 to Present
Queen Creek LF	Queen Creek	AZ	CLF	Closed
Southwest Regional LF	Buckeye	AZ	LF	December 1994 to Present
Suburban Transfer	Yuma	AZ	TS	April 2000 to Present
Seagull Sanitation Systems	Avalon	CA	LF	April 2001 to Present
West Contra Costa Sanitary Landfill (WCCSL)	Richmond	CA	LF	Closed
Barrett Junction Burn Site	Dulzura	CA	LF	July 2000 to Present
Boulevard Burn Site	Boulevard	CA	LF	*
Campo Burn Site	Campo	CA	LF	July 2000 to Present
ECDC LF Group - Northwest	San Francisco	CA	LF	*
ECDC LF Group - Southwest	Newport Beach	CA	LF	*
Julian Burn Site	Julian	CA	LF	Closed
Palomar Mountain Burn Site	Palomar Mountain	CA	LF	Closed
Ranchita Burn Site	Ranchita	CA	LF	August 1998 to Present
Viejas Burn Site	Alpine	CA	LF	Closed
Independent Trucking	Stockton	CA	TS	*

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
American Waste TS	San Carlos	CA	TS	April 1998 to Present
Bel-Art TS	Gardena	CA	TS	May 1995 to Present
Del Norte Regional Recycling and Transfer Station	Oxnard	CA	TS	June 1999 to Present
LA Consolidated East LA Transfer Station	Los Angeles	CA	TS	*
West County Resource Recovery	Richmond	CA	TS	*
Vallecito TS	Julian	CA	TS	December 1999 to Present
Sunshine Summit TS	Warner Springs	CA	TS	December 1999 to Present
Ocotillo Wells TS	Borrego Springs	CA	TS	December 1999 to Present
French Camp LF	Stockton	CA	CLF	Closed
Central LA Recycling and Transfer Station	Los Angeles	CA	TS	December 1999 to Present
Azusa Land Reclamation	Azusa	CA	CLF	Closed
Vasco Road LF	Livermore	CA	LF	December 1999 to Present
BFI Compton TS	Compton	CA	TS	September 1989 to Present
BFI Falcon TS	Wilmington	CA	TS	July 1997 to Present
BFI Mussel Rock TS	Daly City	CA	TS	January 1995 to Present
BFI Pescadero TS	Pescadero	CA	TS	December 1996 to Present
BFI Rice Road MRF	Fresno	CA	MRF	February 1990 to Present
BFI Rice Road TS	Fresno	CA	TS	February 1990 to Present
BFI San Carlos TS	San Carlos	CA	TS	June 1968 to Present
Allied Waste Transfer of San Mateo County	San Carlos	CA	TS	June 1968 to Present
Borrego Springs LF	Borrego Springs	CA	LF	October 1997 to Present
Chateau Fresno LF	Fresno	CA	CLF	Closed
Chestnut Avenue LF	Fresno	CA	CLF	Closed
Contra Costa Transfer	Martinez	CA	TS	March 1994 to Present
Devlin Road TS & Recycling Facility	American Canyon	CA	TS	February 1994 to Present
Elder Creek Recovery and Trash Station	Sacramento	CA	TS	May 2000 to Present
Elder Creek Recovery and Trash Station	Sacramento	CA	MRF	May 2000 to Present
Forward LF	Manteca	CA	LF	March 1973 to Present
Allied Imperial LF	Imperial	CA	LF	April 2000 to Present
Keller Canyon LF	Pittsburgh	CA	LF	September 1991 to Present
Newby Island LF	Milpitas	CA	LF	August 1987 to Present
Otay LF	Chula Vista	CA	LF	October 1997 to Present
Ox Mountain LF	Half Moon Bay	CA	LF	June 1987 to Present
Palomar TS	Carlsbad	CA	TS	November 1997 to Present
Ramona LF	Ramona	CA	LF	October 1997 to Present
Ranchita TS	Ranchita	CA	TS	Closed
Allied Waste Recyclery of San Mateo County	San Carlos	CA	MRF	October 1991 to Present
Sunshine Canyon LF	Sylmar	CA	LF	March 1955 to Present
Sycamore Canyon LF	Santee	CA	CLF	Closed
The Recyclery at Newby Island	Milpitas	CA	MRF	August 1987 to Present
Valley Environmental MRF	El Centro	CA	MRF	June 2000 to Present
BFI Glenwood Springs TS	Glenwood Springs	CO	TS	December 1999 to Present
Washington Street TS	Denver	CO	TS	December 1999 to Present
BFI Glenwood Springs TS	Glenwood Springs	CO	TS	December 1991 to Present
Greeley TS	Greeley	CO	TS	November 1995 to Present
Boulder LF	Boulder	CO	CLF	Closed
Basalt TS	Basalt	CO	TS	January 1999 to Present
Denver Regional LF North	Erie	CO	CLF	Closed
Foothills LF	Golden	CO	LF	September 1992 to Present
Grand Junction Recyclery	Grand Junction	CO	MRF	February 1982 to Present
Jeffco 1 LF		CO	CLF	Closed
Tower LF	Commerce City	CO	LF	November 1982 to Present
ADS of Connecticut - Stratford	Stratford	CT	TS	December 1999 to Present

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
PM Services Transfer	Hartford	CT	TS	December 1999 to Present
Capitol Recycling & Brokerage	Hartford	CT	MRF	November 1990 to Present
BFI Consolidated TS	WASHINGTON	DC	TS	
BFI Waste Services of Washington (Consolidated TS)	Washington	DC	TS	September 1994 to Present
545 Landfill	Winter Garden	FL	LF	*
Cedar Trail Landfill	Bartow	FL	LF	*
Nine Mile Road	St. Augustine	FL	LF	*
Metro Recycling	Tampa	FL	TS	*
Envirocycle	Ft. Lauderdale	FL	MRF	*
Rocket Blvd Material Recovery Facility	Orlando	FL	MRF	*
Southland Recycling Services	Jacksonville	FL	MRF	*
Buckeye Landfill (CLOSED TO PUBLIC)	Perry	FL	LF	December 1999 to Present
BFI Sarasota TS	Sarasota	FL	TS	December 1999 to Present
Delta Lakefill	Pompano Beach	FL	LF	December 1999 to Present
Key West Recyclery	Key West	FL	MRF	December 1999 to Present
Miami Beach TS	Miami Beach	FL	TS	December 1999 to Present
Pensacola TS	Pensacola	FL	TS	December 1999 to Present
Royal Oaks Ranch C&D LF	Titusville	FL	CLF	Closed
Tall Pines Recycling	W Palm Beach	FL	MRF	December 1999 to Present
BFI Pasco Recyclery	New Port Richey	FL	MRF	Closed
Pensacola TS	Pensacola	FL	TS	January 1990 to Present
BFI Pensacola Recyclery	Pensacola	FL	MRF	January 1990 to Present
BFI Tampa Bay Recyclery	Clearwater	FL	MRF	December 1986 to Present
Cone Road LF C&D	Tampa	FL	LF	March 1991 to Present
Delta Dade TS	Miami	FL	TS	December 1998 to Present
Ft. Lauderdale MRF	Davie	FL	MRF	December 1991 to Present
Ft. Walton TS	Ft. Walton Beach	FL	TS	April 2002 to Present
Jacksonville MRF	Jacksonville	FL	MRF	October 1978 to Present
Jones Road LF (C&D)	Jacksonville	FL	LF	October 1989 to Present
McKay Bay TS	Tampa	FL	TS	December 2001 to Present
Miami MRF	Miami	FL	MRF	March 1990 to Present
Miami TS	Miami	FL	TS	March 1990 to Present
Nassau LF (C&D)	Callahan	FL	LF	August 2002 to Present
BFI Sarasota Recyclery	Sarasota	FL	MRF	September 1990 to Present
Broadhurst Environmental	Screven	GA	LF	*
Highway 78 C&D Landfill	Monroe	GA	LF	*
Oak Grove LF	Winder	GA	LF	*
Pine Ridge Recycling	Griffin	GA	LF	*
Savannah Regional Landfill	Port Wentworth	GA	LF	*
Speedway LF	Winder	GA	LF	*
Swift Creek Environmental	Macon	GA	LF	*
Evans Co, Transfer Station	Claxton	GA	TS	*
Lee Transfer Station	Austell	GA	TS	*
Mauldin Drive Transfer Station	Alpharetta	GA	TS	*
Newnan Transfer Station	Winder	GA	TS	*
BFI Fayette County TS	Fayetteville	GA	TS	December 1999 to Present
Inland Paper & Packaging LF	Rome	GA	LF	October 2001 to Present
NORTH GEORGIA TRANSFER STATION	Rome	GA	TS	December 1999 to Present
SSES Newnan	Newman	GA	TS	December 1999 to Present
Tifton TS	Tifton	GA	TS	December 1999 to Present
BFI East Point TS	E. Point	GA	TS	January 1996 to Present
BFI Marble Mill TS	Marietta	GA	TS	August 1991 to Present
BFI Smyrna TS	Smyrna	GA	TS	January 1991 to Present

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
BFI Waste Services of Atlanta/Smyrna TS	Smyrna	GA	TS	January 1991 to Present
East DeKalb LF (C&D)	Lithonia	GA	LF	January 1992 to Present
Fayette County LF (C&D)	Fayetteville	GA	CLF	Closed
Gateway LF	Ringgold	GA	CLF	Closed
Golden Waste Disposal/Tifton TS	Tifton	GA	TS	June 1998 to Present
Hickory Ridge LF	Conley	GA	LF	September 1992 to Present
Richland Creek LF	Buford	GA	LF	November 1995 to Present
Roberts Road LF	Fayetteville	GA	CLF	Closed
Southern States TS	Thomaston	GA	TS	July 1996 to Present
Southern States TS	Columbus	GA	TS	December 1993 to Present
Taylor County LF	Mauk	GA	LF	September 1987 to Present
Watts Road LF	Atlanta	GA	CLF	Closed
Wayne County Regional Landfill	Screven	GA	LF	*
Delaware Transfer Station	Manchester	IA	TS	December 1999 to Present
Hawkeye TS	Clinton	IA	TS	December 1999 to Present
Dubuque MRF	Dubuque	IA	MRF	December 1995 to Present
Hawkeye Disposal	Clinton	IA	TS	July 1998 to Present
Hawkeye Disposal	Maquoketa	IA	TS	January 1999 to Present
Boise TS	Boise	ID	TS	December 1999 to Present
C.C. LF	Danville	IL	LF	*
Southern Illinois Regional Landfill	DeSoto	IL	LF	*
Suburban Warehouse	Riverdale	IL	LF	*
AWS - Northlake TS	Northlake	IL	TS	*
Marion TS	Marion	IL	TS	*
Sparta TS	Sparta	IL	TS	*
Alliance Waste Services - Rockford	Belleville	IL	TS	December 1999 to Present
Alliance Waste Services - Rockford MRF	Rockford	IL	MRF	December 1999 to Present
Bloomington TS	Bloomington	IL	TS	December 1999 to Present
Bond County Landfill	Greenville	IL	LF	October 2003 to Present
Dukane TS	W Chicago	IL	TS	December 1999 to Present
Evanston TS	Evanston	IL	TS	December 1999 to Present
Kankakee Quarry	Momence Township	IL	CLF	Closed
LandComp LF	Ottawa	IL	LF	November 2002 to Present
Litchfield-Hillsboro LF	Litchfield	IL	LF	November 1998 to Present
Loop Recycling #1	Chicago	IL	MRF	December 1999 to Present
Melrose Park Transfer Station	Melrose Park	IL	TS	December 1999 to Present
Palatine MRF	Palatine	IL	MRF	December 1999 to Present
Planet Resources	Chicago	IL	MRF	December 1999 to Present
Robbins Transfer Station	Robbins	IL	TS	December 1999 to Present
Rolling Meadows TS	Rolling Meadows	IL	TS	December 1999 to Present
Southern Illinois TS (Metropolis)	Metropolis	IL	TS	December 1999 to Present
Speelman TS	Chicago	IL	TS	December 1999 to Present
Spoon Ridge LF	Fairview	IL	LF	July 1999 to Present
Tri-State MRF	Northlake	IL	MRF	December 1999 to Present
Urbana TS	Urbana	IL	TS	December 1999 to Present
Zion LF - Site 1A	Zion	IL	LF	December 1999 to Present
Zion LF, Site 1 - Phase B	Zion	IL	CLF	Closed
Zion LF, Site 2 (Old)	Zion	IL	LF	December 1999 to Present
34th Street Sorting Center	Chicago	IL	MRF	February 2003 to Present
Bloomington TS	Bloomington	IL	TS	November 1997 to Present
Apollo TS	Momence	IL	TS	April 1996 to Present
Belleville LF	Belleville	IL	CLF	Closed
BFI Elk Grove Recyclery	Elk Grove Village	IL	MRF	February 1996 to Present

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
BFI Quad Cities LF - Phase 1/2	Milan	IL	CLF	Closed
BFI Quad Cities LF - Phase 3	Milan	IL	CLF	March 1983 to Present
Brickyard Disposal	Danville	IL	LF	November 1995 to Present
Brickyard Unit #1	Danville	IL	CLF	Closed
Calumet TS	Chicago	IL	TS	May 1997 to Present
Urbana TS	Urbana	IL	TS	February 1996 to Present
Citiwaste TS (C&D Only)	Joliet	IL	TS	March 1996 to Present
City of Paris TS	Paris	IL	TS	December 1998 to Present
Congress Development Company	Hillside	IL	LF	March 1974 to Present
D&L Disposal	Greenville	IL	TS	April 1996 to Present
Davis Junction LF	Davis Junction	IL	CLF	Closed
Dixon/GROP LF No. 2	Dixon	IL	CLF	Closed
Envirotech LF	Morris	IL	LF	December 1986 to Present
Envotech LF	Litchfield	IL	LF	April 1996 to Present
ERC / Coles County LF	Charleston	IL	LF	June 2000 to Present
Groen TS	Crestwood	IL	TS	June 1981 to Present
Herrin TS	Herrin	IL	TS	May 1994 to Present
Illini Recycling	Champaign	IL	MRF	April 1996 to Present
Illinois LF	Hoopeston	IL	LF	December 1991 to Present
Illinois Valley Recycling	Ottawa	IL	MRF	July 2000 to Present
Illinois Waste System LF	Milford	IL	CLF	Closed
Jersey Sanitation LF	Jerseyville	IL	CLF	Closed
K&H Disposal	Donovan	IL	CLF	Closed
Lee County LF	Dixon	IL	LF	October 1997 to Present
Livingston LF	Pontiac	IL	LF	August 2001 to Present
Loop Recycling (64th Street)	Chicago	IL	MRF	August 1998 to Present
Loop Recycling (Laflin Street)	Chicago	IL	MRF	September 1994 to Present
Loop Transfer (Laflin Street)	Chicago	IL	TS	August 1998 to Present
Loop Transfer (64th Street)	Chicago	IL	TS	August 1998 to Present
Mallard Lake LF	Hanover Park	IL	CLF	Closed
McCook TS	McCook	IL	TS	September 1996 to Present
McLean County LF	Bloomington	IL	LF	November 1997 to Present
Medill Sorting Center	Chicago	IL	MRF	February 2003 to Present
Midtown TS	Chicago	IL	TS	June 1982 to Present
Modern LF (Belleville) (MIG/DEWANE)	Belleville	IL	CLF	Closed
New Age Recycling	Danville	IL	MRF	October 1988 to Present
North Chicago LF	North Chicago	IL	CLF	Closed
Northwest Sorting Center	Chicago	IL	MRF	February 2003 to Present
Okaw Valley Recycling	Sullivan	IL	MRF	April 1999 to Present
Planet Recovery	Chicago	IL	TS	January 1992 to Present
Planet Recovery MRF	Chicago	IL	MRF	January 1992 to Present
RCS LF	Jerseyville	IL	LF	January 1993 to Present
Roxana LF	Edwardsville	IL	LF	October 1985 to Present
Roxana MRF	Edwardsville	IL	MRF	October 1985 to Present
Saline County LF	Harrisburg	IL	LF	May 1999 to Present
Sangamon Valley LF	Springfield	IL	LF	November 1999 to Present
Shred-All Recycling	Chicago	IL	TS	December 1995 to Present
Shred-All Recycling & Transfer	Chicago	IL	TS	September 1997 to Present
Shred-All TS	Chicago	IL	TS	December 1995 to Present
South Barrington LF	South Barrington	IL	CLF	Closed
Streator Area LF	Streator	IL	LF	December 1991 to Present
Upper Rock Island LF	East Moline	IL	LF	October 1994 to Present
Watts-Springfield Unit 1 LF	Springfield	IL	CLF	Closed

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
Wayne County LF	Fairfield	IL	LF	June 1997 to Present
National Serv-All Landfill	Fort Wayne	IN	LF	*
Sycamore Ridge Landfill	Pimento	IN	LF	*
Wabash Valley Landfill	Wabash	IN	LF	*
Advantage Transfer Station	Huntingburg	IN	TS	*
Circle City Recycling	Indianapolis	IN	TS	*
National Serv-ALL/Scott TS	Shipshewana	IN	TS	*
National Serv-ALL TS	Auburn	IN	TS	*
Vincennes TS	Vincennes	IN	TS	*
C.A.R.E.	Fort Wayne	IN	MRF	*
EAST CHICAGO COMPOST	East Chicago	IN	MRF	*
Republic Services - Langsdale Recycling	Indianapolis	IN	MRF	*
Blackfoot LF	Winslow	IN	LF	December 1999 to Present
Clinton County Landfill	Frankfort	IN	LF	May 2004 to Present
Illiana Transfer Station - Crown Point	Crown Point	IN	TS	December 1999 to Present
Illiana Transfer Station III	Crown Point	IN	TS	December 1999 to Present
Key Waste MRF	Culver	IN	MRF	December 1999 to Present
Koester TS	Evansville	IN	TS	December 1999 to Present
Metropolitan Landfill	Albany	IN	CLF	Closed
County Line LF	Argos	IN	LF	April 1994 to Present
Illiana Waste Transfer Station I	Schererville	IN	TS	January 1994 to Present
Illiana Waste Transfer Station II	East Chicago	IN	TS	February 2002 to Present
Illiana Waste Transfer Station IV	Lake Station	IN	TS	August 1998 to Present
Kosciusko County LF	Claypool	IN	LF	February 1998 to Present
Lake County C&D LF	Lowellville	IN	LF	June 1988 to Present
Laubascher Meadow LF	Evansville	IN	LF	October 1982 to Present
Newton County Development LF	Brook	IN	LF	February 1996 to Present
Ooms Brothers TS	DeMotte	IN	TS	December 1994 to Present
Springfield Environmental C&D LF	Mt Vernon	IN	LF	April 2000 to Present
Tri-County TS	Covington	IN	TS	June 1994 to Present
United Refuse Landfill	Fort Wayne	IN	LF	*
Finney County LF	Garden City	KS	CLF	Closed
American Disposal Services - Galena	Galena	KS	TS	February 1996 to Present
Forest View Landfill	Kansas City	KS	CLF	Closed
Resource Recovery LF	Cherryvale	KS	LF	April 1986 to Present
Wheatland LF	Columbus	KS	LF	March 1997 to Present
Dozit Company	Morganfield	KY	LF	October 1993 to Present
Epperson Waste Disposal	Williamstown	KY	LF	March 1992 to Present
Ohio County Balefill	Beaver Dam	KY	LF	*
Tri-K Landfill	Stanford	KY	LF	April 1992 to Present
Valley View Landfill	Sulpher	KY	LF	August 1999 to Present
Blue Grass Waste Alliance	Lexington	KY	TS	February 2003 to Present
CSI Covington TS	Covington	KY	TS	*
CWI of Kentucky - Paducah TS	Paducah	KY	TS	June 2003 to Present
Daviess County Solid Waste	Owensboro	KY	TS	June 2002 to Present
Dozit Company - Henderson	Henderson	KY	TS	*
Ohion County Balefill - City of Hopkinsville	Hopkinsville	KY	TS	*
Kenneday Road (merged w/ div 993)	Lexington	KY	TS	December 1999 to Present
Louisville Recyclery	Louisville	KY	MRF	December 1999 to Present
Mother Earth LF	Louisville	KY	LF	December 1999 to Present
Bath County TS	Owingsville	KY	TS	May 2000 to Present
Benson Valley LF	Frankfort	KY	LF	July 2002 to Present
BFI Danville	Danville	KY	TS	May 2000 to Present

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
BFI Elizabethtown TS	Elizabethtown	KY	TS	September 1990 to Present
Blue Ridge LF	Irvine	KY	LF	May 2000 to Present
Green Valley LF	Ashland	KY	LF	March 2000 to Present
Morehead LF	Morehead	KY	LF	May 2000 to Present
Stevens Dispos-All	Danville	KY	TS	May 2000 to Present
St. John Pickup Station	Laplace	LA	TS	December 1999 to Present
Sugarmill TS	Broussard	LA	TS	December 1999 to Present
Area 90 LF	Avondale	LA	CLF	Closed
Baton Rouge MRF	Baton Rouge	LA	MRF	December 1999 to Present
BFI Shreveport MRF	Shreveport	LA	MRF	February 2000 to Present
Carlyss LF	Carlyss	LA	CLF	Closed
CECOS - Calcasieu	Sulphur	LA	CLF	Closed
Colonial LF	Sorrento	LA	LF	November 1984 to Present
Crescent Acres LF	New Orleans	LA	CLF	Closed
East St. Charles LF	Kenner	LA	CLF	Closed
Geismar LF	Darrow	LA	CLF	Closed
Hackberry LF	Hackberry	LA	CLF	Closed
Jefferson Davis LF	Welsh	LA	LF	July 1989 to Present
New Orleans MRF	Metairie	LA	MRF	May 1974 to Present
North Baton Rouge LF	Zachary	LA	LF	November 1993 to Present
Siegen Lane LF	Baton Rouge	LA	CLF	Closed
Webster Parrish LF	Minden	LA	LF	February 2000 to Present
West Saint Charles LF	Boutte	LA	CLF	Closed
White Oaks LF	Monroe	LA	CLF	Closed
Woodland Hills LF	Sulphur	LA	CLF	Closed
Woolworth Road LF	Keithville	LA	LF	October 1986 to Present
Auburn Transcyclery	Auburn	MA	TS	December 1999 to Present
Cambridge TS	Cambridge	MA	TS	December 1999 to Present
Holliston LF	Holliston	MA	LF	December 1999 to Present
Holliston TS	Holliston	MA	TS	December 1999 to Present
Allied Waste Services of MA, LLC	Peabody	MA	TS	May 1997 to Present
BFI Brockton Recyclery	Brockton	MA	MRF	October 1984 to Present
BFI Howard TS	Roxbury	MA	TS	December 1976 to Present
BFI Waste Services of Tyngsboro	Tyngsboro	MA	TS	February 1993 to Present
Chicopee LF	Chicopee	MA	CLF	Closed
East Bridgewater LF	East Bridgewater	MA	CLF	Closed
Fall River LF	Fall River	MA	LF	March 1983 to Present
Halifax LF	Halifax	MA	CLF	Closed
McNamara Transfer	Springfield	MA	TS	July 1995 to Present
Oak Bluff - Tisbury	Oakbluffs	MA	TS	May 1993 to Present
Oak Bluff - Tisbury	Oakbluffs	MA	MRF	May 1993 to Present
BFI Peabody TS	Peabody	MA	TS	August 1990 to Present
Plainville LF	Plainville	MA	CLF	Closed
Randolph LF	Randolph	MA	CLF	Closed
Honey-Go-Run Reclamation	Perry Hall	MD	LF	*
BFI Elkridge Recyclery	Elkridge	MD	MRF	December 1999 to Present
Millenium	Baltimore	MD	MRF	December 1999 to Present
BFI Baltimore Processing Center	Baltimore	MD	MRF	July 1996 to Present
BFI Waste Services of Baltimore	Baltimore	MD	TS	December 1994 to Present
ERCA - Norris Farms LF	Baltimore	MD	CLF	Closed
BFI Hagerstown Recyclery	Hagerstown	MD	MRF	December 1981 to Present
Montgomery County	Derwood	MD	CLF	Closed
Oaks LF	Laytonville	MD	CLF	Closed

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
Quarantine LF	Baltimore	MD	CLF	Closed
Solley Road LF	Glen Burnie	MD	CLF	Closed
Maine Organics - Ops & Trucking	Unity	ME	MRF	December 1999 to Present
New England Organics	Falmouth	ME	MRF	December 1999 to Present
Carleton Farms LF	Carleton	MI	LF	*
Forest Lawn Landfill	Three Oaks	MI	LF	April 1993 to Present
Republic Services of Northern MI - Whitefeather LF	Pinconning	MI	LF	August 2002 to Present
Coldwater TS	Coldwater	MI	TS	*
Reliable Disposal of S. Haven	South Haven	MI	TS	May 2002 to Present
Republic Services - Cork Street TS	Kalamazoo	MI	TS	October 1999 to Present
Arbor Hills LF	Northville	MI	CLF	Closed
Arbor Hills Recyclery	Northville	MI	MRF	December 1999 to Present
B & R TS	Redford	MI	TS	December 1999 to Present
BFI of Western Michigan	Kalamazoo	MI	TS	December 1999 to Present
Detroit TS	Detroit	MI	TS	December 1999 to Present
Ford Assembly Plants TS	Wayne	MI	TS	December 1999 to Present
Kalamazoo Recylerly	Kalamazoo	MI	MRF	December 1999 to Present
KVG LF	Climax	MI	LF	December 1999 to Present
Schaefer Road TS	Dearborn	MI	TS	December 1999 to Present
SMDA TS	Roseville	MI	TS	December 1999 to Present
Taymouth Landfill	Birch Run	MI	LF	*
Utica Ford TS	Utica	MI	TS	December 1999 to Present
Adrian LF	Adrian	MI	CLF	Closed
Adrian LF	Adrian	MI	LF	January 1997 to Present
Kalamazoo TS	Kalamazoo	MI	TS	December 1999 to Present
C & C LF	Marshall	MI	LF	June 1982 to Present
Central Sanitary LF	Pierson	MI	LF	February 1996 to Present
Citizens Disposal LF	Grand Blanc	MI	LF	October 1988 to Present
Community Recycling Services	Muskegon	MI	MRF	June 2003 to Present
Dinverno MRF	Detroit	MI	MRF	January 1988 to Present
Hillsdale TS	Hillsdale	MI	TS	December 1996 to Present
Lyon Development LF	New Hudson	MI	CLF	Closed
Manistee County LF	Manistee	MI	LF	May 1989 to Present
Oakland Heights Development	Auburn Hills	MI	LF	March 1997 to Present
Ohio Demo LF (C&D Only)	Toledo	MI	LF	August 1972 to Present
Ottawa County Farms LF	Coopersville	MI	LF	September 2000 to Present
Rockwood LF	Newport	MI	LF	August 1997 to Present
Sauk Trail Hills LF	Canton	MI	LF	December 1983 to Present
Southfield Transfer Station	Southfield	MI	TS	December 1997 to Present
Sunset Waste Services - Hamilton	Hamilton	MI	TS	April 1999 to Present
Tri-City TS	Kalamazoo	MI	TS	December 1999 to Present
Vienna Junction LF	Erie	MI	LF	August 1999 to Present
Hennepin Transfer, Inc.	Inver Grove Heights	MN	TS	*
Eden Prairie Recyclery	Eden Prairie	MN	MRF	December 1999 to Present
Mall of America	Bloomington	MN	MRF	December 1999 to Present
Minden Transfer Station	St Cloud	MN	TS	December 1999 to Present
Woodlake LF	Medina	MN	CLF	Closed
BFI Brooklyn Park TS	Brooklyn Park	MN	TS	December 1999 to Present
BFI Flying Cloud TS	Eden Prairie	MN	TS	March 1972 to Present
BFI Hennepin TS	Burnsville	MN	TS	March 1990 to Present
BFI Waste Services of the Twin Cities	Brooklyn Park	MN	TS	December 1999 to Present
BFI Waste Services of the Twin Cities	Inver Grove Heights	MN	MRF	April 1988 to Present
BFI Waste Services of Twin Cities	Minneapolis	MN	MRF	September 1992 to Present

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
Blaine TS	Blaine	MN	TS	December 2001 to Present
Flying Cloud LF	Eden Praire	MN	CLF	Closed
Bloomington TS	Bloomington	MN	TS	November 1997 to Present
Bloomington TS	Bloomington	MN	MRF	November 1997 to Present
Pine Bend LF	Inver Grove Heights	MN	LF	April 1991 to Present
Southwest Regional Sanitary LF	Jasper	MO	LF	March 2007 to Present
CWI - Potosi Transfer Station	Cadet	MO	TS	*
CWI of Missouri (Potosi)	Potosi	MO	TS	*
Bridgeton Transfer Station	Bridgeton	MO	TS	December 1999 to Present
Jefferson City TS	Jefferson City	MO	TS	December 1999 to Present
New Madrid	Dexter	MO	TS	December 1999 to Present
Saint Louis Recyclery	St Louis	MO	MRF	December 1999 to Present
Springfield Recyclery	Springfield	MO	MRF	December 1999 to Present
St Louis Waste TS	St Louis	MO	TS	December 1999 to Present
American Disposal Services - Ozarks	Springfield	MO	TS	February 1975 to Present
American Disposal Services - Reeds Spring	Reeds Spring	MO	TS	February 1975 to Present
American Disposal Services - Springfield	Springfield	MO	TS	February 1975 to Present
Backridge LF	LaGrange	MO	LF	December 1990 to Present
Bridgeton LF	Bridgeton	MO	LF	November 1985 to Present
Butler County LF Authority	Poplar Bluff	MO	LF	July 1980 to Present
Cass County TS	Harrisonville	MO	TS	Closed
Courtney Ridge LF	Sugar Creek	MO	LF	August 2000 to Present
Ellis-Scott LF	Clinton	MO	CLF	Closed
Jackson LF	Jackson	MO	CLF	Closed
Jackson TS	Jackson	MO	TS	October 1995 to Present
Jefferson City LF	Jefferson City	MO	LF	January 1998 to Present
Johnson County LF	Warrensburg	MO	CLF	Closed
Lamar LF (CLOSED SITE)	Lamar	MO	CLF	Closed
Lemons East Sanitary LF	Dexter	MO	LF	December 1992 to Present
Lemons LF West	Dexter	MO	CLF	Closed
Jefferson City TS	Jefferson City	MO	TS	January 1983 to Present
Midwest LF	Lonedell	MO	CLF	Closed
Missouri City LF	Liberty	MO	CLF	Closed
Missouri Pass LF	Maryland Heights	MO	CLF	Closed
Mo Pass (Yard Waste Transfer Station)	Maryland Heights	MO	TS	January 1988 to Present
Modern TS	Osage Beach	MO	TS	April 1999 to Present
Plattco LF	Parkville	MO	CLF	Closed
Prairieview Regional Waste Facility	Lamar	MO	LF	May 1997 to Present
Redbird LF	Arnold	MO	CLF	Closed
Show-Me Regional LF	Warrensburg	MO	LF	May 1991 to Present
Southeast LF	Kansas City	MO	CLF	Closed
St Louis TS	St. Louis	MO	TS	May 1986 to Present
St. Louis Jeffco L/F	Arnold	MO	CLF	Closed
Wayne County LF	Greenville	MO	CLF	Closed
BFI Biloxi Recyclery	Biloxi	MS	MRF	December 1999 to Present
BFI Biloxi TS	Biloxi	MS	TS	December 1999 to Present
BFI Vicksburg TS	Vicksburg	MS	TS	December 1999 to Present
MAGNOLIA C&D LF	Kiln	MS	LF	September 2005 to Present
Pleasant Hills LF	Olive Branch	MS	LF	July 1999 to Present
Three Rivers LF	Pontotoc	MS	LF	December 1999 to Present
BFI Marks TS	Marks	MS	TS	January 1994 to Present
BFI Waste Services of Hattiesburg	Hattiesburg	MS	TS	May 1993 to Present
BFI Waste Services of the Gulf Coast	Vanclave	MS	MRF	December 1999 to Present

Table 16-2 (Continued)
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
BFI Biloxi TS	Biloxi	MS	TS	December 1999 to Present
Big River LF	Leland	MS	LF	October 1987 to Present
Gulf Pines LF	Biloxi	MS	CLF	Closed
Little Dixie LF	Ridgeland	MS	LF	August 1999 to Present
Missoula Recycling	Missoula	MT	MRF	*
BFI Waste Services of Missoula	Missoula	MT	MRF	December 1999 to Present
Boseman Recycle Now	Bozeman	MT	MRF	December 1999 to Present
Great Falls	Great Falls	MT	MRF	December 1999 to Present
Helena	Helena	MT	MRF	December 1999 to Present

Table 16-2
List of Republic Services Solid Waste Sites in States Other Than Texas
(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
Billings Recycling	Billings	MT	MRF	June 2004 to Present
BFI Waste Services of Billings	Billings	MT	MRF	August 1994 to Present
Missoula LF	Missoula	MT	LF	March 1971 to Present
BFI Waste Services of Missoula	Missoula	MT	MRF	December 1999 to Present
East Carolina Environmental	Aulander	NC	LF	*
Foothills Environmental	Lenoir	NC	LF	*
Upper Piedmont Environmental	Rougemont	NC	LF	*
Uwharrie Environmental	Mt. Gilead	NC	LF	*
Bishop Road TS	Greensboro	NC	TS	*
GDS - Conover MRF	Conover	NC	TS	*
Moore County TS	Aberdeen	NC	TS	*
Overdale Road TS	Winston-Salem	NC	TS	*
Richmond County	Rockingham	NC	TS	*
BFI Waste Services of Winston-Salem	Winston Salem	NC	MRF	December 1999 to Present
CCC - Charlotte	Charlotte	NC	TS	December 1999 to Present
Fayetteville TS	Fayetteville	NC	TS	December 1999 to Present
Sampson County LF	Roseboro	NC	LF	December 1999 to Present
Anson County LF	Polkton	NC	LF	April 2000 to Present
BFI Raleigh Recyclery	Raleigh	NC	MRF	December 1990 to Present
Cary TS	Cary	NC	TS	July 1994 to Present
Charlotte Motor Speedway LF	Concord	NC	LF	December 1986 to Present
City of Durham TS	Durham	NC	TS	October 1997 to Present
Holly Springs LF	Holly Springs	NC	LF	May 1991 to Present
Holly Springs LF	Holly Springs	NC	CLF	Closed
Lake Norman LF	Stanley	NC	LF	November 1998 to Present
Randolph County TS	Asheboro	NC	TS	January 1998 to Present
Rocky Mount TS	Rocky Mountain	NC	TS	August 1999 to Present
Yadkin County TS	Yadkinville	NC	TS	September 1993 to Present
NENSWC LF	Clarkson	NE	LF	December 1999 to Present
Fremont LF	Fremont	NE	CLF	Closed
Norfolk LF	Norfolk	NE	CLF	Closed
MA/NH/VT Organics Operations	Chichester	NH	MRF	December 1999 to Present
BFI Hooksett Recyclery	Hooksett	NH	MRF	November 1990 to Present
ECDC LF Group - Mid Atlantic	Tinton Falls	NJ	LF	*
A.R.T.S. Recycling	Linden	NJ	MRF	December 1999 to Present
Garofalo Recycling & T/S	Cresskill	NJ	TS	December 1999 to Present
Mount Laurel	Mt Laurel	NJ	TS	December 1999 to Present
A.M.S. Transfer Station	Linden	NJ	TS	January 1999 to Present
Di Rese TS	Tenafly	NJ	TS	January 1984 to Present
Fairview Street TS	Fairview	NJ	TS	February 1995 to Present
Garofalo TS	Garfield	NJ	TS	January 2000 to Present
Giordano Recycling	Port Newark	NJ	MRF	January 1997 to Present
Giordano Recycling	Port Newark	NJ	MRF	January 1997 to Present
Monroe Township LF	Monroe	NJ	CLF	Closed
Pedricktown LF	Pedricktown	NJ	CLF	Closed
Pelham LF	Pelham	NJ	CLF	Closed
Pinelands Park LF	Egg Harbor	NJ	CLF	Closed
South Brunswick	Monmouth	NJ	CLF	Closed
Apex Regional LF	Las Vegas	NV	LF	*
Laughlin LF	Laughlin	NV	LF	*
Cheyenne TS & Environmental Technologies	North Las Vegas	NV	TS	*
R.S. of S Nevada Recycle Center	North Las Vegas	NV	MRF	*
ECDC Logistics Office Northeast	Harrison	NY	LF	*
Staten Island TS	Staten Island	NY	TS	*

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(as of November 2012)

Facility Name	Location		Facility Type	Dates of Operation ^a
Bronx TS	Bronx	NY	TS	December 1999 to Present
Brooklyn TS	Brooklyn	NY	TS	December 1999 to Present
Champion TS	Bayshore	NY	TS	December 1999 to Present
Hempstead TS	Merrick	NY	TS	December 1999 to Present
Menands Transfer Station	Menands	NY	TS	December 1999 to Present
Scott Avenue MRF	Brooklyn	NY	MRF	December 1999 to Present
Scott Avenue TS C&D	Brooklyn	NY	TS	December 1999 to Present
Shepherd Avenue MRF	Brooklyn	NY	MRF	December 1999 to Present
Amsterdam LF	Fort Johnson	NY	CLF	Closed
BFI Schenectady TS	Schenectady	NY	TS	April 1993 to Present
BFI Southside TS	Depew	NY	TS	April 1975 to Present
Buffalo Recyclery	Buffalo	NY	MRF	February 1983 to Present
ERCA - Niagra Falls	Niagara Falls	NY	CLF	Closed
Fox Island TS	Port Chester	NY	TS	Closed
Hicksville MRF	Hicksville	NY	MRF	August 1997 to Present
Land Reclamation LF	Depew	NY	CLF	Closed
Mamaroneck TS	Mamaroneck	NY	TS	January 2000 to Present
Metro Enviro	Croton on the Hudson	NY	TS	March 2000 to Present
Mt. Kisco TS	Mt Kisco	NY	TS	August 1978 to Present
Niagara LF	Tonawanda	NY	CLF	Closed
Pine Avenue LF	Niagara Falls	NY	LF	January 1983 to Present
Recycling Industries Paper Division	Mamaroneck	NY	MRF	January 2000 to Present
Scott Avenue TS MSW	Brooklyn	NY	TS	June 1996 to Present
Selas TS	Holtsville	NY	TS	October 1989 to Present
Stanley Avenue TS	Brooklyn	NY	TS	June 1996 to Present
Thames Street TS	Brooklyn	NY	TS	October 1996 to Present
Watertown LF	Felts Mills	NY	CLF	Closed
Countywide R & D Landfill	East Sparta	OH	LF	*
Pine Grove Landfill	Amanda	OH	LF	*
Vienna Junction LF	Toledo	OH	LF	*
Ohio Demo LF (C&D Only)	Toledo	OH	LF	*
CSI Waste Services - Evansdale	Evansdale	OH	TS	*
National Serv-All Van Wert	Van Wert	OH	TS	*
Shelby County TS	Sidney	OH	TS	*
AWS Akron Recyclery	Akron	OH	MRF	December 1999 to Present
ERCA - Aber Road	Williamsburg	OH	CLF	Closed
Goshen Transfer	New Philadelphia	OH	TS	December 1999 to Present
Sandusky TS	Sandusky	OH	TS	January 1978 to Present
Bigfoot Run LF	Morrow	OH	CLF	Closed
Bobmeyer Road Demolition	Fairfield	OH	CLF	Closed
Bowers Phase II TS	Vickery	OH	TS	December 1990 to Present
Carbon Limestone LF	Lowellville	OH	LF	January 1999 to Present
Carbon Limestone TS	Lowellville	OH	TS	January 1999 to Present
Celina LF	Celina	OH	LF	December 1991 to Present
Cherokee Run LF	Bellefontaine	OH	LF	December 1997 to Present
Citrus LF	Malvern	OH	CLF	Closed
City of Amherst TS	Amherst	OH	TS	October 1998 to Present
CLD LF	Salem	OH	LF	January 1996 to Present
County Environmental Landfill of Wyandot	Carey	OH	LF	September 1996 to Present
Delaware TS	Delaware	OH	TS	February 1998 to Present
Duck Creek LF	Zanesville	OH	CLF	Closed
East Palestine LF	East Palestine	OH	CLF	Closed
Ford Road LF	Elyria	OH	CLF	Closed
Glenwillow LF	Glenwillow	OH	CLF	Closed

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Facility Name	Location		Facility Type	Dates of Operation ^a
Glenwillow TS	Glenwillow	OH	TS	June 1996 to Present
Lorain Cnty Resource Recovery	Oberlin	OH	MRF	March 1992 to Present
Lorain Cnty Resource Recovery	Oberlin	OH	TS	March 1992 to Present
Lorain County II LF	Oberlin	OH	CLF	Closed
Lorain County LF	Oberlin	OH	LF	July 1986 to Present
Mansfield Transcyclery	Mansfield	OH	MRF	January 1999 to Present
Richland County TS	Mansfield	OH	TS	January 1999 to Present
Marion TS	Marion	OH	TS	Closed
Muskingum LF	Zanesville	OH	CLF	Closed
Oakland Marsh LF	Shiloh	OH	CLF	Closed
Ottawa County LF	Port Clinton	OH	LF	February 1974 to Present
Parris LF	Paris Township	OH	CLF	Closed
Robertsville C&D LF	Robertsville	OH	CLF	Closed
Ross Brothers TS	Mt Vernon	OH	TS	September 1996 to Present
Warner Hill LF	Garfield Heights	OH	CLF	Closed
Williams County LF	Bryan	OH	LF	December 1987 to Present
Willowcreek LF	Atwater	OH	CLF	Closed
Moore TS	Moore	OK	TS	December 1999 to Present
Stillwater Recycling	Stillwater	OK	MRF	October 2004 to Present
Stillwater Sanitary Landfill	Stillwater	OK	LF	October 2004 to Present
51 St LF	Broken Arrow	OK	CLF	Closed
Alderson Regional LF	Alderson	OK	LF	September 1991 to Present
Broken Arrow LF	Broken Arrow	OK	LF	Closed
Canadian Valley LF	Shawnee	OK	CLF	May 1984 to Present
Clinton TS	Clinton	OK	TS	November 1993 to Present
BFI Cushing TS	Cushing	OK	TS	June 1986 to Present
Fillsand LF	Oklahoma City	OK	CLF	Closed
Newcastle LF	Newcastle	OK	LF	June 1997 to Present
Oklahoma City MRF	Oklahoma City	OK	MRF	July 1993 to Present
Perkins LF	Perkins	OK	CLF	Closed
Pocasset LF	Pocasset	OK	LF	June 1997 to Present
Porter LF	Porter	OK	LF	September 1998 to Present
Southeast (OKC) LF	Oklahoma City	OK	LF	June 1955 to Present
Talala LF	Talala	OK	CLF	Closed
Weatherford TS	Weatherford	OK	TS	June 1997 to Present
Agri-Tech of Oregon	Albany	OR	LF	*
Albany - Lebanon Sanitation	Albany	OR	LF	*
Peltier Real Estate	Corvallis	OR	LF	*
Allied Waste Transportation Services	Woodburn	OR	TS	December 1999 to Present
Coffin Butte LF	Corvallis	OR	LF1	January 2000 to Present
Klamath Regional Disposal	Grants Pass	OR	TS	December 1999 to Present
BFI Metro Central TS & MRF	Portland	OR	MRF	June 1990 to Present
BFI Metro Central TS & MRF	Portland	OR	TS	June 1990 to Present
BFI Metro South TS	Oregon City	OR	TS	May 1982 to Present
Bio-Med of Oregon	Corvallis	OR	MRF	December 1999 to Present
Capitol Recycling & Disposal	Salem	OR	TS	June 1997 to Present
Grants Pass TS	Grants Pass	OR	TS	December 1999 to Present
Source Recycling	Albany	OR	MRF	July 1983 to Present
Valley Landfills Process and Recovery Center	Monmoth	OR	MRF	January 1997 to Present
Valley Landfills, Inc.	Monroe	OR	TS	January 1997 to Present
Valley View Landfill, Inc.	Corvallis	OR	LF	December 1991 to Present
Willamette Resources	Wilsonville	OR	MRF	October 1990 to Present
Willamette Resources TS	Wilsonville	OR	TS	October 1990 to Present
Modern Landfill	York	PA	LF	August 1997 to Present

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List of Republic Services Solid Waste Sites in States Other Than Texas
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Facility Name	Location		Facility Type	Dates of Operation ^a
McCusker/Ogborne Transfer	Chester	PA	TS	*
Quickway Transfer Station	Philadelphia	PA	TS	*
BFI Philadelphia TS	Philadelphia	PA	TS	December 1999 to Present
Conestoga Landfill	Morgantown	PA	LF	July 1999 to Present
Philadelphia Recyclery	Philadelphia	PA	MRF	December 1999 to Present
BFI River Road TS	Conshohocken	PA	TS	November 1990 to Present
BFI TRC TS	Philadelphia	PA	TS	December 1988 to Present
BFI Waste Services of Bucks - Mont	Fountainville	PA	MRF	December 1998 to Present
BFI Waste Services of Philadelphia	Philadelphia	PA	MRF	April 1993 to Present
BFI Waste Services of Philadelphia	Philadelphia	PA	TS	April 1993 to Present
County Environmental LF	Leeper	PA	CLF	Closed
Forestlawn LF	Clearfield	PA	CLF	Closed
Greenridge Reclamation LF	Scottsdale	PA	LF	August 2001 to Present
Imperial LF	Imperial	PA	LF	May 1973 to Present
King of Prussia Recyclery	King of Prussia	PA	MRF	December 1999 to Present
Mon Valley LF	Charleroi	PA	CLF	Closed
BFI North Smithfield TS	N Smithfield	RI	TS	December 1999 to Present
Blackstone Valley Regional T/S	Pawtucket	RI	TS	December 1999 to Present
Standard Waste Services	Block Island	RI	TS	December 1999 to Present
BFI Waste Services of Rhode Island	North Smithfield	RI	TS	April 2001 to Present
Rose Hill Regional TS	South Kingstown	RI	TS	September 1989 to Present
Pepperhill C&D/Industrial Landfill	North Charleston	SC	LF	*
Spring Grove Landfill	North Charleston	SC	LF	*
Union County MSW Landfill	Enoree	SC	LF	*
Greenville TS	Duncan	SC	TS	December 1999 to Present
Anderson Regional LF	Belton	SC	LF	December 1997 to Present
Cherokee TS	Gaffney	SC	TS	August 1998 to Present
Ft. Mill TS	Ft. Mill	SC	TS	August 2001 to Present
Greer TS	Greer	SC	TS	December 2000 to Present
Jedburg LF	Jedburg	SC	CLF	Closed
Laurens County TS	Clinton	SC	TS	April 2000 to Present
Lee County LF	Bishopville	SC	LF	June 1997 to Present
Newberry County TS	Newberry	SC	TS	December 1993 to Present
Northeast Sanitary LF	Eastover	SC	LF	November 1996 to Present
White Street TS	Anderson	SC	TS	June 1993 to Present
Greenville Class II Landfill	Greenville	SC	LF	*
Northwest Tenn Disposal	Union City	TN	LF	*
Paris Landfill Station	Paris	TN	LF	*
Covington Waste	Covington	TN	TS	*
McKenzie Transfer Station	McKenzie	TN	TS	*
BFI Knoxville MRF	Knoxville	TN	MRF	December 1999 to Present
Chattanooga Transfer Station	Chattanooga	TN	TS	December 1999 to Present
JACKSON MADISON COUNTY C&D LANDFILL	Jackson	TN	LF	January 2006 to Present
JACKSON MADISON COUNTY LF	Jackson	TN	LF	January 2006 to Present
Memphis Recyclery	Memphis	TN	MRF	December 1999 to Present
Monroe County TS	Vonore	TN	TS	December 1999 to Present
AAA C&D TS	Nashville	TN	TS	August 1994 to Present
AAA M.S.W.	Nashville	TN	TS	August 1994 to Present
Carter Valley LF	Churchill	TN	LF	July 1985 to Present
Estill Springs TS	Estill Springs	TN	TS	January 1995 to Present
Fayetteville TS	Fayetteville	TN	TS	April 1995 to Present
Middle Point LF	Murfreesboro	TN	LF	October 1989 to Present
North Shelby LF	Millington	TN	LF	March 1997 to Present
Pulaski TS	Pulaski	TN	TS	May 1995 to Present

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Facility Name	Location		Facility Type	Dates of Operation ^a
Safety Lights C&D LF	Memphis	TN	CLF	Closed
South Shelby LF	Memphis	TN	LF	May 1995 to Present
Sykes Road LF	Millington	TN	CLF	Closed
Twin Oaks LF	Knoxville	TN	CLF	Closed
Geneva Transfer Station	Salt Lake City	UT	TS	December 1999 to Present
Salt Lake City Transfer Station	Salt Lake City	UT	TS	December 1999 to Present
Utah County Recyclery (CLOSED)	Lindon	UT	MRF	December 1999 to Present
WASATCH REGIONAL LANDFILL	Salt Lake City	UT	LF	August 2005 to Present
BFI Salt Lake Recyclery	Salt Lake City	UT	MRF	March 1985 to Present
ECDC Environmental	East Carbon	UT	LF	December 1997 to Present
Washington County LF	St. George	UT	LF	July 1993 to Present
623 Landfill	Rockville	UT	LF	*
BFI Lorton Recyclery	Lorton	VA	MRF	December 1999 to Present
Norfolk Solid Waste TS	Norfolk	VA	TS	December 1999 to Present
Berryville LF	Berryville	VA	CLF	Closed
BFI Fluvanna Transcyclery	Fluvanna	VA	TS	November 1994 to Present
BFI Culpeper TS	Culpeper	VA	TS	May 1999 to Present
Roanoke TS	Roanoke	VA	TS	March 1994 to Present
BFI Goodwin TS	Yorktown	VA	TS	September 1999 to Present
BFI Westmoreland County TS	Montross	VA	TS	April 1994 to Present
Brunswick Waste Mgmt Facility	Lawrenceville	VA	LF1	November 1996 to Present
Fredricksburg TS	Fredricksburg	VA	TS	May 1994 to Present
King and Queen Sanitary LF	Little Plymouth	VA	LF	April 1993 to Present
Old Dominion LF	Richmond	VA	LF	October 1992 to Present
Richmond LF	Richmond	VA	CLF	Closed
Roanoke Recyclery	Roanoke	VA	MRF	March 1994 to Present
Telegraph Road LF	Lorton	VA	CLF	Closed
Tidewater TS	Chesapeake	VA	TS	February 1985 to Present
Rockingham LF	Rockingham	VT	CLF	Closed
Roosevelt Associates	West Roosevelt	WA	LF	*
Roosevelt Intermodal	Roosevelt	WA	LF	*
B Z Corners Drop Box	Husum	WA	TS	December 1999 to Present
Black River Transfer	Renton	WA	TS	December 1999 to Present
Dallesport Drop Box TS	Dallesport	WA	TS	January 1990 to Present
Ferry County TS	Republic	WA	TS	October 1997 to Present
Goldendale Drop Box TS	Goldendale	WA	TS	December 1999 to Present
Othello TS	Othello	WA	TS	July 1995 to Present
Pend Oreille, Central County TS	Usk	WA	TS	December 1994 to Present
Pend Oreille, South County TS	Newport	WA	TS	December 1994 to Present
Rabanco Intermodal, Ltd.	Husum	WA	TS	August 1993 to Present
Rabanco Recycling Co.	Seattle	WA	MRF	January 1988 to Present
Rabanco Recycling Co.	Seattle	WA	TS	January 1985 to Present
Black River Transfer	Renton	WA	TS	August 1991 to Present
Recomp of Washington / RDC Ferndale	Ferndale	WA	TS	October 1998 to Present
Ritzville TS	Ritzville	WA	TS	May 1995 to Present
Roosevelt Regional Ash Monofill	Roosevelt	WA	LF	June 1990 to Present
Roosevelt Regional MSW LF	Roosevelt	WA	LF	June 1990 to Present
Kestrel Hawk Landfill	Racine	WI	LF	*
Mallard Ridge Landfill	Delavan	WI	LF	*
Allied Waste Services of Hayward	Hayward	WI	TS	December 1999 to Present
BFI Park Falls TS	Park Falls	WI	TS	December 1999 to Present
Germantown	Germantown	WI	TS	December 1999 to Present
Kenosha Recyclery	Kenosha	WI	MRF	December 1999 to Present
Muskego	Muskego	WI	TS	December 1999 to Present

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Facility Name	Location		Facility Type	Dates of Operation ^a
West Allis TS	West Allis	WI	TS	December 1999 to Present
BFI Siren TS	Webster	WI	TS	June 1993 to Present
BFI Waste Services of Northwest Wisconsin	Park Falls	WI	TS	December 1994 to Present
Lake Area (Permit #2054) LF	Sarona	WI	CLF	Closed
Lake Area (Permit #3144) LF	Sarona	WI	CLF	Closed
Lake Area (Permit #3474) LF	Sarona	WI	LF	March 1998 to Present
Troy Area LF	East Troy	WI	CLF	Closed
Fairmont MRF	Fairmont	WV	MRF	December 1999 to Present
Short Creek LF	Short Creek	WV	LF	December 1999 to Present
Sycamore LF	Hurricane	WV	LF	June 2001 to Present
West Bank Sanitation	Jackson	WY	TS	January 2001 to Present
Campo Sur LF	Ponce	PR	LF	*
Ponce LF	Ponce	PR	LF	*
Salinas LF	Salinas	PR	LF	*
BFI Catano TS	Catano	PR	TS	December 1999 to Present
Cidra TS	Cidra	PR	TS	*

LF = Active Landfill; CLF = Closed Landfill; TS = Transfer Station; MRF = Material Recovery Facility

^a This list includes the approximate dates of operation of the facility. This includes the previous owners/operators of certain facilities prior to the facility being acquired by Republic Services, Inc., or its subsidiaries.

* Initial date of ongoing operation is not clear from site records.

Table 16-3
Regulatory Agencies for Republic Services Solid Waste Sites

Alabama Department of Environmental Management (ADEM)
P. O. Box 301463, Montgomery, AL 36130-1463

Arizona Department of Environmental Quality (ADEQ)
1100 West Washington Street, Phoenix, AZ 85007-2935

Arkansas Department of Environmental Quality (ADEQ)
Solid Waste Management Division
5301 North Shore Drive, North Little Rock, AR 72118-5317

California Integrated Waste Management Board (CIWMB)
Cal-EPA Building
1001 I Street, P.O. Box 4025, Sacramento, CA 95812-4025

Colorado Department of Public Health and Environment (CDPHE)
Hazardous Materials and Waste Management Division
4300 Cherry Creek Drive South, Denver, CO 80246-1530

Connecticut Department of Environmental Protection (CDEP)
Materials and Waste Management
79 Elm Street, Hartford, CT 06106-5127

District Department of the Environment (DDOE)
51 N Street, NE 6th Floor, Washington, DC 20002

Florida Department of Environmental Protection (FDEP)
3900 Commonwealth Blvd., M.S. 49, Tallahassee, FL 32399

Georgia Department of Natural Resources
Environmental Protection Division (EPD)
2 Martin Luther King, Jr. Drive, Suite 1152 East Tower, Atlanta, GA 30334

Idaho Department of Environmental Quality (IDEQ)
1410 North Hilton, Boise, ID 83706

Illinois Environmental Protection Agency (IEPA)
1021 North Grand Avenue East, P.O. Box 19276, Springfield, IL 62794-9276

Indiana Department of Environmental Management (IDEM)
Indiana Government Center North
100 North Senate Avenue; Indianapolis, IN 46204-2251

Table 16-3 (Continued)
Regulatory Agencies for Republic Services Solid Waste Sites

Iowa Department of Natural Resources (IDNR)
502 East 9th Street, Des Moines, IA 50319-0034

Kansas Department of Health and Environment (KDHE)
Charles Curtis State Office Building
1000 Southwest Jackson, Topeka, KS 66612

Kentucky Energy and Environment Cabinet
Division of Waste Management, Department for Environmental Protection
200 Fair Oaks Lane, Frankfort KY 40601

Louisiana Department of Environmental Quality (LDEQ)
602 North Fifth Street, Baton Rouge, LA 70802

Maine Department of Environmental Protection (MDEP)
17 State House Station, Augusta, ME 04333-0017

Maryland Department of the Environment (MDE)
1800 Washington Boulevard, Baltimore, MD 21230

Massachusetts Department of Environmental Protection (MDEP)
One Winter Street, 2nd Floor, Boston, MA 02108

Michigan Department of Environmental Quality (MDEQ)
Waste Management Division
Constitution Hall, 525 West Allegan Street, P.O. Box 30473, Lansing, MI 48909-7973

Minnesota Pollution Control Agency (MPCA)
520 Lafayette Road North, St. Paul, MN 55155-4194

Mississippi Department of Environmental Quality (MDEQ)
Solid Waste Policy, Planning, and Grants Branch
515 East Amite Street, Jackson, MS 39201

Missouri Department of Natural Resources (MDNR)
Waste Management Program, Division of Environmental Quality
P.O. Box 176, Jefferson City, MO 65102

Montana Department of Environmental Quality (MDEQ)
1520 East Sixth Avenue, P.O. Box 200901, Helena, MT 59620-0901

Nebraska Department of Environmental Quality (NDEQ)
1200 "N" Street, Suite 400, P.O. Box 98922, Lincoln, NE 68509

Table 16-3 (Continued)
Regulatory Agencies for Republic Services Solid Waste Sites

Nevada Division of Environmental Protection (NDEP)
901 South Stewart Street, Suite 4001, Carson City, NV 89701-5249

New Hampshire Department of Environmental Services (NHDES)
Waste Management Division
29 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095

New Jersey Department of Environmental Protection (NJDEP)
401 East State Street, 7th Floor, East Wing, P.O. Box 402, Trenton, NJ 08625-0402

New York State Department of Environmental Conservation (NYSDEC)
Division of Solid and Hazardous Materials
625 Broadway, Albany, NY 12233-1010

North Carolina Department of Environment and Natural Resources (NCDENR)
1601 Mail Service Center, Raleigh, NC 27699-1601

Ohio Environmental Protection Agency (OEPA)
Division of Solid & Infectious Waste Management
50 West Town Street, Suite 700, Columbus, OH 43215

Oklahoma Department of Environmental Quality (ODEQ)
707 North Robinson, Oklahoma City, OK 73102

Oregon Department of Environmental Quality (ODEQ)
Waste Prevention and Management Division
811 Southwest Sixth Ave., Portland, OR 97204-1390

Pennsylvania Department of Environmental Protection (PDEP)
Rachel Carson State Office Building
400 Market Street, Harrisburg, PA 17101

Rhode Island Department of Environmental Management (RIDEM)
235 Promenade St., Providence, RI 02908-5767

South Carolina Department of Health and Environmental Control (SCDHEC)
2600 Bull St., Columbia, SC 29201

Tennessee Department of Environment and Conservation (TDEC)
401 Church St., L&C Tower, Nashville, TN 37243-0435

Utah Department of Environmental Quality (UDEQ)
Division of Solid and Hazardous Waste
288 North 1460 West, 4th Floor, P. O. Box 144880, Salt Lake City, UT 84114-4880

Table 16-3 (Continued)
Regulatory Agencies for Republic Services Solid Waste Sites

Vermont Department of Environmental Conservation (DEC)
Waste Management Division
103 South Main Street, West Office Building, Waterbury, VT 05671-0404

Virginia Department of Environmental Quality (VDEQ)
629 East Main Street, P.O. Box 1105, Richmond, VA 23218

Washington State Department of Ecology
P. O. Box 47600, Olympia, WA 98504-7600

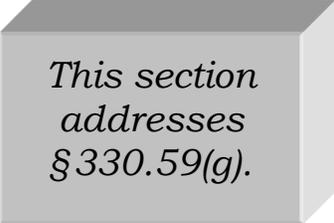
West Virginia Department of Environmental Protection (WVDEP)
Division of Water and Waste Management
601 57th Street SE, Charleston, WV 25304

Wisconsin Department of Natural Resources (WDNR)
101 South Webster Street, P.O. Box 7921, Madison, WI 53707-7921

Puerto Rico Department of Natural and Environmental Resources
P.O. Box 366147, San Juan, Puerto Rico 00936

17 APPOINTMENTS

The appointment prepared for this permit application meets the requirements of Title 30 TAC §330.59(g) and §305.44. The Notice of Appointment is included on the following page.



*This section
addresses
§330.59(g).*

**NOTICE OF APPOINTMENT
Agent for the Applicant**

Kelly Keel
Executive Director
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Dear Ms. Keel:

I am an Authorized Agent of Republic Services, Inc., a Delaware corporation (the "General Partner"), the General Partner of Pine Hill Farms Landfill TX, LP, a Delaware limited partnership (the "Partnership").

This letter is to advise that the General Partner, in its capacity as general partner of the Partnership, and the Partnership, have duly appointed Austin Sparks, Environmental Manager, as their Agent. Austin Sparks is hereby authorized to execute and deliver permit applications, permit modifications, and compliance related documentation for the Royal Oaks Landfill, and any and all other documents as required in connection with Permit No. MSW-1614B.

Very truly yours,
Republic Services, Inc.

Yasser Brenes
Authorized Agent
Area President

SWORN TO AND SUBSCRIBED BEFORE ME by _____ on the ____ day of _____, 2019, which witness my hand and seal of office.

Notary Public in and for the State of Texas

Printed Name

My Commission Expires _____

**ROYAL OAKS LANDFILL
CHEROKEE COUNTY, TEXAS
TCEQ PERMIT NO. MSW-1614B**

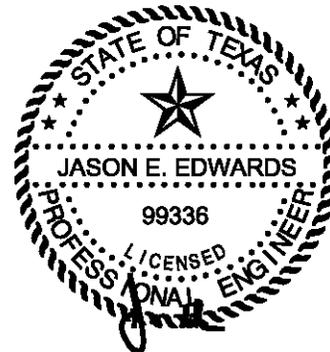
MAJOR PERMIT AMENDMENT APPLICATION

**APPENDIX I/IIA
FACILITY LAYOUT MAPS**

Prepared for:

Pine Hill Farms Landfill TX, LP

May 2024



05/20/2024

Prepared by:

Weaver Consultants Group, LLC
TBPE Registration No. F-3727
6420 Southwest Boulevard, Suite 206
Fort Worth, Texas 76109
817-735-9770

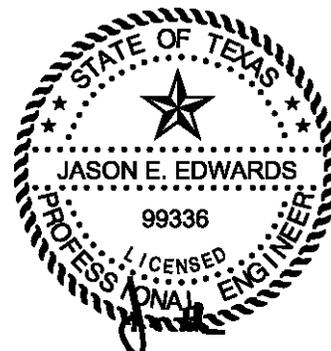
WCG Project No. 0120-76-11-106

This document intended for permitting purposes only.

CONTENTS

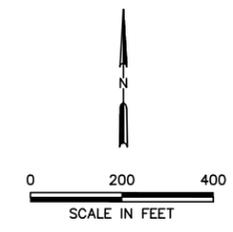
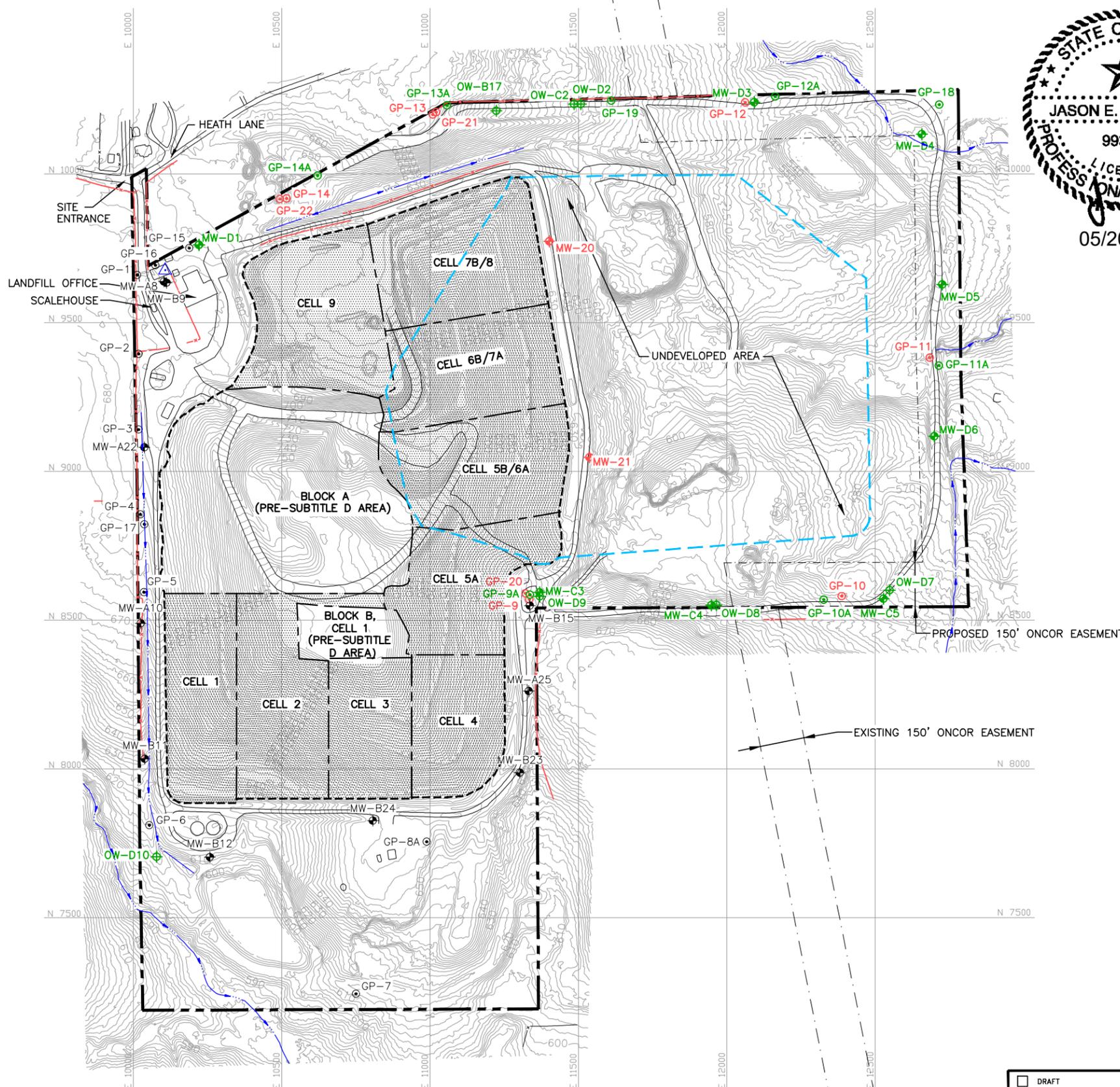
DRAWING I/IIA.1	Site Plan
DRAWING I/IIA.2	Cell Development Plan
DRAWING I/IIA.3	Typical Section A
DRAWING I/IIA.4	Sector Development Plan I
DRAWING I/IIA.5	Sector Development Plan II
DRAWING I/IIA.6	Sector Development Plan III
DRAWING I/IIA.7	Sector Development Plan IV
DRAWING I/IIA.8	Sector Development Plan V
DRAWING I/IIA.9	Landfill Completion Plan
DRAWING I/IIA.10	Top of Liner Plan
DRAWING I/IIA.11	Existing Site Entrance Plan
DRAWING I/IIA.12	Access Control Plan

*This appendix
addresses
§ 330.61(d).*



05/20/2024

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- LEGEND**
- PERMIT BOUNDARY
 - PERMITTED LIMIT OF WASTE
 - NEWLY PERMITTED AIRSPACE LIMIT OF WASTE (SEE NOTE 7)
 - CELL BOUNDARY
 - EXISTING EASEMENT
 - PROPOSED EASEMENT (SEE NOTE 6)
 - CHANNEL CENTERLINE
 - SITE GRID
 - EXISTING CONTOUR (SEE NOTE 1)
 - EXISTING FENCE
 - EXISTING SUBTITLE D COMPOSITE LINED AREA
 - MW-10 EXISTING GROUNDWATER MONITORING WELL
 - MW-21 EXISTING GROUNDWATER MONITORING WELL (TO BE DECOMMISSIONED)
 - MW-D1 PROPOSED GROUNDWATER MONITORING WELL
 - ⊕ OW-D7 PROPOSED OBSERVATION WELL
 - ⊙ GP-1 EXISTING GAS PROBE
 - ⊙ GP-10 EXISTING GAS PROBE (TO BE DECOMMISSIONED)
 - ⊙ GP-10A PROPOSED GAS PROBE
 - △ SITE BENCHMARK (SEE NOTE 3)

- NOTES:**
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
 2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
 3. THE SITE BENCHMARK INFORMATION IS LISTED BELOW.

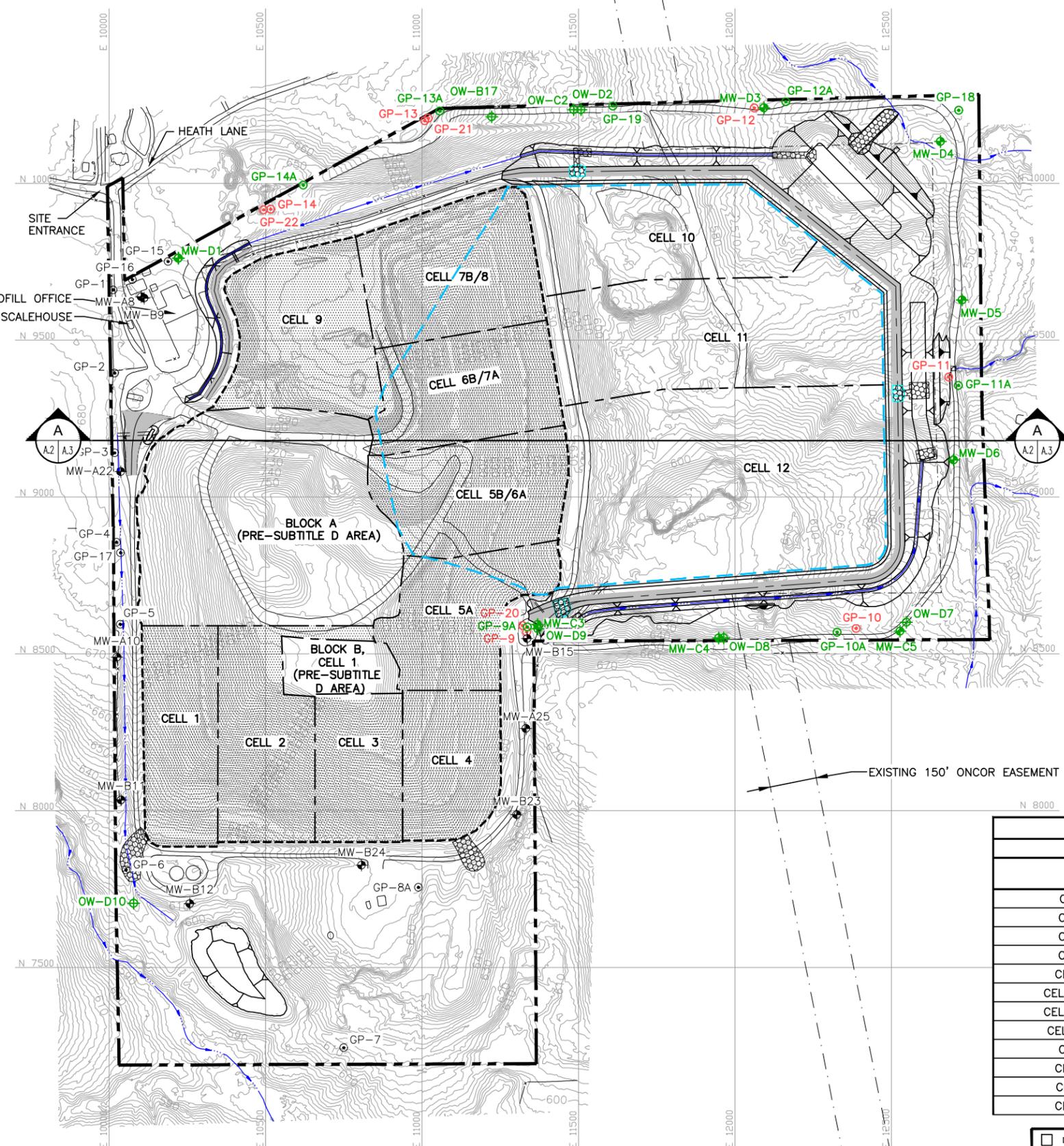
SITE BENCHMARK INFORMATION

MONUMENT	NORTHING (SITE GRID)	EASTING (SITE GRID)	ELEVATION (FT-MSL)
1	9675.73	10107.79	685.63

- ELEVATION IS BASED ON NAVD 88.
4. SEQUENCE OF SITE DEVELOPMENT IS PROVIDED ON DRAWING 1/IIA.4 THROUGH 1/IIA.8.
 5. UNAUTHORIZED ACCESS TO THE EXISTING FILL AREA AND ENTRANCE FACILITY IS CONTROLLED WITH PERIMETER FENCING (MINIMUM 4-FOOT HIGH, 3-STRAND BARBED WIRE FENCE), GATED ENTRANCE AND NATURAL BARRIERS (DENSE FOLIAGE, VEGETATION, AND WATERWAYS). REFER TO DRAWING 1/IIA.14 FOR ACCESS CONTROL PLAN.
 6. EXISTING ONCOR EASEMENT AND POWERLINE TO BE RELOCATED. REFER TO APPENDIX 1/IIIF FOR MORE INFORMATION.
 7. THE NEWLY PERMITTED AIRSPACE DOES NOT LIE WITHIN ANY PRE-SUBTITLE D LINED AREAS.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL TX, LP	MAJOR PERMIT AMENDMENT SITE PLAN
DATE: 05/20/24 FILE: 0120-76-11 CAD: A.1-SITE PLAN.DWG	DRAWN BY: JDW DESIGN BY: BPY REVIEWED BY: JAE	ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM DRAWING 1/IIA.1

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LEGEND

- PERMIT BOUNDARY
- PERMITTED LIMIT OF WASTE
- NEWLY PERMITTED AIRSPACE LIMIT OF WASTE (SEE NOTE 7)
- CELL BOUNDARY
- EXISTING EASEMENT
- PROPOSED EASEMENT
- CHANNEL CENTERLINE
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- EXISTING SUBTITLE D COMPOSITE LINED AREA
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- MW-D1 PROPOSED GROUNDWATER MONITORING WELL
- OW-D7 PROPOSED OBSERVATION WELL
- GP-1 EXISTING GAS PROBE
- GP-10A PROPOSED GAS PROBE
- PERIMETER ACCESS ROAD
- 3H:1V SLOPE (TYPICAL)

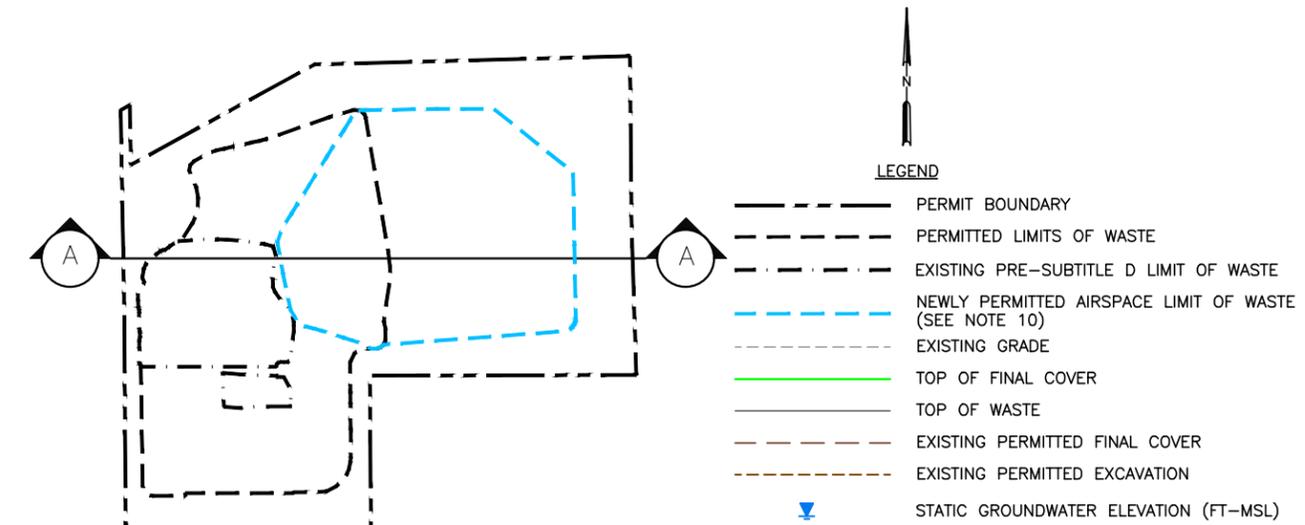
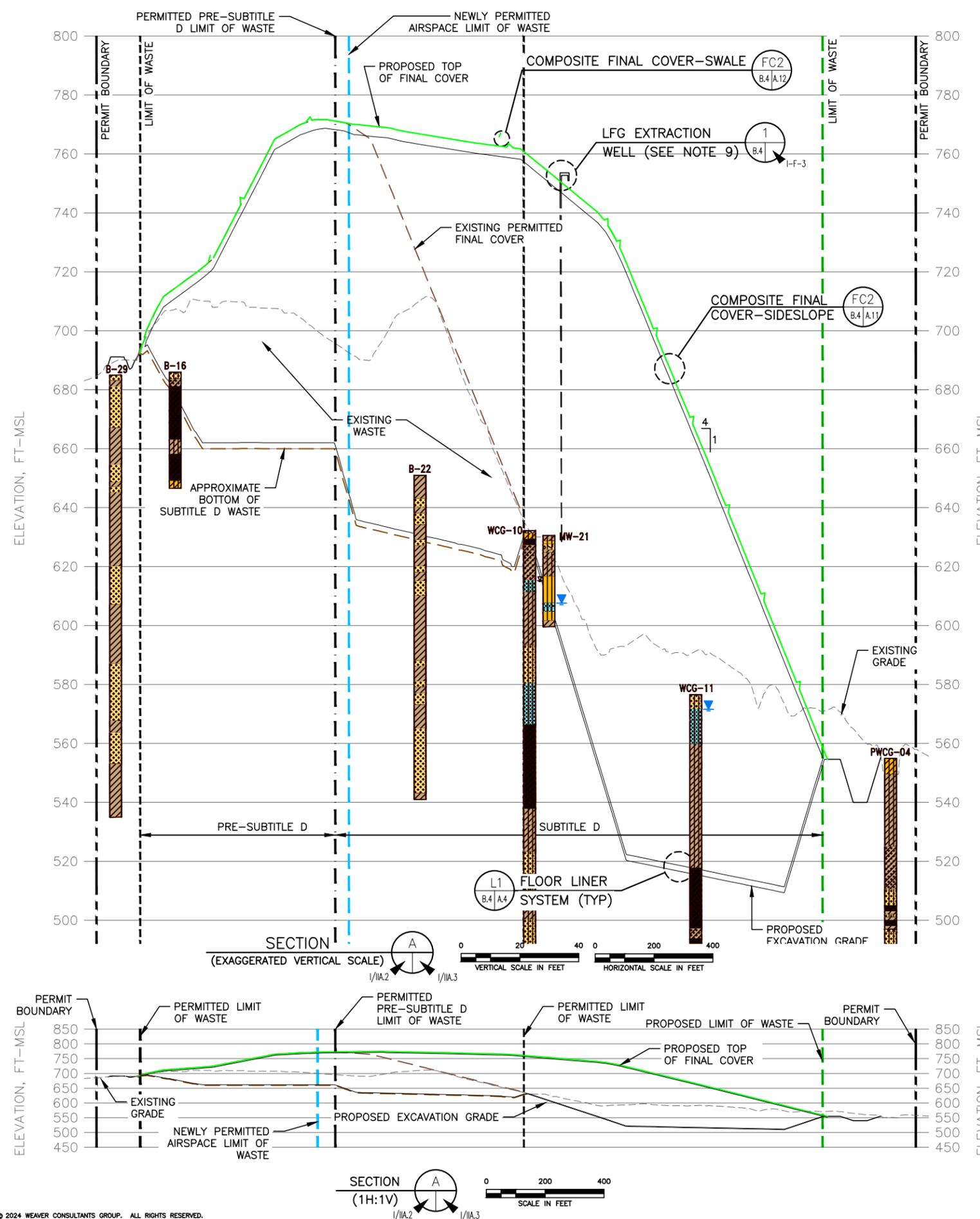
NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
3. TYPICAL CROSS SECTION PROVIDED IN DRAWING I/IIA.3 ADDITIONAL SECTION INFORMATION PROVIDED IN APPENDIX IIIA-B - LANDFILL UNIT CROSS SECTIONS.
4. SEE DRAWINGS I/IIA.4 THROUGH I/IIA.8 FOR DETAILED CELL DEVELOPMENT PLANS.
5. WIDTH OF THE BUFFER ZONE BETWEEN THE LIMITS OF WASTE AND THE PERMIT BOUNDARY VARIES; HOWEVER, THE BUFFER ZONE IS A MINIMUM OF 50 FEET FOR EXISTING FILL AREAS AND 125 FEET FOR THE NEWLY PERMITTED AIRSPACE. REFER TO APPENDIX I/IIIC FOR MORE INFORMATION REGARDING BUFFER ZONE.
6. EACH CELL, INCLUDING THE PRE-SUBTITLE D FILL AREA, WILL ACCEPT MUNICIPAL SOLID WASTE RESULTING FROM, OR INCIDENTAL TO, MUNICIPAL, COMMUNITY, COMMERCIAL, INSTITUTIONAL, RECREATIONAL AND INDUSTRIAL ACTIVITIES, INCLUDING GARBAGE, PUTRESCIBLE WASTES, RUBBISH, ASHES, BRUSH, STREET CLEANINGS, DEAD ANIMALS, ABANDONED AUTOMOBILES, CONSTRUCTION-DEMOLITION WASTE, YARD WASTE, CLASS 2 NON-HAZARDOUS INDUSTRIAL SOLID WASTE, CLASS 3 NON-HAZARDOUS INDUSTRIAL SOLID WASTE, AND CERTAIN SPECIAL WASTES.
7. THE NEWLY PERMITTED AIRSPACE DOES NOT LIE WITHIN ANY PRE-SUBTITLE D LINED AREAS.

SUBTITLE D AREA				PRE-SUBTITLE D AREA			
CELL	MAX LENGTH (FT)	MAX WIDTH (FT)	AREA (ACRES)	CELL	MAX LENGTH (FT)	MAX WIDTH (FT)	AREA (ACRES)
CELL 1	704	244	3.67	BLOCK A	673	825	13.76
CELL 2	705	311	4.60	BLOCK B, CELL 1	187	381	1.44
CELL 3	465	280	3.39				
CELL 4	479	313	3.53				
CELL 5A	397	502	4.22				
CELL 5B/6A	388	630	4.55				
CELL 6B/7A	392	544	4.64				
CELL 7B/8	392	526	5.50				
CELL 9	576	657	5.20				
CELL 10	324	1022	5.87				
CELL 11	350	1034	8.79				
CELL 12	353	1158	13.90				

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	DATE: 05/20/24 FILE: 0120-76-11 CAD: A2-CELL DEVELOPMENT.DWG		DRAWN BY: JDW DESIGN BY: BPY REVIEWED BY: JAE	ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS				
Weaver Consultants Group TBPE REGISTRATION NO. F-3727	REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	DESCRIPTION				WWW.WCGRP.COM DRAWING I/IIA.2
NO.	DATE	DESCRIPTION						

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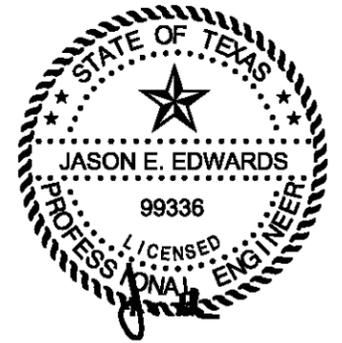


- NOTES:**
- EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
 - REFER TO APPENDIX IIIA-A FOR LINER, LEACHATE COLLECTION, AND FINAL COVER SYSTEM DETAILS.
 - SEE APPENDIX IIIG FOR BORING DATA. BORINGS PROJECTED INTO THE LINE OF SECTION. SEE DRAWING B.1 FOR LOCATION.
 - AS SHOWN IN APPENDIX I/IIIC, THE BUFFER ZONES VARY AROUND THE PERIMETER OF THE SITE, BUT IN NO CASE ARE THEY LESS THAN 50- FEET FOR EXISTING WASTE. THE BUFFER ZONE BETWEEN THE PERMIT BOUNDARY AND NEWLY PERMITTED (PERMIT NO. 1614B) WASTE DISPOSAL AIRSPACE IS AT LEAST 125- FEET.
 - REFER TO APPENDIX IIII, FOR DETAILS OF THE LANDFILL GAS MANAGEMENT PLAN.
 - DRAINAGE DESIGN INFORMATION IS PROVIDED IN APPENDIX IIIF-SURFACE WATER DRAINAGE PLAN.
 - ELEVATION OF DEEPEST EXCAVATION AT THE LCS SUMP IS 504.0 FT-MSL.
 - LOCATIONS OF TYPICAL LFG EXTRACTION WELLS CAN BE FOUND IN APPENDIX IIII.
 - TOP OF PRE-SUBTITLE D LINER GRADES ARE APPROXIMATE AND WERE REPRODUCED FROM CROSS-SECTIONS INCLUDED IN THE 1983 PERMIT APPLICATION PREPARED BY STOKES & ASSOCIATES.
 - THE NEWLY PERMITTED AIRSPACE DOES NOT LIE WITHIN ANY PRE-SUBTITLE D LINED AREAS.

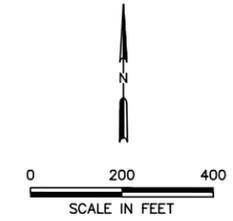
LEGEND			



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	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/2024 FILE: 0120-76-11 CAD: A.3-SECTIONS.DWG	DRAWN BY: RAA DESIGN BY: SSM REVIEWED BY: JAE	REVISIONS		
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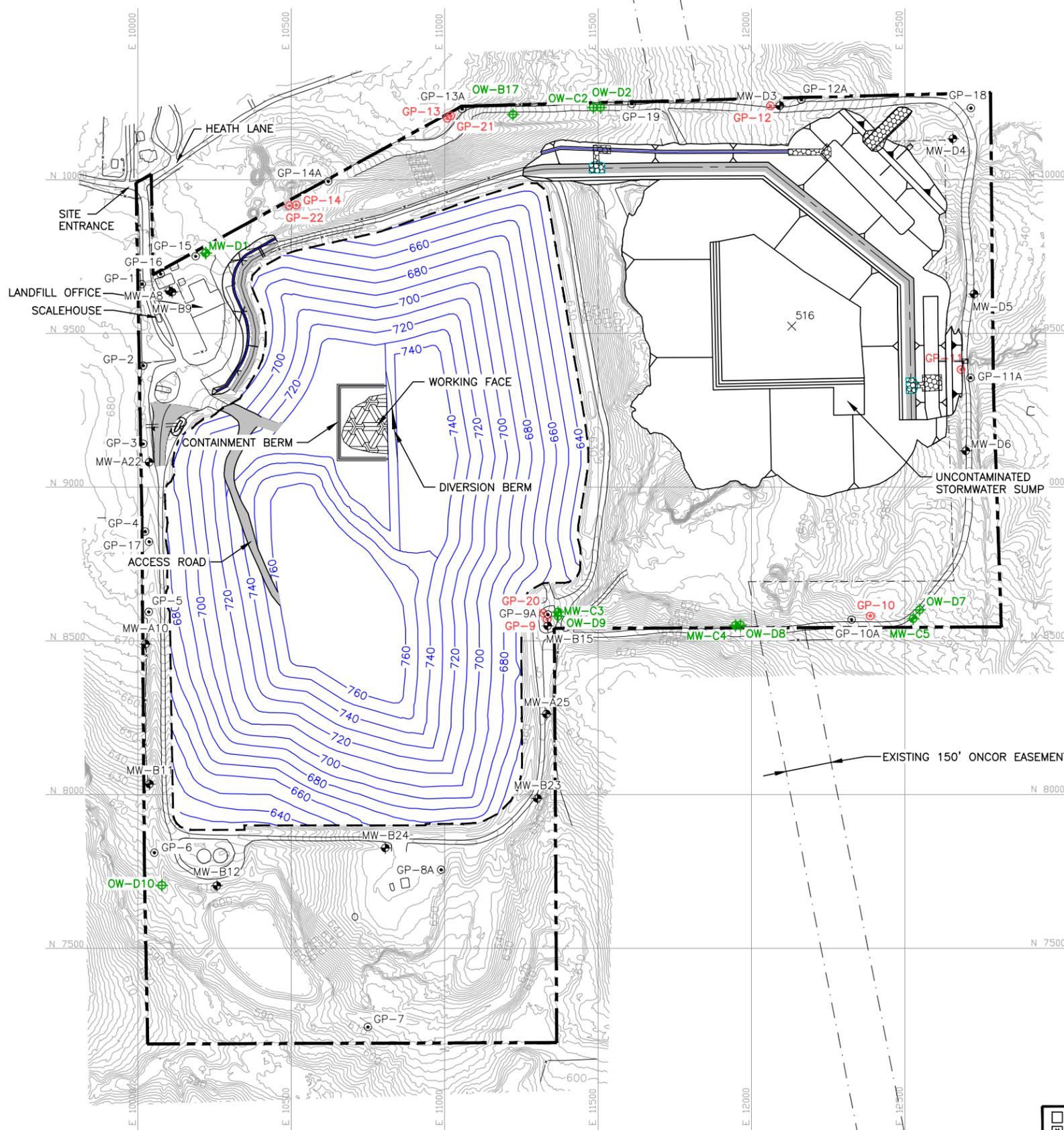


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LEGEND

- PERMIT BOUNDARY
- LIMIT OF WASTE
- SITE GRID
- 610 EXISTING CONTOUR (SEE NOTE 1)
- EXISTING EASEMENT
- PROPOSED EASEMENT
- 700 INTERMEDIATE COVER
- CHANNEL CENTERLINE
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- MW-D1 PROPOSED GROUNDWATER MONITORING WELL
- OW-D7 PROPOSED OBSERVATION WELL
- GP-1 EXISTING GAS PROBE
- GP-10A PROPOSED GAS PROBE



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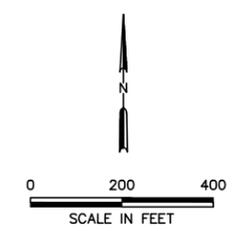
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2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
3. REFER TO APPENDIX IIIC-LEACHATE AND CONTAMINATED WATER MANAGEMENT PLAN FOR CONTAMINATED WATER RUN-ON/RUN-OFF BERM DESIGN INFORMATION.
4. THE CELL DEVELOPMENT SHOWN ON THIS DRAWING SHOWS THE GENERAL SEQUENCE OF FILLING OPERATIONS. THE LOCATION OF THE ALL-WEATHER ACCESS ROAD FROM THE LANDFILL HAUL ROAD TO THE ACTIVE AREA WILL BE DETERMINED DURING SITE OPERATIONS.
5. INTERMEDIATE COVER CONSISTS OF A 12-INCH THICK SOIL LAYER. REFER TO PART IV - SITE OPERATING PLAN FOR ADDITIONAL SOIL COVER REQUIREMENTS.
6. LANDFILL HAUL ROAD WILL BE SURFACED WITH CRUSHED STONE TO PROVIDE ALL-WEATHER ACCESS.
7. REFER TO APPENDIX IIIF-SURFACE WATER DRAINAGE PLAN FOR THE EROSION AND SEDIMENTATION CONTROL PLAN. DRAINAGE STRUCTURES ARE SHOWN AS THE SITE DEVELOPS. ADDITIONALLY Bmps WILL BE USED TO CONTROL EROSION AS NEEDED.
8. REFER TO APPENDIX III I FOR LANDFILL GAS MANAGEMENT PLAN.
9. UNCONTAMINATED STORMWATER THAT HAS NOT COME INTO CONTACT WITH WASTE WILL BE COLLECTED IN SUMPS AND PERIODICALLY REMOVED FROM EXCAVATED AREAS BY PUMPING TO PERIMETER DRAINAGE CHANNELS OR USED IN SITE OPERATIONS (E.G., DUST CONTROL, COMPACTING, ETC.).
10. TEMPORARY CHUTES AND SWALES WILL BE PLACED OVER THE INTERMEDIATE COVER AREA TO MINIMIZE EROSION AND HELP ESTABLISH VEGETATION FOR INTERMEDIATE COVER AREAS THAT WILL NOT RECEIVE WASTE OR FINAL COVER WITHIN 180 DAYS AFTER PLACEMENT (REFER TO APPENDIX IIIF-F FOR MORE INFORMATION). MULCH, HYDROSEEDING OR SIMILAR METHODS WILL BE USED TO ESTABLISH VEGETATION OVER THE INTERMEDIATE COVER AREAS. SWALES AND LETDOWN SPACING WILL MEET THE REQUIREMENTS OF THE EROSION CONTROL PLAN INCLUDED IN APPENDIX IIIF-F.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL TX, LP	MAJOR PERMIT AMENDMENT SECTOR DEVELOPMENT PLAN I
DATE: 05/20/24 FILE: 0120-76-11 CAD: A4-SEQ PLAN LDWG	DRAWN BY: BPF DESIGN BY: BPF REVIEWED BY: JAE	ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM DRAWING I/IIA.4

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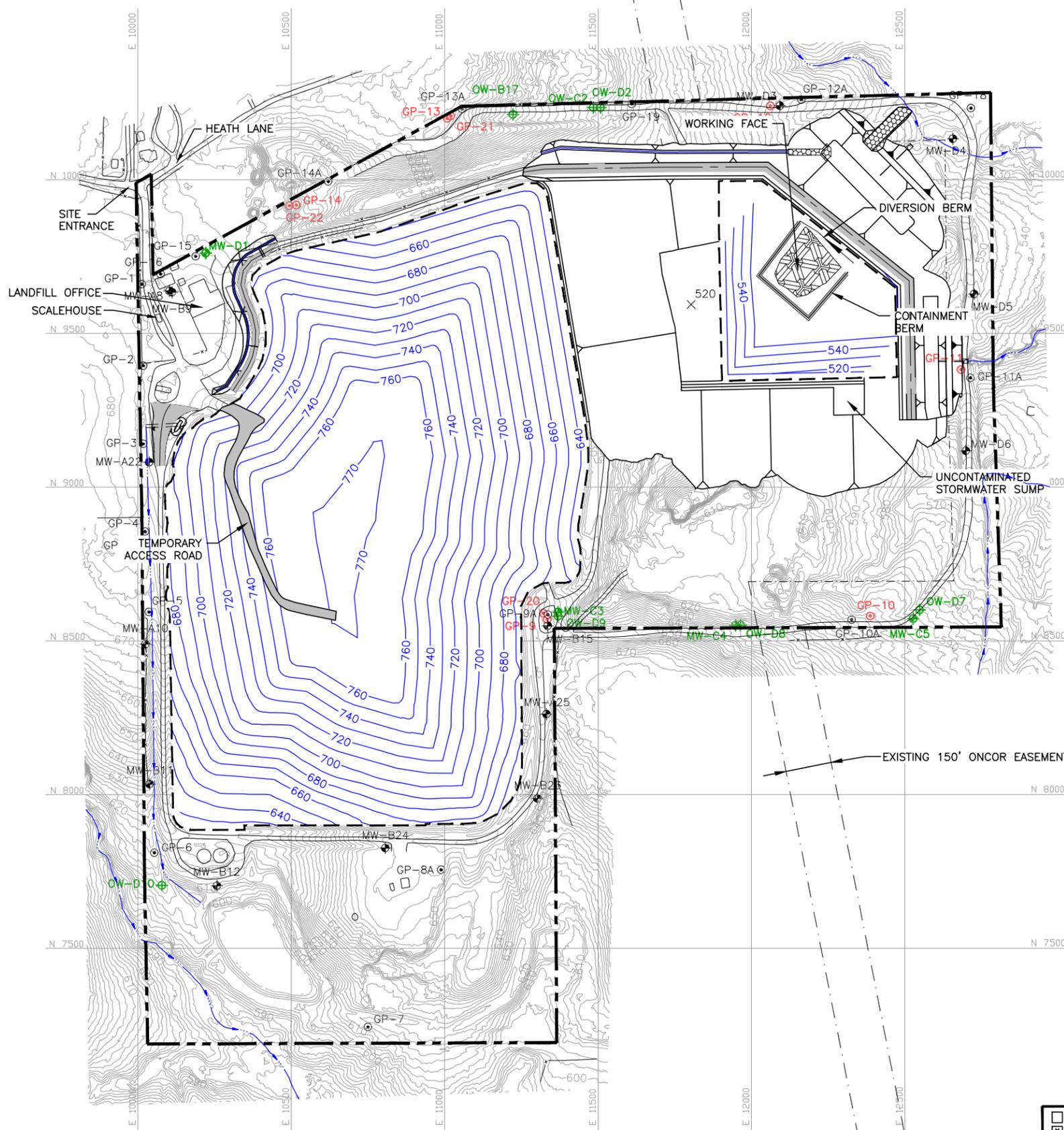


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LEGEND

	PERMIT BOUNDARY
	LIMIT OF WASTE
	SITE GRID
	EXISTING CONTOUR (SEE NOTE 1)
	EXISTING EASEMENT
	PROPOSED EASEMENT
	INTERMEDIATE COVER
	CHANNEL CENTERLINE
	MW-10 EXISTING GROUNDWATER MONITORING WELL
	MW-D1 PROPOSED GROUNDWATER MONITORING WELL
	OW-D7 PROPOSED OBSERVATION WELL
	GP-1 EXISTING GAS PROBE
	GP-10A PROPOSED GAS PROBE

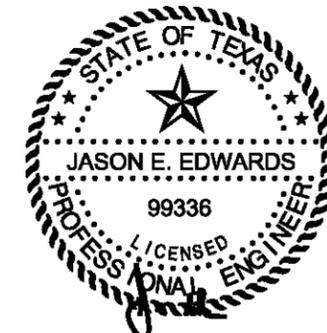


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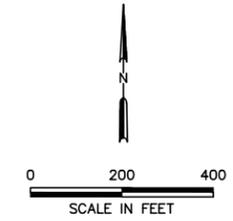
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- PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
- REFER TO APPENDIX IIIC-LEACHATE AND CONTAMINATED WATER MANAGEMENT PLAN FOR CONTAMINATED WATER RUN-ON/RUN-OFF BERM DESIGN INFORMATION.
- THE CELL DEVELOPMENT SHOWN ON THIS DRAWING SHOWS THE GENERAL SEQUENCE OF FILLING OPERATIONS. THE LOCATION OF THE ALL-WEATHER ACCESS ROAD FROM THE LANDFILL HAUL ROAD TO THE ACTIVE AREA WILL BE DETERMINED DURING SITE OPERATIONS.
- INTERMEDIATE COVER CONSISTS OF A 12-INCH THICK SOIL LAYER. REFER TO PART IV - SITE OPERATING PLAN FOR ADDITIONAL SOIL COVER REQUIREMENTS.
- LANDFILL HAUL ROAD WILL BE SURFACED WITH CRUSHED STONE TO PROVIDE ALL-WEATHER ACCESS.
- REFER TO APPENDIX IIIF-SURFACE WATER DRAINAGE PLAN FOR THE EROSION AND SEDIMENTATION CONTROL PLAN. DRAINAGE STRUCTURES ARE SHOWN AS THE SITE DEVELOPS. ADDITIONALLY BMPs WILL BE USED TO CONTROL EROSION AS NEEDED.
- REFER TO APPENDIX III I FOR LANDFILL GAS MANAGEMENT PLAN.
- UNCONTAMINATED STORMWATER THAT HAS NOT COME INTO CONTACT WITH WASTE WILL BE COLLECTED IN SUMPS AND PERIODICALLY REMOVED FROM EXCAVATED AREAS BY PUMPING TO PERIMETER DRAINAGE CHANNELS OR USED IN SITE OPERATIONS (E.G., DUST CONTROL, COMPACTING, ETC.).
- TEMPORARY CHUTES AND SWALES WILL BE PLACED OVER THE INTERMEDIATE COVER AREA TO MINIMIZE EROSION AND HELP ESTABLISH VEGETATION FOR INTERMEDIATE COVER AREAS THAT WILL NOT RECEIVE WASTE OR FINAL COVER WITHIN 180 DAYS AFTER PLACEMENT (REFER TO APPENDIX IIIF-F FOR MORE INFORMATION). MULCH, HYDROSEEDING OR SIMILAR METHODS WILL BE USED TO ESTABLISH VEGETATION OVER THE INTERMEDIATE COVER AREAS. SWALE AND LETDOWN SPACING WILL MEET THE REQUIREMENTS OF THE EROSION CONTROL PLAN INCLUDED IN APPENDIX IIIF-F.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT SECTOR DEVELOPMENT PLAN II	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/20/24 FILE: 0120-76-11 CAD: A5-SEQ PLAN I.DWG	DRAWN BY: BPF DESIGN BY: BPF REVIEWED BY: JAE	REVISIONS		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NO.	DATE	DESCRIPTION
WWW.WCGRP.COM		DRAWING I/IIA.5		

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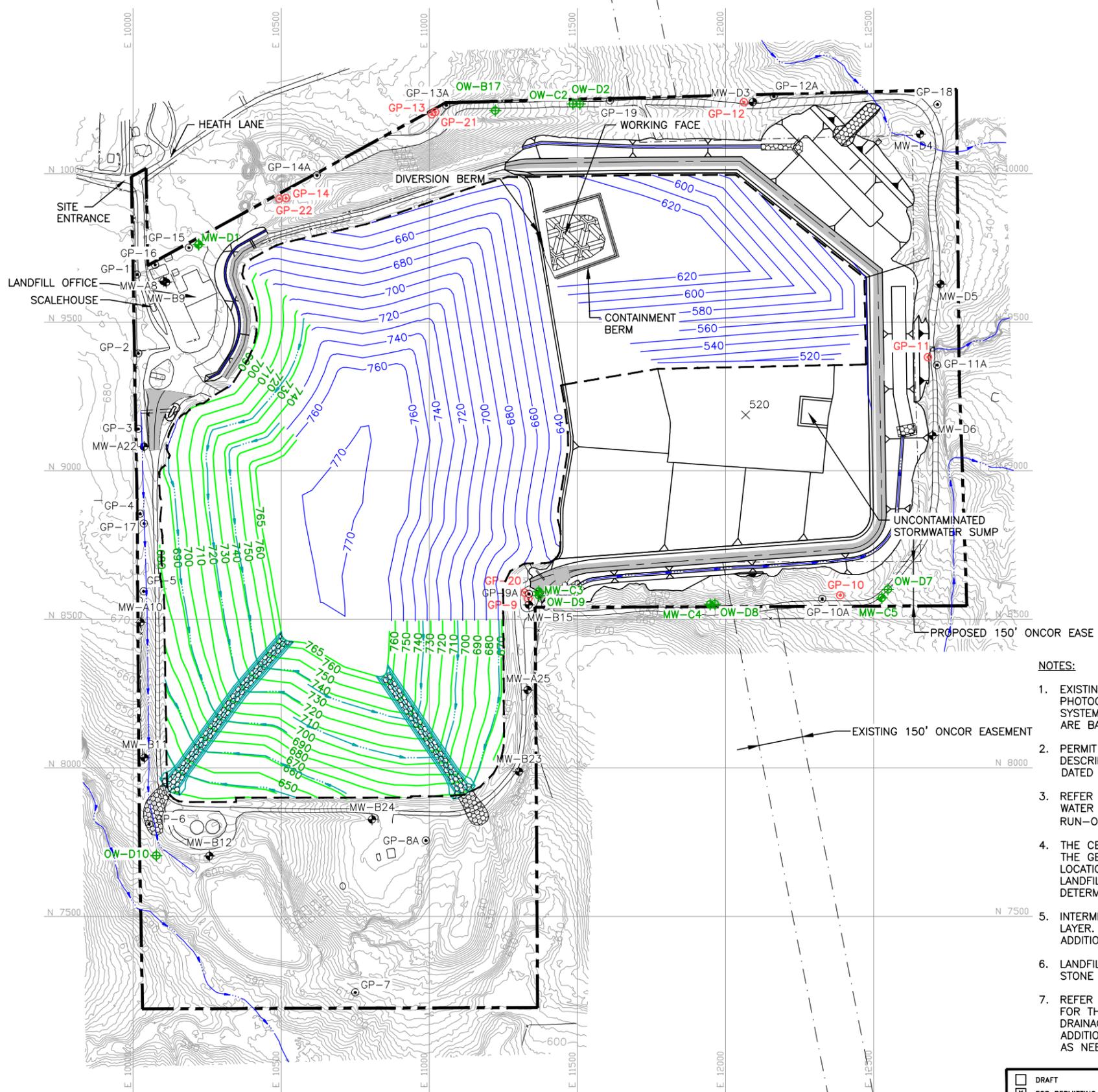


05/20/2024



LEGEND

	PERMIT BOUNDARY
	LIMIT OF WASTE
	SITE GRID
	EXISTING CONTOUR (SEE NOTE 1)
	EXISTING EASEMENT
	PROPOSED EASEMENT
	INTERMEDIATE COVER
	CHANNEL CENTERLINE
	MW-10 EXISTING GROUNDWATER MONITORING WELL
	MW-D1 PROPOSED GROUNDWATER MONITORING WELL
	OW-D7 PROPOSED OBSERVATION WELL
	GP-1 EXISTING GAS PROBE
	GP-10A PROPOSED GAS PROBE



NOTES:

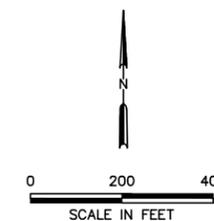
- EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
- PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
- REFER TO APPENDIX IIIC-LEACHATE AND CONTAMINATED WATER MANAGEMENT PLAN FOR CONTAMINATED WATER RUN-ON/RUN-OFF BERM DESIGN INFORMATION.
- THE CELL DEVELOPMENT SHOWN ON THIS DRAWING SHOWS THE GENERAL SEQUENCE OF FILLING OPERATIONS. THE LOCATION OF THE ALL-WEATHER ACCESS ROAD FROM THE LANDFILL HAUL ROAD TO THE ACTIVE AREA WILL BE DETERMINED DURING SITE OPERATIONS.
- INTERMEDIATE COVER CONSISTS OF A 12-INCH THICK SOIL LAYER. REFER TO PART IV - SITE OPERATING PLAN FOR ADDITIONAL SOIL COVER REQUIREMENTS.
- LANDFILL HAUL ROAD WILL BE SURFACED WITH CRUSHED STONE TO PROVIDE ALL-WEATHER ACCESS.
- REFER TO APPENDIX IIIF-SURFACE WATER DRAINAGE PLAN FOR THE EROSION AND SEDIMENTATION CONTROL PLAN. DRAINAGE STRUCTURES ARE SHOWN AS THE SITE DEVELOPS. ADDITIONALLY BMPs WILL BE USED TO CONTROL EROSION AS NEEDED.
- REFER TO APPENDIX III I FOR LANDFILL GAS MANAGEMENT PLAN.
- UNCONTAMINATED STORMWATER THAT HAS NOT COME INTO CONTACT WITH WASTE WILL BE COLLECTED IN SUMPS AND PERIODICALLY REMOVED FROM EXCAVATED AREAS BY PUMPING TO PERIMETER DRAINAGE CHANNELS OR USED IN SITE OPERATIONS (E.G., DUST CONTROL, COMPACTING, ETC.).
- TEMPORARY CHUTES AND SWALES WILL BE PLACED OVER THE INTERMEDIATE COVER AREA TO MINIMIZE EROSION AND HELP ESTABLISH VEGETATION FOR INTERMEDIATE COVER AREAS THAT WILL NOT RECEIVE WASTE OR FINAL COVER WITHIN 180 DAYS AFTER PLACEMENT (REFER TO APPENDIX IIIF-F FOR MORE INFORMATION). MULCH, HYDROSEEDING OR SIMILAR METHODS WILL BE USED TO ESTABLISH VEGETATION OVER THE INTERMEDIATE COVER AREAS. SWALE AND LETDOWN SPACING WILL MEET THE REQUIREMENTS OF THE EROSION CONTROL PLAN INCLUDED IN APPENDIX IIIF-F.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT SECTOR DEVELOPMENT PLAN III	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/20/24 FILE: 0120-76-11 CAD: A-6-SEQ PLAN I.DWG	DRAWN BY: BPF DESIGN BY: BPF REVIEWED BY: JAE	REVISIONS		
		NO.	DATE	DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS		
		WWW.WCGRP.COM	DRAWING I/IIA.6	

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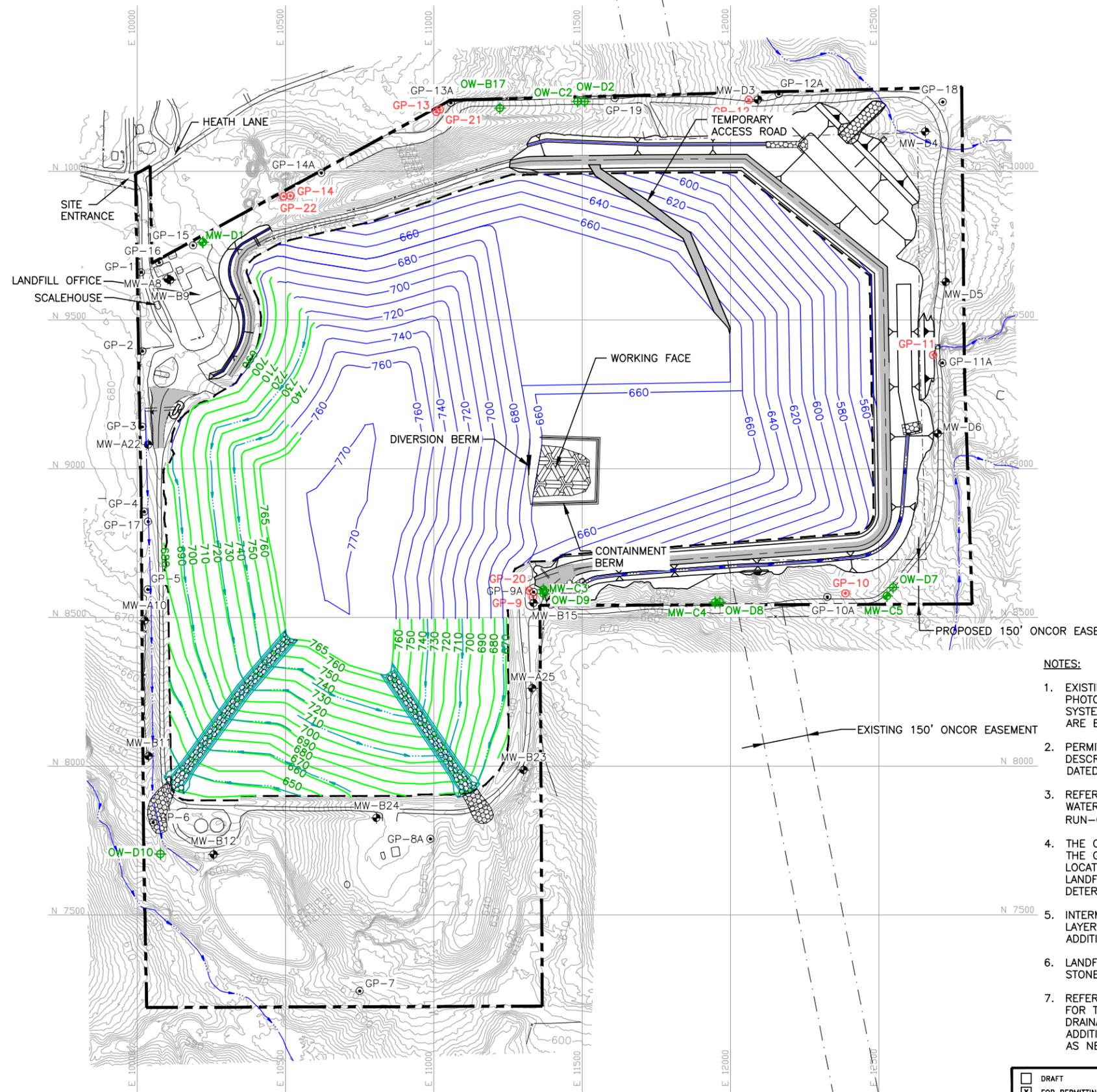


05/20/2024



LEGEND

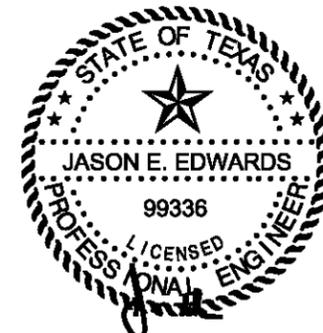
	PERMIT BOUNDARY
	LIMIT OF WASTE
	SITE GRID
	EXISTING CONTOUR (SEE NOTE 1)
	EXISTING EASEMENT
	PROPOSED EASEMENT
	INTERMEDIATE COVER
	CHANNEL CENTERLINE
	PROPOSED FINAL COVER CONTOUR
	DRAINAGE SWALE
	DRAINAGE LETDOWN
	MW-10 EXISTING GROUNDWATER MONITORING WELL
	MW-D1 PROPOSED GROUNDWATER MONITORING WELL
	OW-D7 PROPOSED OBSERVATION WELL
	GP-1 EXISTING GAS PROBE
	GP-10A PROPOSED GAS PROBE



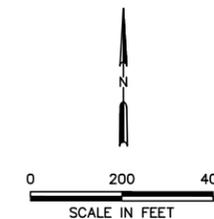
NOTES:

- EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
- PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
- REFER TO APPENDIX IIIC-LEACHATE AND CONTAMINATED WATER MANAGEMENT PLAN FOR CONTAMINATED WATER RUN-ON/RUN-OFF BERM DESIGN INFORMATION.
- THE CELL DEVELOPMENT SHOWN ON THIS DRAWING SHOWS THE GENERAL SEQUENCE OF FILLING OPERATIONS. THE LOCATION OF THE ALL-WEATHER ACCESS ROAD FROM THE LANDFILL HAUL ROAD TO THE ACTIVE AREA WILL BE DETERMINED DURING SITE OPERATIONS.
- INTERMEDIATE COVER CONSISTS OF A 12-INCH THICK SOIL LAYER. REFER TO PART IV - SITE OPERATING PLAN FOR ADDITIONAL SOIL COVER REQUIREMENTS.
- LANDFILL HAUL ROAD WILL BE SURFACED WITH CRUSHED STONE TO PROVIDE ALL-WEATHER ACCESS.
- REFER TO APPENDIX IIIF-SURFACE WATER DRAINAGE PLAN FOR THE EROSION AND SEDIMENTATION CONTROL PLAN. DRAINAGE STRUCTURES ARE SHOWN AS THE SITE DEVELOPS. ADDITIONALLY BMPs WILL BE USED TO CONTROL EROSION AS NEEDED.
- REFER TO APPENDIX III I FOR LANDFILL GAS MANAGEMENT PLAN.
- UNCONTAMINATED STORMWATER THAT HAS NOT COME INTO CONTACT WITH WASTE WILL BE COLLECTED IN SUMPS AND PERIODICALLY REMOVED FROM EXCAVATED AREAS BY PUMPING TO PERIMETER DRAINAGE CHANNELS OR USED IN SITE OPERATIONS (E.G., DUST CONTROL, COMPACTING, ETC.).
- TEMPORARY CHUTES AND SWALES WILL BE PLACED OVER THE INTERMEDIATE COVER AREA TO MINIMIZE EROSION AND HELP ESTABLISH VEGETATION FOR INTERMEDIATE COVER AREAS THAT WILL NOT RECEIVE WASTE OR FINAL COVER WITHIN 180 DAYS AFTER PLACEMENT (REFER TO APPENDIX IIIF-F FOR MORE INFORMATION). MULCH, HYDROSEEDING OR SIMILAR METHODS WILL BE USED TO ESTABLISH VEGETATION OVER THE INTERMEDIATE COVER AREAS. SWALE AND LETDOWN SPACING WILL MEET THE REQUIREMENTS OF THE EROSION CONTROL PLAN INCLUDED IN APPENDIX IIIF-F.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT SECTOR DEVELOPMENT PLAN IV	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/20/24 FILE: 0120-76-11 CAD: A7-SEQ PLAN IV.DWG	DRAWN BY: BPF DESIGN BY: BPF REVIEWED BY: JAE	REVISIONS		
		NO.	DATE	DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS		
		WWW.WCGRP.COM	DRAWING 1/IIA.7	

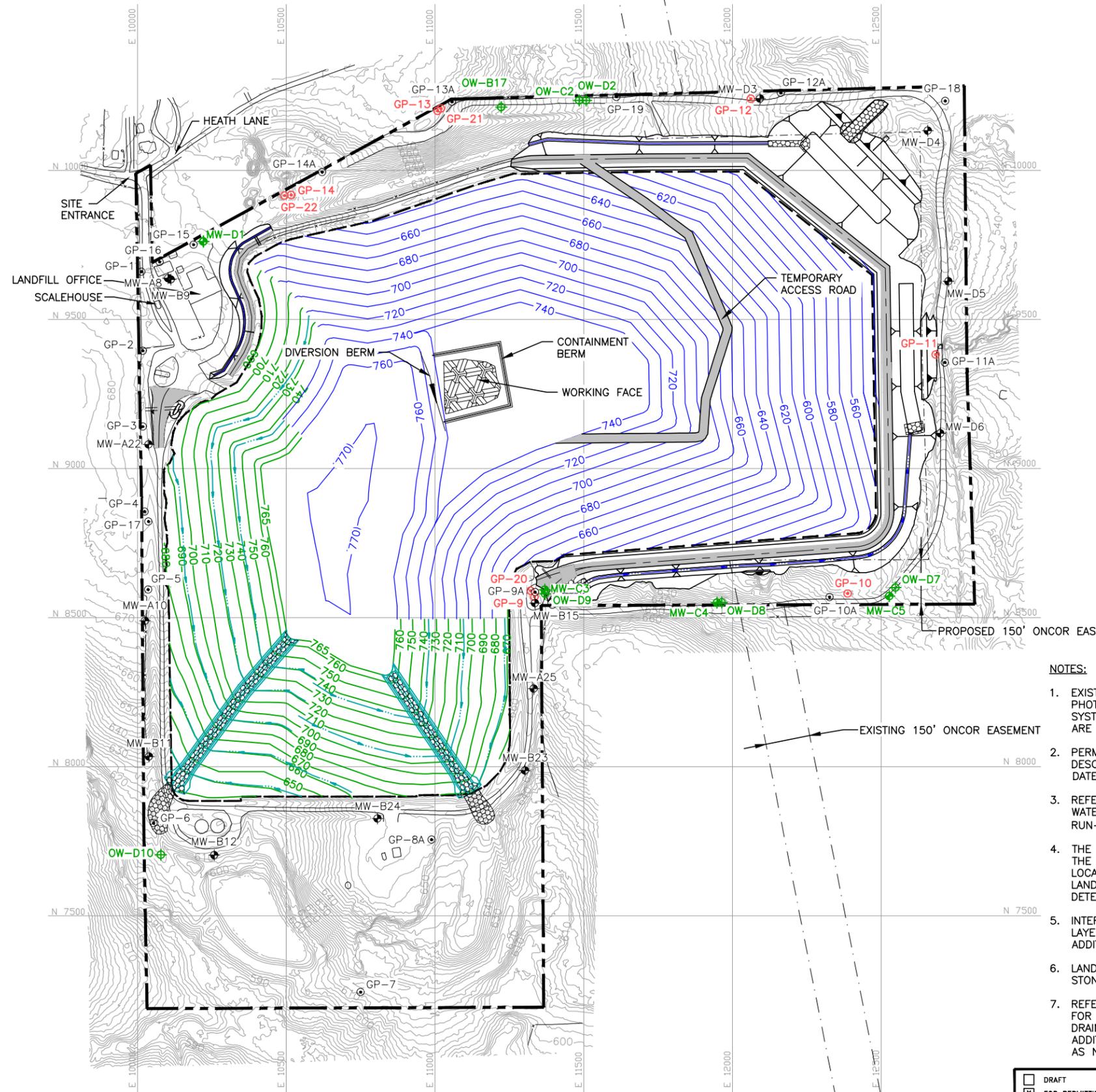


05/20/2024



LEGEND

- PERMIT BOUNDARY
- LIMIT OF WASTE
- E 10500 SITE GRID
- 610 EXISTING CONTOUR (SEE NOTE 1)
- EXISTING EASEMENT
- PROPOSED EASEMENT
- 700 INTERMEDIATE COVER
- 680 PROPOSED FINAL COVER CONTOUR
- DRAINAGE SWALE
- DRAINAGE LETDOWN
- CHANNEL CENTERLINE
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- MW-D1 PROPOSED GROUNDWATER MONITORING WELL
- OW-D7 PROPOSED OBSERVATION WELL
- GP-1 EXISTING GAS PROBE
- GP-10A PROPOSED GAS PROBE

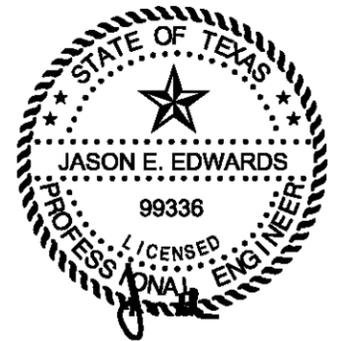


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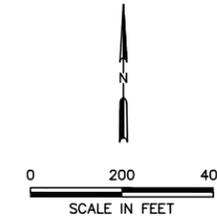
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
3. REFER TO APPENDIX IIIC-LEACHATE AND CONTAMINATED WATER MANAGEMENT PLAN FOR CONTAMINATED WATER RUN-ON/RUN-OFF BERM DESIGN INFORMATION.
4. THE CELL DEVELOPMENT SHOWN ON THIS DRAWING SHOWS THE GENERAL SEQUENCE OF FILLING OPERATIONS. THE LOCATION OF THE ALL-WEATHER ACCESS ROAD FROM THE LANDFILL HAUL ROAD TO THE ACTIVE AREA WILL BE DETERMINED DURING SITE OPERATIONS.
5. INTERMEDIATE COVER CONSISTS OF A 12-INCH THICK SOIL LAYER. REFER TO PART IV - SITE OPERATING PLAN FOR ADDITIONAL SOIL COVER REQUIREMENTS.
6. LANDFILL HAUL ROAD WILL BE SURFACED WITH CRUSHED STONE TO PROVIDE ALL-WEATHER ACCESS.
7. REFER TO APPENDIX IIIF-SURFACE WATER DRAINAGE PLAN FOR THE EROSION AND SEDIMENTATION CONTROL PLAN. DRAINAGE STRUCTURES ARE SHOWN AS THE SITE DEVELOPS. ADDITIONALLY BMPs WILL BE USED TO CONTROL EROSION AS NEEDED.
8. REFER TO APPENDIX III I FOR LANDFILL GAS MANAGEMENT PLAN.
9. UNCONTAMINATED STORMWATER THAT HAS NOT COME INTO CONTACT WITH WASTE WILL BE COLLECTED IN SUMPS AND PERIODICALLY REMOVED FROM EXCAVATED AREAS BY PUMPING TO PERIMETER DRAINAGE CHANNELS OR USED IN SITE OPERATIONS (E.G., DUST CONTROL, COMPACTING, ETC.).
10. TEMPORARY CHUTES AND SWALES WILL BE PLACED OVER THE INTERMEDIATE COVER AREA TO MINIMIZE EROSION AND HELP ESTABLISH VEGETATION FOR INTERMEDIATE COVER AREAS THAT WILL NOT RECEIVE WASTE OR FINAL COVER WITHIN 180 DAYS AFTER PLACEMENT (REFER TO APPENDIX IIIF-F FOR MORE INFORMATION). MULCH, HYDROSEEDING OR SIMILAR METHODS WILL BE USED TO ESTABLISH VEGETATION OVER THE INTERMEDIATE COVER AREAS. SWALE AND LETDOWN SPACING WILL MEET THE REQUIREMENTS OF THE EROSION CONTROL PLAN INCLUDED IN APPENDIX IIIF-F.

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT SECTOR DEVELOPMENT PLAN V	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/2024 FILE: 0120-76-11 CAD: A-8-SEQ PLAN V.DWG	DRAWN BY: BPF DESIGN BY: BPF REVIEWED BY: JAE	REVISIONS		
		NO.	DATE	DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS		
		WWW.WCGRP.COM	DRAWING 1/IIA.8	

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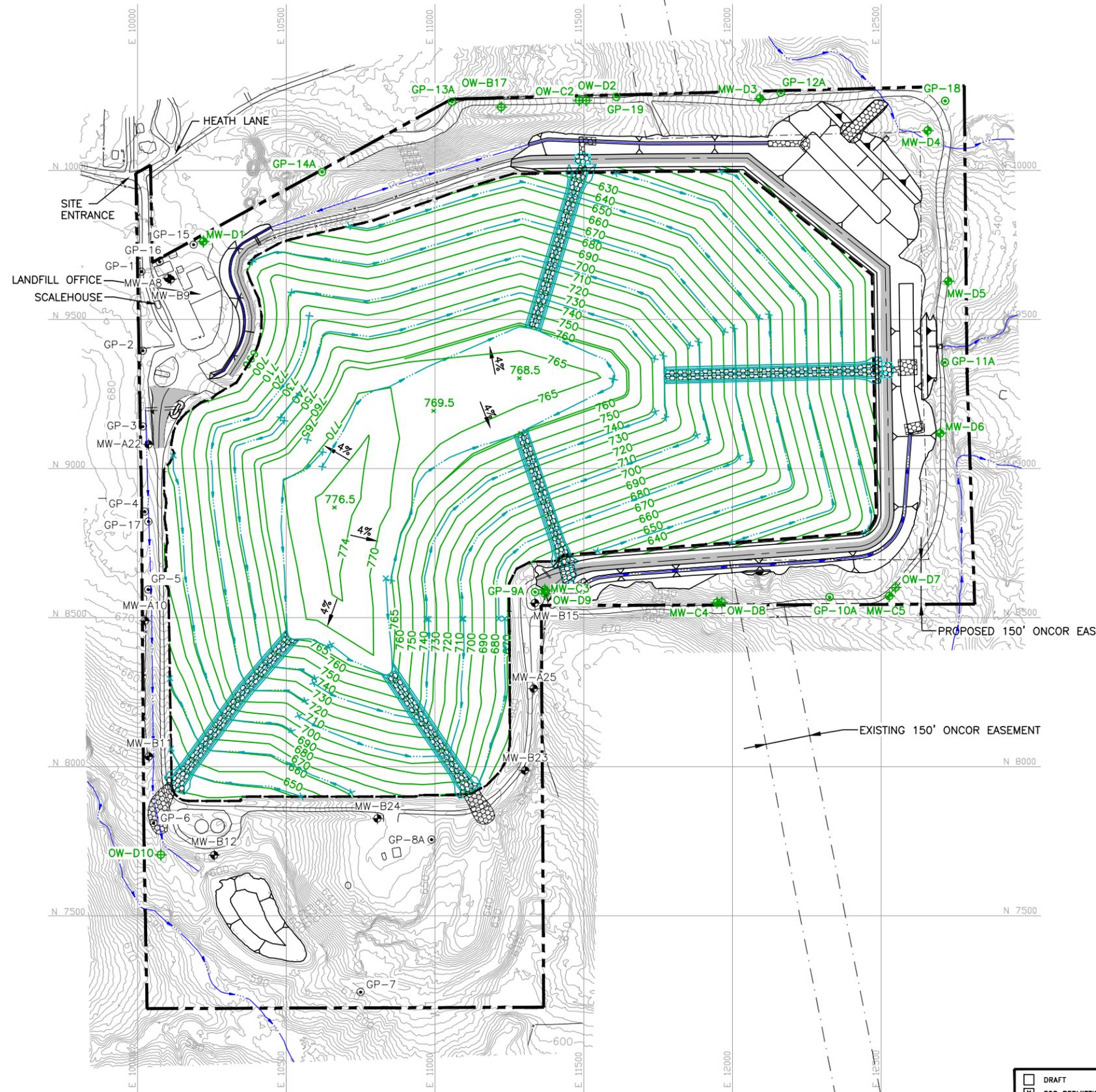


LEGEND

- PERMIT BOUNDARY
- LIMIT OF WASTE
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED FINAL COVER CONTOUR
- DRAINAGE SWALE
- DRAINAGE LETDOWN
- CHANNEL CENTERLINE
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- MW-D1 PROPOSED GROUNDWATER MONITORING WELL
- OW-D7 PROPOSED OBSERVATION WELL
- GP-1 EXISTING GAS PROBE
- GP-10A PROPOSED GAS PROBE

NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. REFER TO APPENDIX III-F SURFACE WATER DRAINAGE PLAN FOR DRAINAGE DESIGN INFORMATION.
3. MAXIMUM FINAL COVER ELEVATION IS 776.5 FT-MSL. MAXIMUM TOP OF WASTE ELEVATION IS 773.0 FT-MSL.
4. TYPICAL SIDESLOPES ARE 4H:1V. TYPICAL TOPSLOPE IS 4%.
5. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.

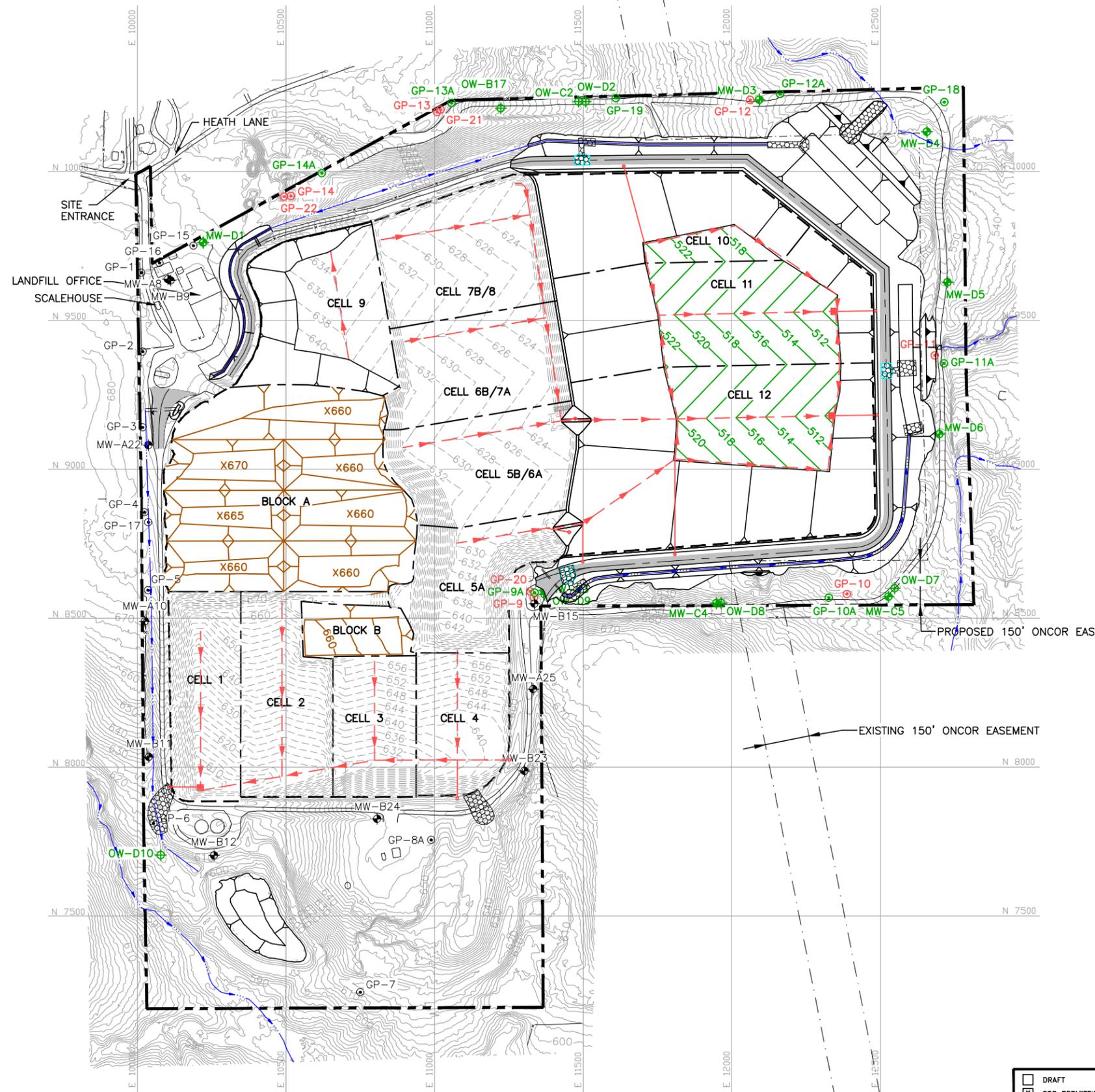
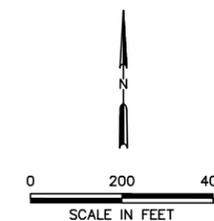


<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT LANDFILL COMPLETION PLAN	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/20/24 FILE: 0120-76-11 CAD: A9-COMPLETION PLAN.DWG	DRAWN BY: JDW DESIGN BY: BPY REVIEWED BY: JAE	REVISIONS		
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		NO.	DATE	DESCRIPTION
COPYRIGHT © 2024 WEAVER CONSULTANTS GROUP. ALL RIGHTS RESERVED.		WWW.WCGRP.COM	DRAWING 1/IIA.9	

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LEGEND

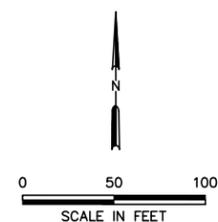
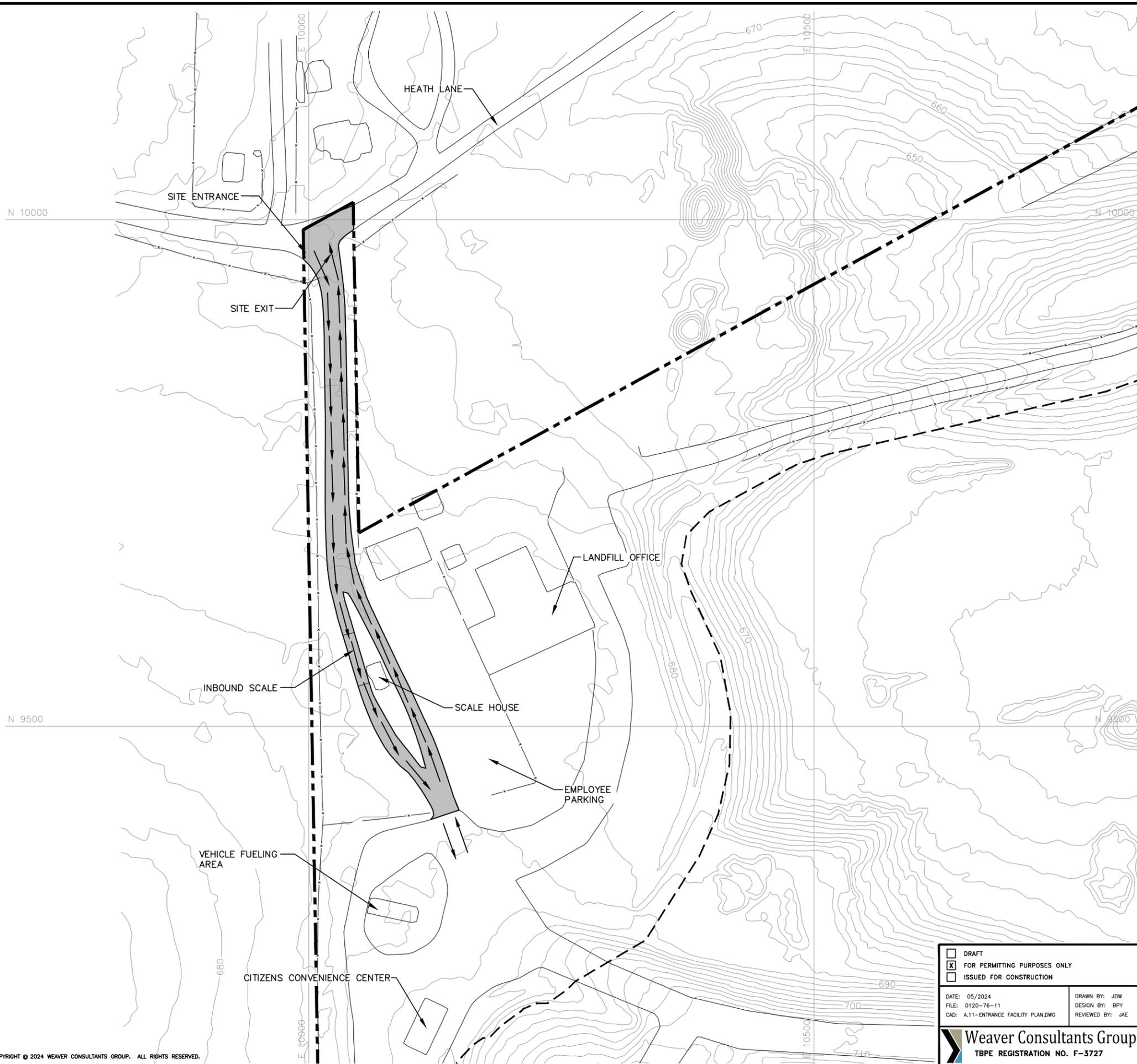
- PERMIT BOUNDARY
- LIMIT OF WASTE
- CELL BOUNDARY
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- EXISTING EASEMENT
- PROPOSED EASEMENT
- TOP OF LINER CONTOUR
- APPROXIMATE TOP OF PRE-SUBTITLE D LINER (SEE NOTE 8)
- CHANNEL CENTERLINE
- LEACHATE COLLECTION PIPE
- LEACHATE COLLECTION SUMP
- LEACHATE RISER PIPE
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- MW-D1 PROPOSED GROUNDWATER MONITORING WELL
- OW-D7 PROPOSED OBSERVATION WELL
- GP-1 EXISTING GAS PROBE
- GP-10A PROPOSED GAS PROBE

NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. EXCAVATION SLOPES AND SLOPES OUTSIDE THE LIMIT OF WASTE (e.g., CHANNELS) ARE TYPICALLY 3H:1V.
3. REFER TO APPENDIX IIIC FOR LEACHATE STORAGE INFORMATION.
4. ELEVATION OF DEEPEST EXCAVATION AT THE LCS SUMP IS 504.0 FT-MSL.
5. SEQUENCE OF SITE DEVELOPMENT IS PROVIDED IN PARTS I/II, APPENDIX I/IIA DRAWINGS I/IIA.4 THROUGH I/IIA.8.
6. REFER TO APPENDIX IIIF FOR DRAINAGE DESIGN INFORMATION.
7. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
8. TOP OF PRE-SUBTITLE D LINER GRADES ARE APPROXIMATE AND WERE REPRODUCED FROM CROSS-SECTIONS INCLUDED IN THE 1983 PERMIT APPLICATION PREPARED BY STOKES & ASSOCIATES.

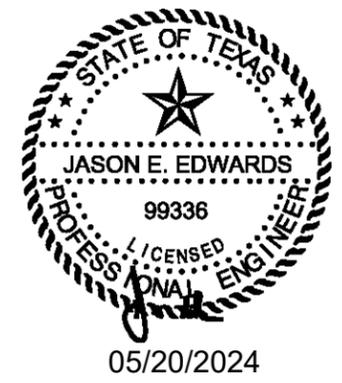
<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR		MAJOR PERMIT AMENDMENT TOP OF LINER PLAN	
	PINE HILL FARMS LANDFILL TX, LP			
DATE: 05/2024 FILE: 0120-76-11 CAD: A.10-LINER PLAN.DWG	DRAWN BY: JDW DESIGN BY: BPY REVIEWED BY: JAE	REVISIONS		
		NO.	DATE	DESCRIPTION
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM		ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS DRAWING I/IIA.10

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- LEGEND**
- LANDFILL PERMIT BOUNDARY
 - LIMIT OF WASTE
 - 660 EXISTING CONTOUR
 - PAVED AREA (SEE NOTE 2)
 - EXISTING FENCE
 - VEHICLE TRAFFIC DIRECTION

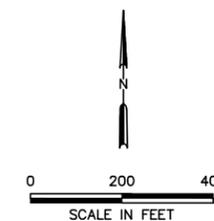
- NOTES:**
1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
 2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
 3. PAVED AREAS INSIDE THE PERMIT BOUNDARY HIGHLIGHTED. ALL WEATHER PAVING MAY BE PROVIDED USING ASPHALT, CONCRETE, OR GRAVEL OR A COMBINATION OF VARIOUS ALL WEATHER SURFACING.



<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL TX, LP	MAJOR PERMIT AMENDMENT EXISTING SITE ENTRANCE PLAN ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS															
DATE: 05/2024 FILE: 0120-76-11 CAD: A.11-ENTRANCE FACILITY PLAN.DWG	DRAWN BY: JDW DESIGN BY: BPY REVIEWED BY: JAE	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																	
NO.	DATE	DESCRIPTION															
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM DRAWING 1/IIA.11															



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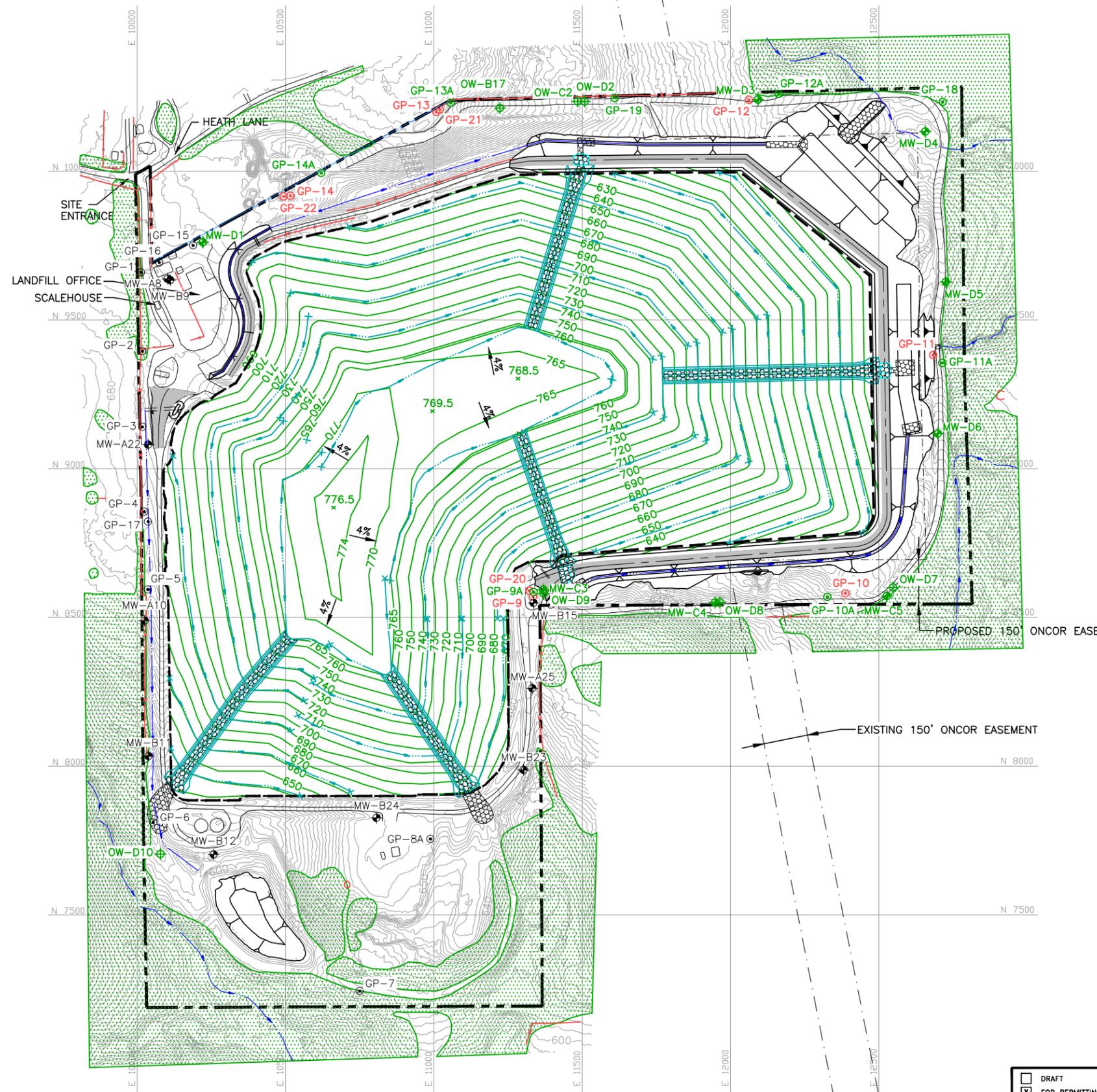


LEGEND

- PERMIT BOUNDARY
- LIMIT OF WASTE
- SITE GRID
- EXISTING CONTOUR (SEE NOTE 1)
- EXISTING EASEMENT
- PROPOSED EASEMENT
- PROPOSED FINAL COVER CONTOUR
- DRAINAGE SWALE
- DRAINAGE LETDOWN
- CHANNEL CENTERLINE
- EXISTING ACCESS CONTROL FENCING
- PROPOSED ACCESS CONTROL FENCING (SEE NOTE 4)
- EXISTING TREES
- MW-10 EXISTING GROUNDWATER MONITORING WELL
- MW-D1 PROPOSED GROUNDWATER MONITORING WELL
- OW-D7 PROPOSED OBSERVATION WELL
- GP-1 EXISTING GAS PROBE
- GP-10A PROPOSED GAS PROBE

NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022. THE GRID SYSTEM IS BASED ON A SITE GRID SYSTEM. ELEVATIONS ARE BASED ON NAVD 88.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.
3. ACCESS TO THE SITE WILL BE CONTROLLED BY PERIMETER FENCING (MINIMUM 4- FEET HIGH, 3-STRAND BARBED WIRE FENCES), A GATED ENTRANCE, AND NATURAL BARRIERS (E.G DENSE FOLIAGE, AND VEGETATION). ADDITIONALLY, IN AREAS OF NATURAL BARRIERS, THE ACCESS CONTROL PLAN IS PROVIDED TO PREVENT THE ENTRY OF LIVESTOCK, TO PREVENT THE PUBLIC FROM EXPOSURE TO POTENTIAL HEALTH AND SAFETY HAZARDS, AND TO DISCOURAGE UNAUTHORIZED ENTRY OR UNCONTROLLED DISPOSAL OF SOLID WASTE OR HAZARDOUS MATERIALS. "NO TRESPASSING" SIGNS WILL BE ADDED TO DISCOURAGE UNAUTHORIZED ENTRY OR UNCONTROLLED DISPOSAL OF SOLID WASTE OR HAZARDOUS MATERIALS.
4. THE PROPOSED PERIMETER FENCE WILL BE INSTALLED WITHIN SIX MONTHS AFTER TCEQ PERMIT NO. MSW-1614B IS ISSUED.



<input type="checkbox"/> DRAFT	PREPARED FOR	PINE HILL FARMS LANDFILL TX, LP
<input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY		
<input type="checkbox"/> ISSUED FOR CONSTRUCTION		
DATE: 05/20/24	DRAWN BY: JDW	
FILE: 0120-76-11	DESIGN BY: BPY	
CAD: A.12 ACCESS CONTROL PLAN.DWG	REVIEWED BY: JAE	
Weaver Consultants Group		
TBPE REGISTRATION NO. F-3727		

REVISIONS		
NO.	DATE	DESCRIPTION

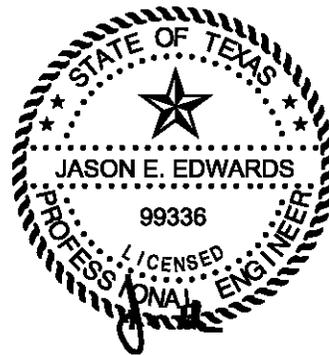
MAJOR PERMIT AMENDMENT ACCESS CONTROL PLAN	
ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS	
WWW.WCGRP.COM	DRAWING 1/IIA.12

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APPENDIX I/IIB

DEMONSTRATION OF COORDINATION

- Coordination with Federal Aviation Administration
- Coordination with Texas Historical Commission
- Coordination with Texas Department of Transportation
- Coordination with Texas Parks and Wildlife Department
- Coordination with U.S. Army Corps of Engineers
- Coordination with U.S. Department of the Interior Fish and Wildlife Service
- Coordination with East Texas Council of Governments



05/20/2024

COORDINATION WITH FEDERAL AVIATION ADMINISTRATION

- March 14, 2024 Hunter Field Airport Notification Letter.
- January 4, 2024, FAA Determination of No Objection Letter.
- January 3, 2024, Republic request for Review Letter regarding hazardous air traffic due to birds.
- December 21, 2023, FAA Determination of No Hazard to Air Navigation Letters.
- November 30, 2023, Republic Request for Review Letter regarding hazards to air navigation.

**MARCH 14, 2024, HUNTER FIELD
AIRPORT NOTIFICATION LETTER**



Sustainability in Action

March 14, 2024

Mr. Carl Scott
Hunter Field Airport
11533 CR 177
Bullard, Texas 75757

Re: Compliance with Airport Location Restriction
Proposed Royal Oaks Landfill Permit Amendment
Cherokee County, Texas

Dear Mr. Scott:

The purpose of this letter is to notify Hunter Field Airport of the proposed expansion at the Royal Oaks Landfill. Title 30 Texas Administrative Code (TAC) §330.61(i)(5) and §330.545(a) require that the applicant “demonstrate that the units are designed and operated so that the municipal solid waste landfill unit does not pose a bird hazard to aircraft”. The FAA has reviewed the proposed expansion and determined that the expansion will not create a bird hazard. A copy of the FAA letter for this project is attached, as well as a project summary.

Please call if you have any questions or require any additional information.

Sincerely,
Pine Hill Farms Landfill TX, LP

A handwritten signature in black ink, appearing to read "Austin Sparks".

Austin Sparks, P.E.
Environmental Manager

Attachments: Attachment A – January 4, 2024 FAA Determination of No Objection Letter
Attachment B – Project Summary and Site Location Maps

cc: Jason A. Edwards, Weaver Consultants Group, LLC

JANUARY 4, 2024, FAA NO OBJECTION LETTER



U.S. Department
of Transportation
**Federal Aviation
Administration**

Federal Aviation Administration
Southwest Region, Airports Division
Safety and Standards Branch

10101 Hillwood Parkway
Fort Worth, Texas 76177

January 4, 2024

Brian Young, E.I.T
Project Engineer
Weaver Consultants Group
6420 Southwest Blvd. Suite 206
Fort Worth, TX 76109
byoung@wcgrp.com

**Subject: Royal Oaks Landfill operated by Pine Hills Farm, TX, LP.
TCEQ Permit No MSW-1614A
Type I Municipal Solid Waste Landfill – Amendment Application
Proposed Amendment (Lateral Expansion from 54.5 acres to 83.1 acres and
Vertical Site Limit is 822 feet AMSL
FAA File No. 96-004-TX**

This letter is in response to your January 3, 2024 letter advising us of the proposed Royal Oaks Landfill permit amendment and the December 21, 2023 FAA Determination of “No Hazard to Air Navigation” evaluation regarding the proposed site expansion of the Royal Oaks Landfill Facility in Jacksonville, Texas.

Using coordinates 31 59’ 49.14” N and 95 15’ 51.20” W, we determined there is one private owned/private use airport (Hunter Field), grass strip 11,716 feet or 2.2 statute miles southeast of the landfill site.

We have no objection to the proposed expansion of the Royal Oaks Landfill site which has been in operation since 1984 provided the operator continues with the current wildlife mitigation efforts in place. Our position of no objection is based on the application of our guidance for hazardous wildlife attractants on or near airports FAA Advisory Circular 150/5200-33C.

This site has been assigned our file No. 96-004 -TX. Please refer to this number in any future correspondence regarding this site. Thank you for coordinating this project with us. If there are any questions, you can contact me at 817-222-5671 or gary.loftus@faa.gov.

Sincerely,

**GARY J
LOFTUS**

Digitally signed by GARY
J LOFTUS
Date: 2024.01.04
13:46:06 -06'00'

Gary J. Loftus, A.A.E.
Airports Compliance Program Manager
Airport Certification Safety Inspector
FAA Southwest Region Airports Division

**JANUARY 3, 2024, REPUBLIC REQUEST FOR REVIEW LETTER
RECOGNIZING HAZARDS TO AIR TRAFFIC DUE TO BIRDS**



Sustainability in Action

January 3, 2024

Mr. Gary Loftus
Airspace Compliance Program Manager
Federal Aviation Administration
Southwest Region, Airports Division – Safety and Standards Branch
10101 Hillwood Parkway
Fort Worth, Texas 76177

Re: Compliance with Airport Location Restriction
Proposed Royal Oaks Landfill Permit Amendment
Cherokee County, Texas

Dear Mr. Loftus:

The purpose of this letter is to request a potential for wildlife hazards determination to demonstrate coordination with the Federal Aviation Administration (FAA), consistent with Texas Administrative Code (TAC) §330.61(i)(5) and §330.545. These regulations require that a permit applicant for a municipal solid waste facility permit amendment to coordinate with the FAA regarding the potential impact of the proposed amendment to existing airports or air traffic; specifically Title 30 TAC §330.545(a) requires the following.

“owners or operators of new municipal solid waste landfill units, existing municipal solid waste units vertical or lateral expansions and landfill mining operations that are located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft shall demonstrate that the units are designed and operated so that the municipal solid waste landfill unit does not pose a bird hazard to aircraft.”

Title 30 TAC §330.545(d) requires the following.

“landfill facilities within a six-mile radius of any small general service airport runway or within a five-mile radius of any large general public commercial airport shall be critically evaluated to determine if an incompatibility exists.”

To assist you in your determination, please find attached the FAA Area Airports Vicinity Map. As shown on the map, no airports are identified as being located within the 5,000-foot radius of the landfill. Only one airport (Hunter Field Airport) is shown as being located within the 10,000-foot radius of the landfill. Hunter Field Airport is a private use, turf runway airport. No small general service airport runways or large general public commercial airports are located within the 6-mile radius of the landfill. A summary of the airport locations, use and surface are provided in the following table.

Summary of Airport Characteristics

Name	Location	Distance from Landfill ¹	Surface	Operation
Hunter Field Airport (17XA)	32°00'50.00"N 95°17'47.00"W	9,500 ft	Turf	Private Use

¹ Distance is measured from the nearest point of the landfill permit boundary to the nearest point of the runway.

Additional information included in this submittal for your consideration include.

- Project Summary and Site Location Maps.
- Proposed Landfill Completion Plan. This plan shows Points A through F, which have been evaluated by the FAA. Note that the peak elevation of the landfill only occurs at one point (Point A). The evaluation determined that the proposed structure would not be a hazard to air navigation. Aeronautical Study No. 2023-ASW-17327-OE, 2023-ASW-17328-OE, 2023-ASW-17329-OE, 2023-ASW-17330-OE, 2023-ASW-17331-OE, and 2023-ASW-17332-OE for Evaluation Points A through F have been attached for reference.

The Royal Oaks Landfill is operated in a manner that does not pose a bird hazard to aircraft. Specifically, the Site Operating Plan for the landfill includes requirements to maintain the working face of the landfill, where trash is exposed, to as small of an area as practical. Specific working face sizes are listed in the permit documents to minimize the potential of the site to attract birds. In addition, the site has a bird abatement program which incorporates the use of pyrotechnic devices or other bird control measures used on an as-needed basis to minimize the bird population at the site.

To verify compliance with Title 30 TAC §330.61(i)(5) and §330.545, we are requesting a response from the FAA regarding concurrence with these regulations.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,
Pine Hill Farms Landfill TX, LP



Austin Sparks, P.E.
Environmental Manager

Attachments: Attachment A – FAA Airport Vicinity Map
Attachment B – Project Summary and Site Location Maps
Attachment C – Landfill Completion Plan
Attachment D – FAA Aeronautical Studies

cc: Jason A. Edwards, Weaver Consultants Group, LLC

**DECEMBER 21, 2023, FAA DETERMINATION
OF NO HAZARD TO AIR NAVIGATION LETTERS**



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ASW-17327-OE

Issued Date: 12/21/2023

Austin Sparks
Pine Hill Farms Landfill TX, LP
440 Health Ln
Jacksonville, TX 75766

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Existing Municipal Solid Waste Landfill Royal Oaks Landfill - Point A
Location:	Jacksonville, TX
Latitude:	31-59-49.14N NAD 83
Longitude:	95-15-51.20W
Heights:	656 feet site elevation (SE) 166 feet above ground level (AGL) 822 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 06/21/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-17327-OE.

Signature Control No: 606040102-607860933

(DNE)

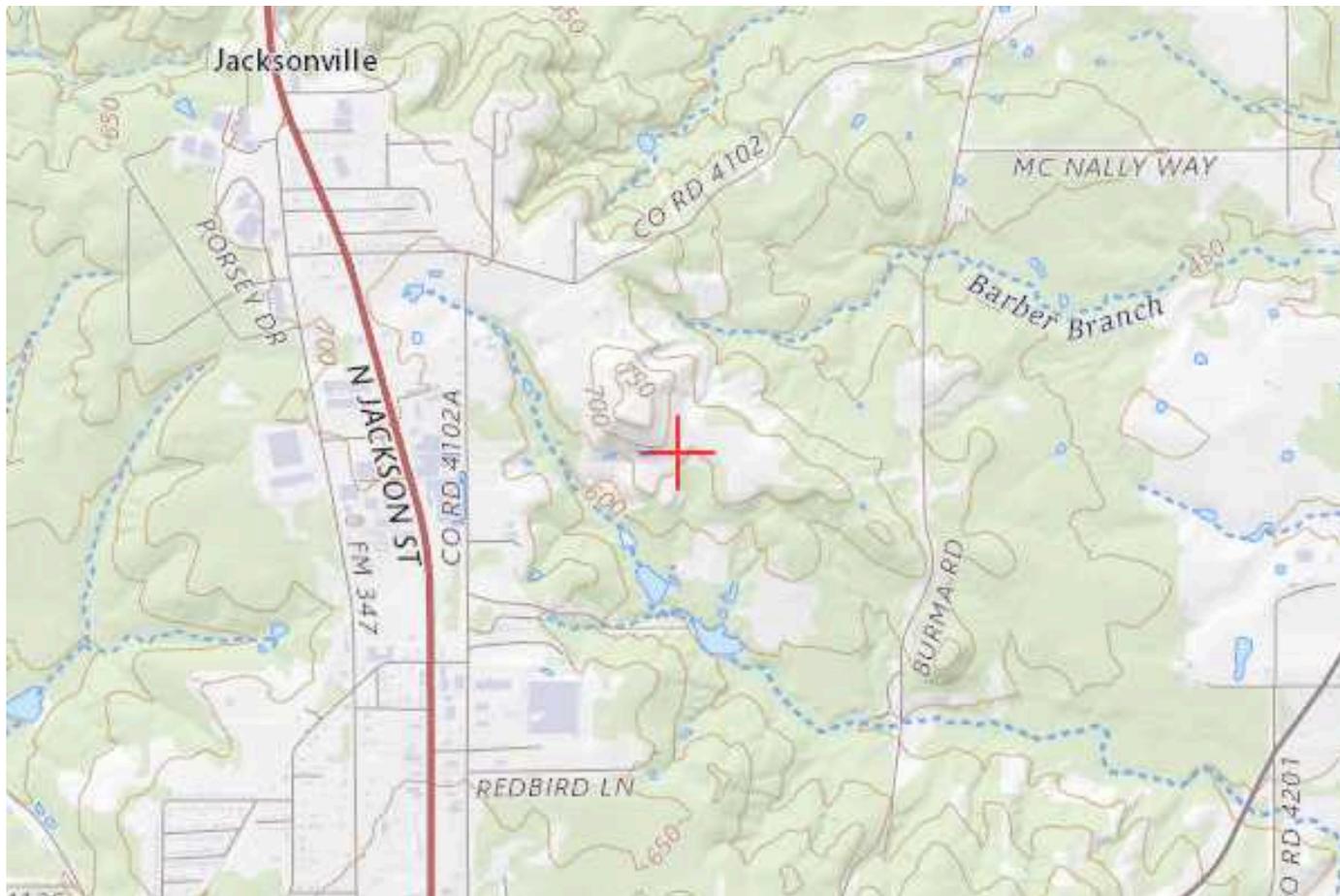
Andrew Hollie
Specialist

Attachment(s)
Case Description
Map(s)

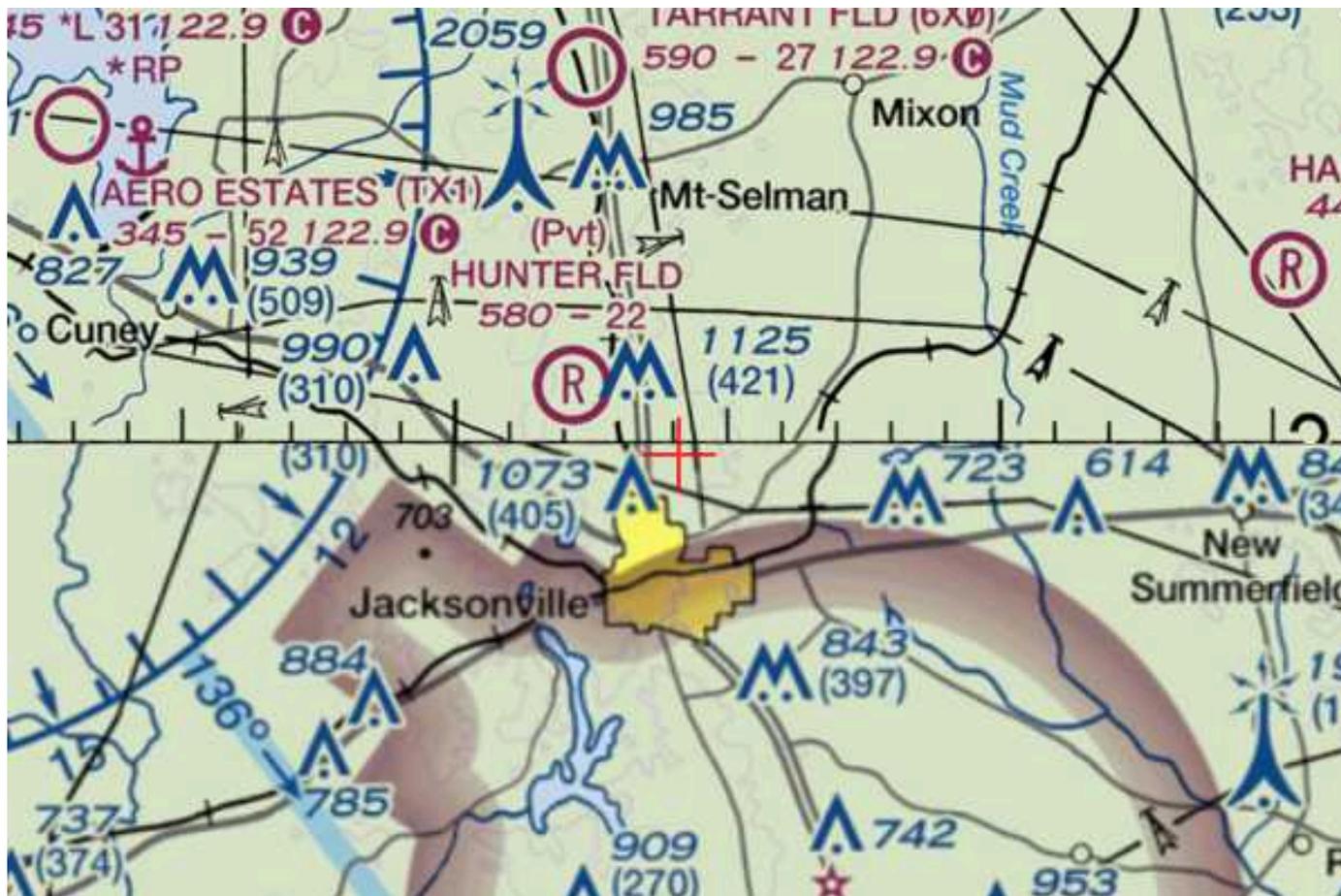
Case Description for ASN 2023-ASW-17327-OE

Increase of permitted landfill waste disposal area.

TOPO Map for ASN 2023-ASW-17327-OE



Sectional Map for ASN 2023-ASW-17327-OE





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ASW-17328-OE

Issued Date: 12/21/2023

Austin Sparks
Pine Hill Farms Landfill TX, LP
440 Health Ln
Jacksonville, TX 75766

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Existing Municipal Solid Waste Landfill Royal Oaks Landfill - Point B
Location:	Jacksonville, TX
Latitude:	31-59-48.38N NAD 83
Longitude:	95-16-03.68W
Heights:	626 feet site elevation (SE) 196 feet above ground level (AGL) 822 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 06/21/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-17328-OE.

Signature Control No: 606040103-607860932

(DNE)

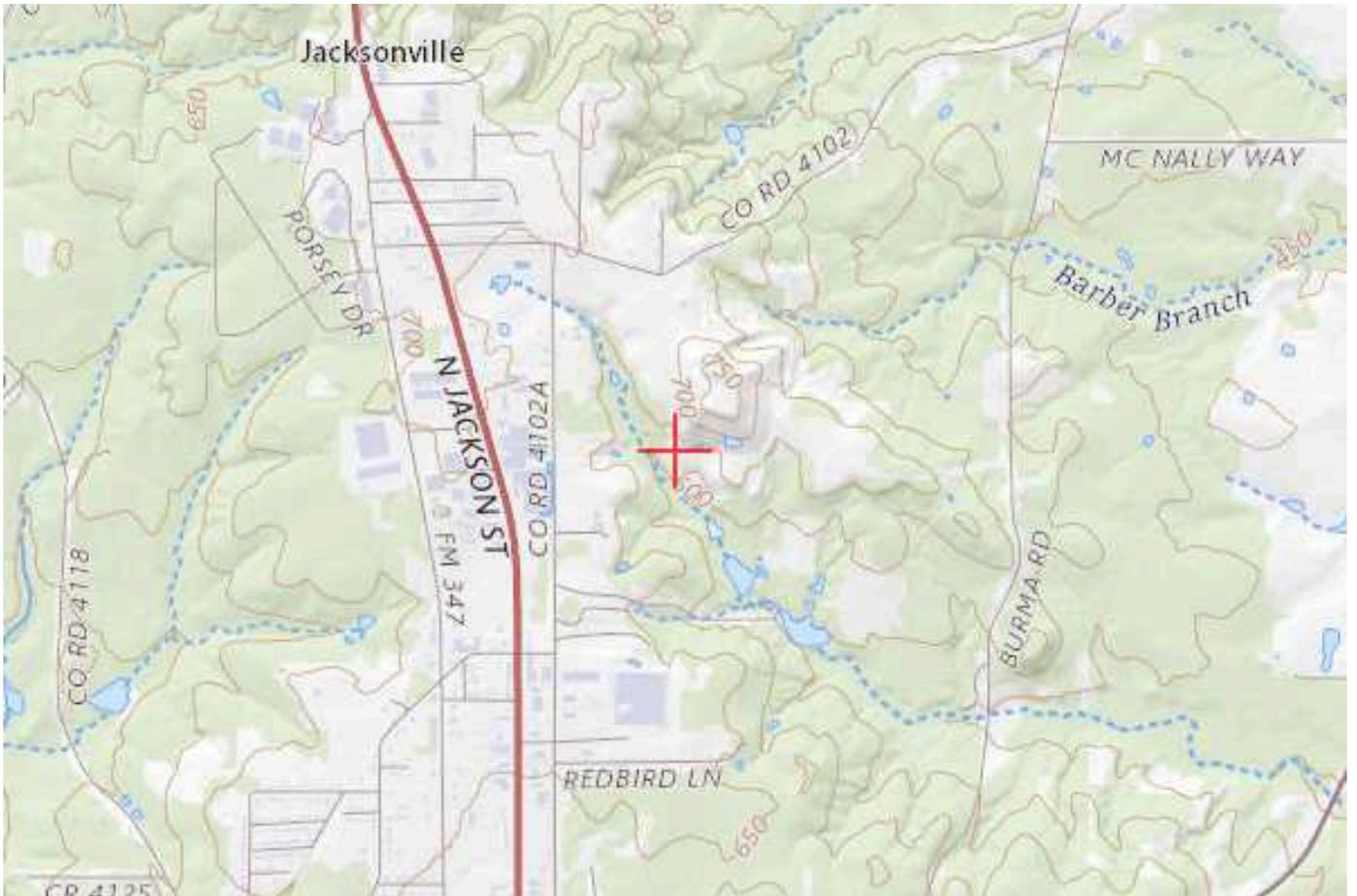
Andrew Hollie
Specialist

Attachment(s)
Case Description
Map(s)

Case Description for ASN 2023-ASW-17328-OE

Increase of permitted landfill waste disposal area.

TOPO Map for ASN 2023-ASW-17328-OE





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ASW-17329-OE

Issued Date: 12/21/2023

Austin Sparks
Pine Hill Farms Landfill TX, LP
440 Health Ln
Jacksonville, TX 75766

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Existing Municipal Solid Waste Landfill Royal Oaks Landfill - Point C
Location:	Jacksonville, TX
Latitude:	31-59-57.96N NAD 83
Longitude:	95-15-57.53W
Heights:	765 feet site elevation (SE) 57 feet above ground level (AGL) 822 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 06/21/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
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If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-17329-OE.

Signature Control No: 606040104-607860930

(DNE)

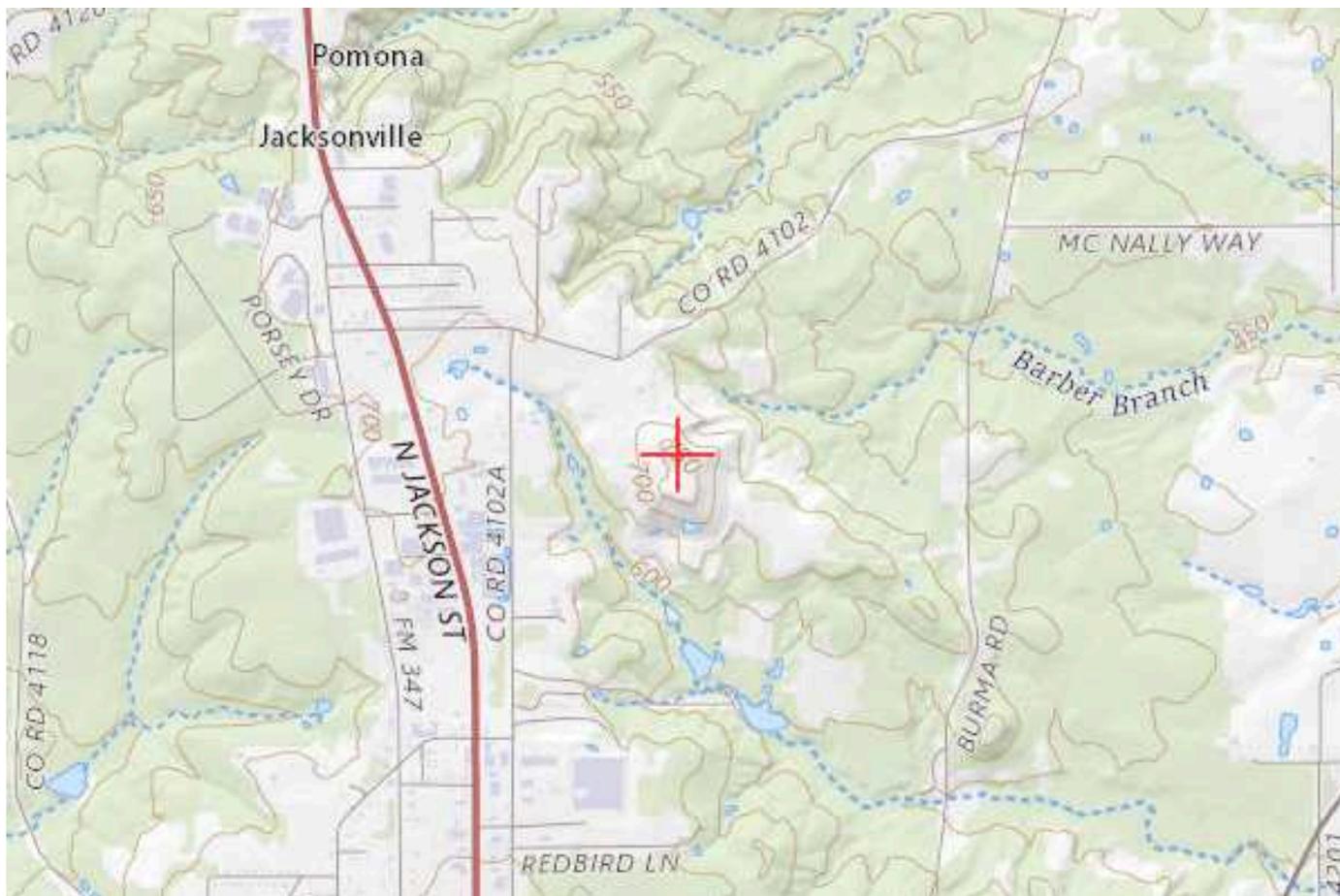
Andrew Hollie
Specialist

Attachment(s)
Case Description
Map(s)

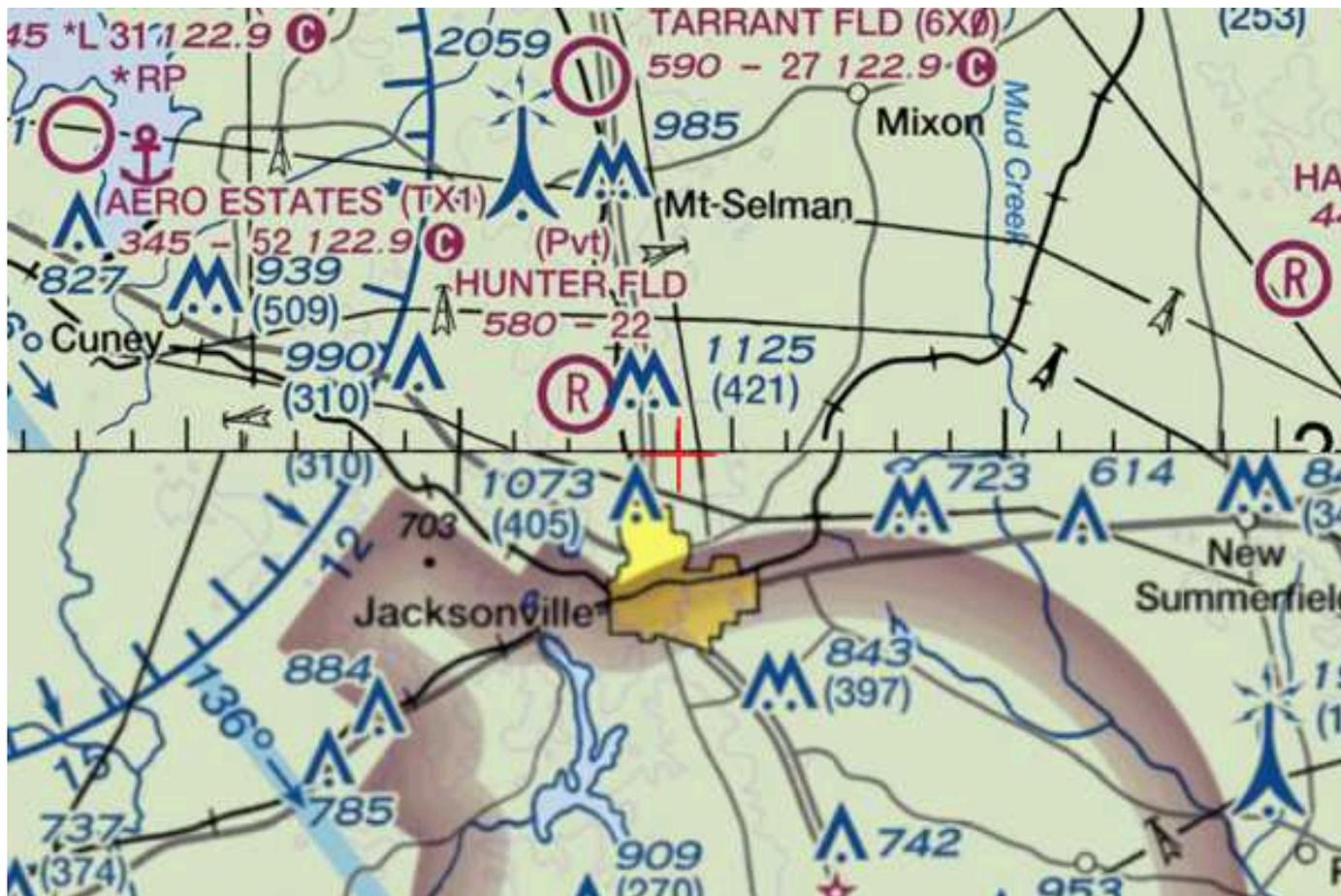
Case Description for ASN 2023-ASW-17329-OE

Increase of permitted landfill waste disposal area.

TOPO Map for ASN 2023-ASW-17329-OE



Sectional Map for ASN 2023-ASW-17329-OE





Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2023-ASW-17330-OE

Issued Date: 12/21/2023

Austin Sparks
Pine Hill Farms Landfill TX, LP
440 Health Ln
Jacksonville, TX 75766

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Existing Municipal Solid Waste Landfill Royal Oaks Landfill - Point D
Location:	Jacksonville, TX
Latitude:	32-00-06.07N NAD 83
Longitude:	95-16-00.79W
Heights:	678 feet site elevation (SE) 144 feet above ground level (AGL) 822 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 06/21/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO

SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-17330-OE.

Signature Control No: 606040110-607860931

(DNE)

Andrew Hollie
Specialist

Attachment(s)
Case Description
Map(s)

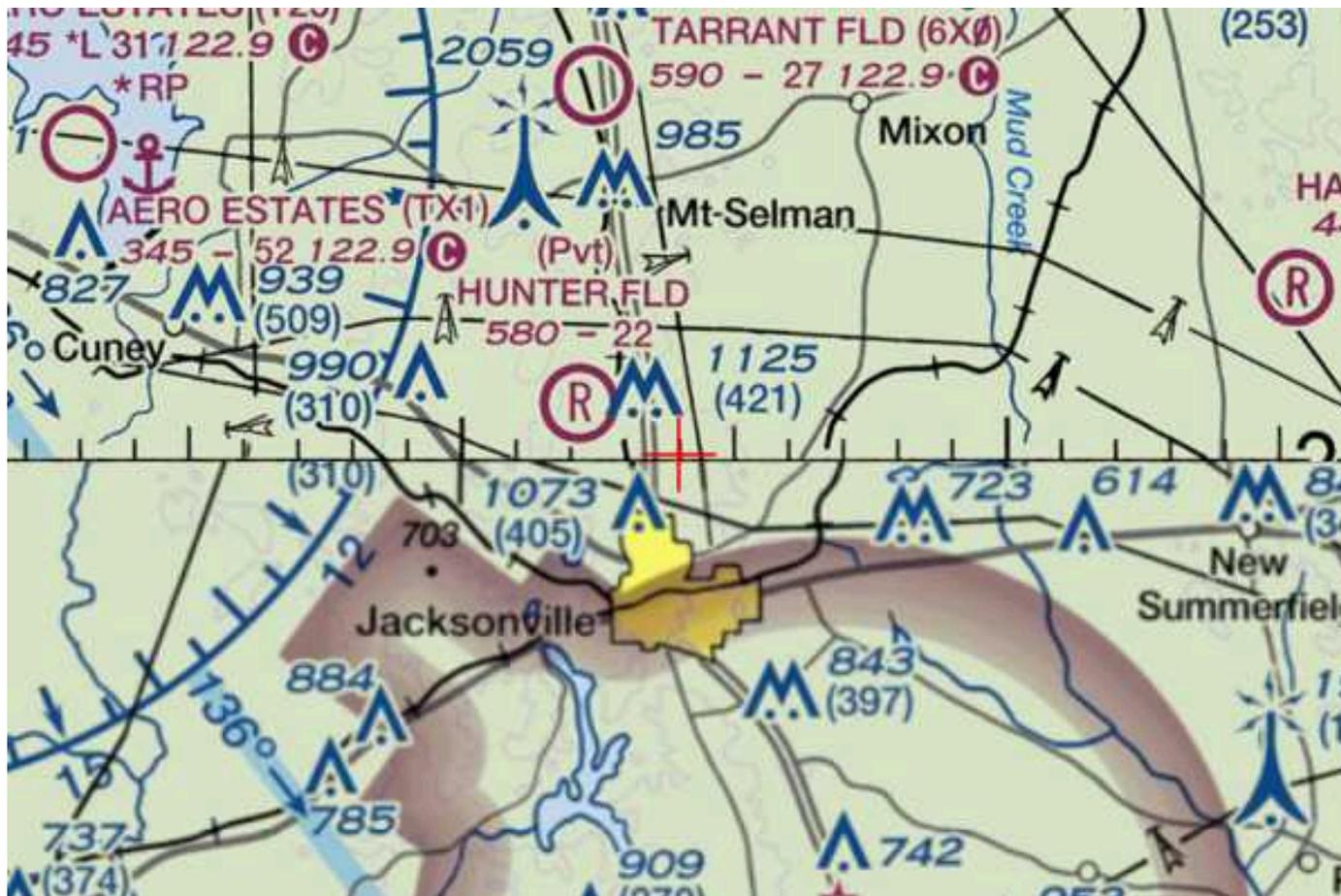
Case Description for ASN 2023-ASW-17330-OE

Increase of permitted landfill waste disposal area.

TOPO Map for ASN 2023-ASW-17330-OE



Sectional Map for ASN 2023-ASW-17330-OE





Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2023-ASW-17331-OE

Issued Date: 12/21/2023

Austin Sparks
 Pine Hill Farms Landfill TX, LP
 440 Health Ln
 Jacksonville, TX 75766

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Existing Municipal Solid Waste Landfill Royal Oaks Landfill - Point E
 Location: Jasksonville, TX
 Latitude: 32-00-08.98N NAD 83
 Longitude: 95-15-41.53W
 Heights: 576 feet site elevation (SE)
 246 feet above ground level (AGL)
 822 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, red lights-Chapters 4,5(Red),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Air Missions (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 06/21/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-17331-OE.

Signature Control No: 606040113-607861305

(DNE)

Andrew Hollie
Specialist

Attachment(s)
Case Description
Map(s)

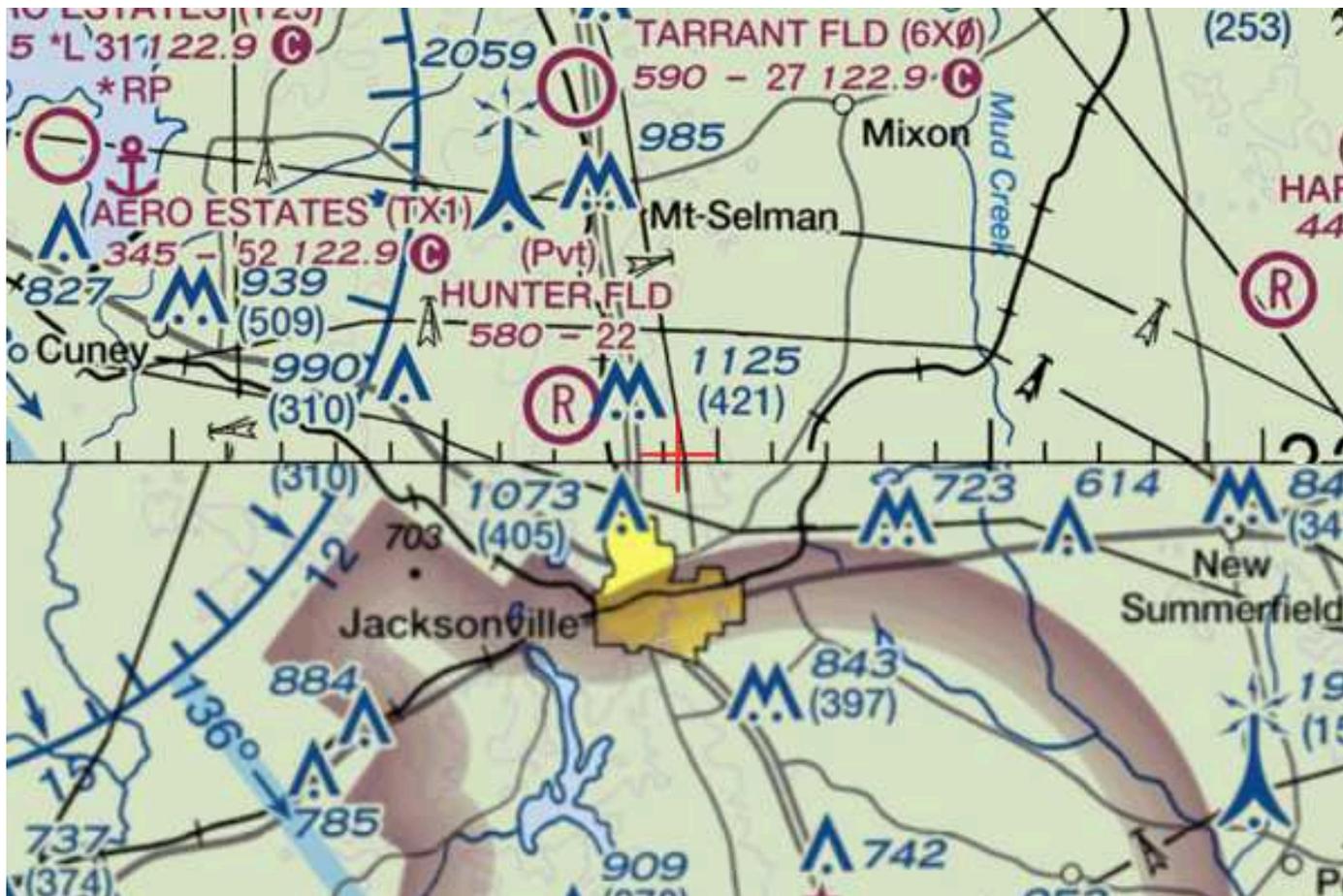
Case Description for ASN 2023-ASW-17331-OE

Increase of permitted landfill waste disposal area.

TOPO Map for ASN 2023-ASW-17331-OE



Sectional Map for ASN 2023-ASW-17331-OE





Mail Processing Center
 Federal Aviation Administration
 Southwest Regional Office
 Obstruction Evaluation Group
 10101 Hillwood Parkway
 Fort Worth, TX 76177

Aeronautical Study No.
 2023-ASW-17332-OE

Issued Date: 12/21/2023

Austin Sparks
 Pine Hill Farms Landfill TX, LP
 440 Health Ln
 Jacksonville, TX 75766

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Existing Municipal Solid Waste Landfill Royal Oaks Landfill - Point F
Location:	Jacksonville, TX
Latitude:	31-59-57.17N NAD 83
Longitude:	95-15-36.73W
Heights:	583 feet site elevation (SE) 239 feet above ground level (AGL) 822 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, red lights-Chapters 4,5(Red),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Air Missions (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

This determination expires on 06/21/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This determination cancels and supersedes prior determinations issued for this structure.

If we can be of further assistance, please contact our office at (817) 222-5933, or andrew.hollie@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2023-ASW-17332-OE.

Signature Control No: 606040114-607861306

(DNE)

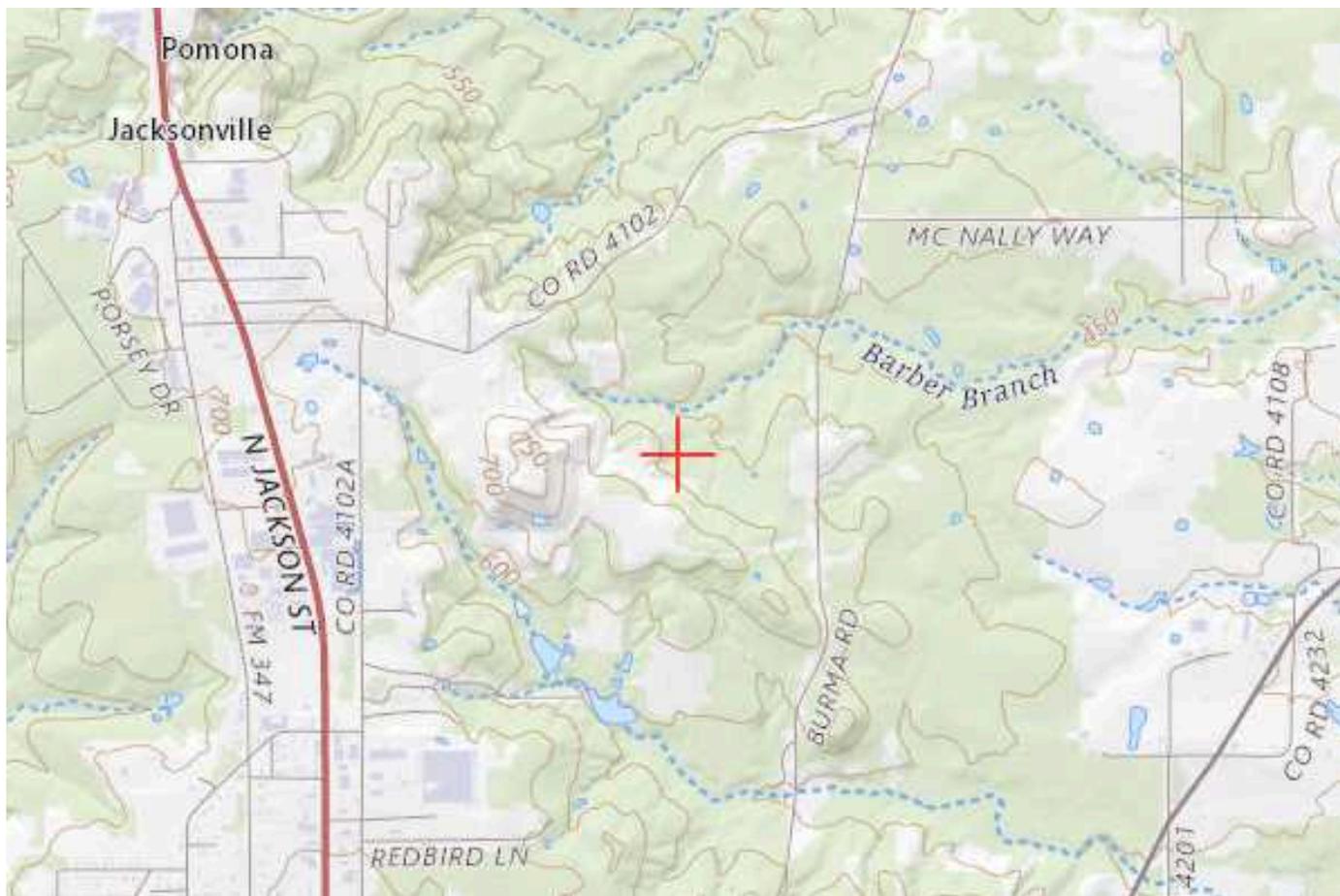
Andrew Hollie
Specialist

Attachment(s)
Case Description
Map(s)

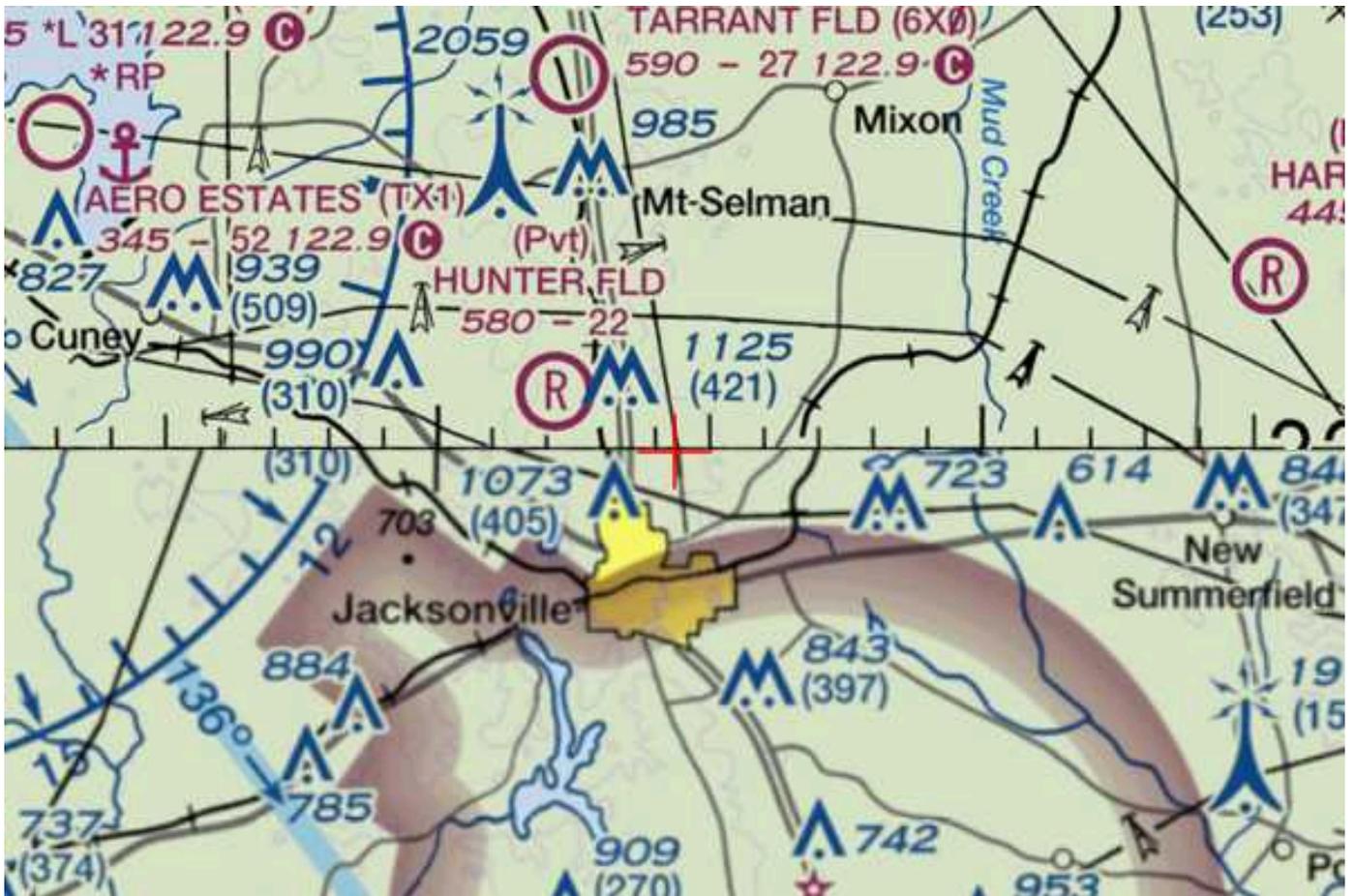
Case Description for ASN 2023-ASW-17332-OE

Increase of permitted landfill waste disposal area.

TOPO Map for ASN 2023-ASW-17332-OE



Sectional Map for ASN 2023-ASW-17332-OE



**NOVEMBER 30, 2023, WCG REQUEST FOR REVIEW
LETTER REGARDING HAZARDS TO AIR NAVIGATION**



Sustainability in Action

November 30, 2023

Mr. Joe Washington
Airports Division - Safety and Standards Branch, ASW-620
U.S. Department of Transportation
Federal Aviation Administration
10101 Hillwood Parkway
Fort Worth, Texas 76177

Re: Compliance with Airport Location Restriction
Proposed Royal Oaks Landfill Permit Amendment
Cherokee County, Texas

Dear Mr. Washington:

The purpose of this letter is to demonstrate coordination with the Federal Aviation Administration (FAA), consistent with Texas Administrative Code (TAC) §330.61(i)(5) and §330.545. These regulations require that a permit applicant for a municipal solid waste facility permit amendment to coordinate with the FAA regarding the potential impact of the proposed amendment to existing airports or air traffic; specifically §330.545(d) requires the following.

“All landfill facilities within a six-mile radius of any small general service airport runway or within a five-mile radius of any large general public commercial airport shall be critically evaluated to determine if an incompatibility exists.”

Weaver Consultants Group, LLC is in the process of developing a major permit amendment application, on behalf of the Pine Hill Farms Landfill TX, LP, to laterally expand an existing municipal solid waste landfill located north of the City of Jacksonville in Cherokee County. To assist you in your determination, please find attached the following information.

- Attachment A – FAA Airport Vicinity Map. As shown, there are no small general service airport runways located within the 6-mile radius of the site, or large general public commercial airports located within the 5-mile radius of the site. There is one airport designated as private use located within the 6-mile radius of the site (Hunter Field Airport).
- Attachment B – Project Summary and Site Location Maps.

- Attachment C – Proposed Landfill Completion Plan. This plan shows Points A through E, which have been uploaded to the FAA Web page so that an aeronautical study can be performed. Note that the peak elevation of the landfill only occurs at one point (Point C). However, Points A, B, D, E, and F are also set at the maximum landfill elevation to provide a conservative landfill configuration for the aeronautical study.

To verify compliance with Title 30 TAC §330.61(i)(5) and §330.545, we are requesting a response from the FAA regarding concurrence with these regulations.

Your assistance with this matter is sincerely appreciated. Please call if you have any questions or need additional information.

Sincerely,

Pine Hill Farms Landfill TX, LP



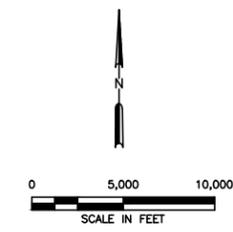
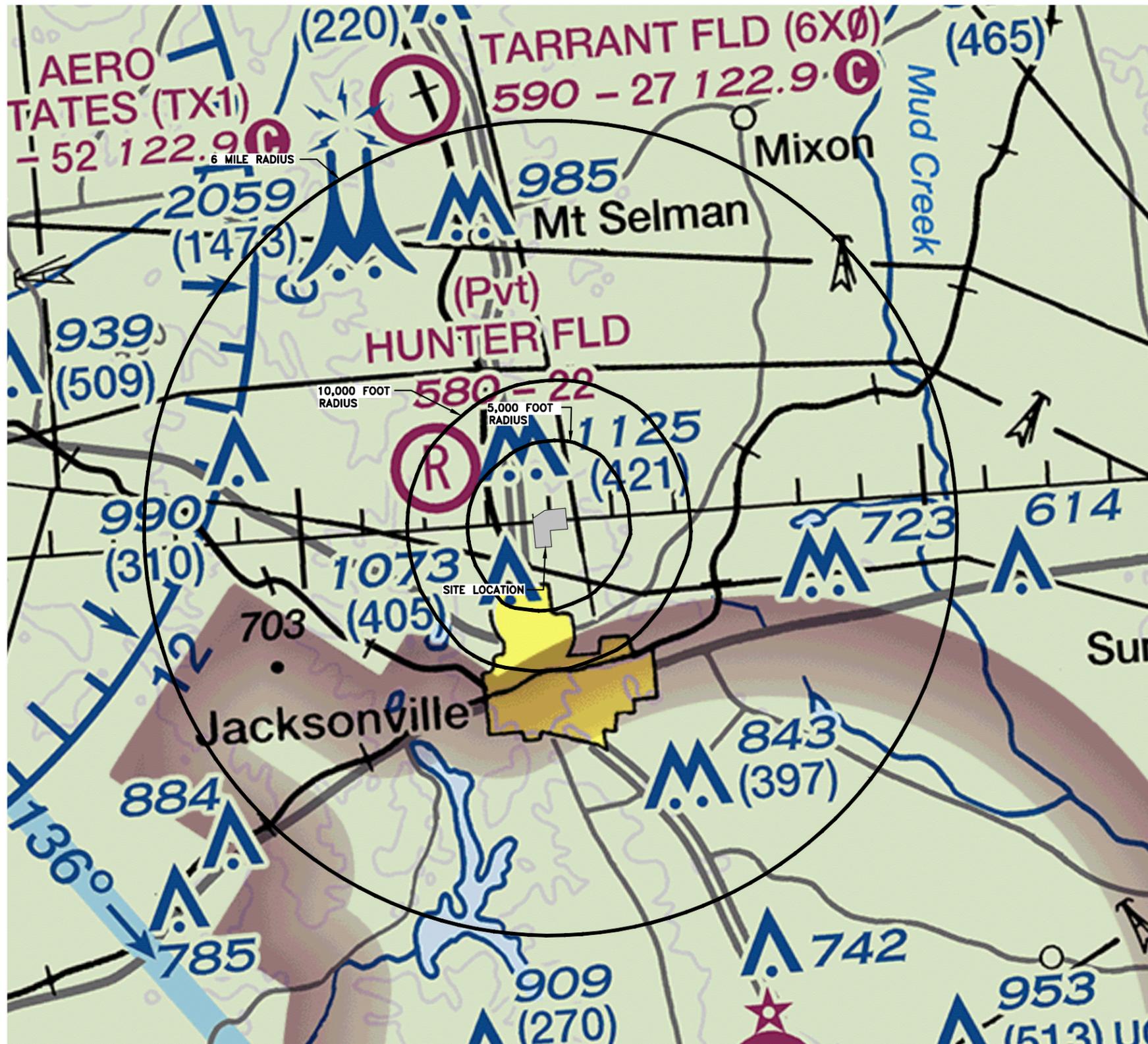
Austin Sparks, P.E.

Environmental Manager

Attachments: Attachment A – FAA Airport Vicinity Map
Attachment B – Project Summary and Site Location Maps
Attachment C – Landfill Completion Plan

cc: Jason A. Edwards, Weaver Consultants Group, LLC

ATTACHMENT A
FAA AIRPORT VICINITY MAP



AIRPORTS

- Other than hard-surfaced runways
- Hard-surfaced runways 1500 ft. or greater
- Open dot within hard-surfaced runway configuration indicates approximate VOR, VOR-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 emergency or landmark value.
- Military - Other than hard-surfaced. All military airports are identified by abbreviations AFB, NAS, AAF, etc. For complete airport information consult DOD FLIP.
- Helipad Selected
- Unverified
- Abandoned - paved having landmark value, 3000 ft. or greater
- Ultralight Flight Park Selected

Services-fuel available and field tended during normal working hours depicted by use of ticks around basic airport symbol. (Normal working hours are Mon thru Fri 10:00 A.M. to 4:00 P.M. local time.) Consult A/FD for service availability at airports with hard-surfaced runways 1500 ft. or greater.

☆ Rotating airport beacon in operation Sunset to Sunrise.

TOPOGRAPHIC INFORMATION

- Roads
- Road Markers
- Railroad
- Bridges And Viaducts
- Power Transmission Lines
- Aerial Cable
- Landmark Feature - stadium, factory, school, golf course, etc.
- Outdoor Theatre
- Lookout Tower P-17 (Site Number) 618 (Elevation Base of Tower)
- Coast Guard Station
- Race Track
- Tank - water, oil or gas
- Oil Well
- Water Well
- Mines And Quarries
- Mountain Pass
- 11823 (Elevation of Pass)

(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 or near mountain passes.)

RADIO AIDS TO NAVIGATION AND COMMUNICATION BOXES

122.1R 122.6 123.6 OAKDALE 362 *116.8 OAK	122.1R CHICAGO CHI
---	-----------------------

Underline indicates no voice on this frequency.

- * - Operates less than continuous or On-Request.
- T - TWEE
- A - ASOS/ AWOS
- H - HIWAS

Heavy line box indicates Flight Service Station (FSS). Frequencies 121.5, 122.2, 243.0, and 255.4 (Canada - 121.5, 126.7 and 243.0) are normally available at all FSSs and are not shown above boxes. All other frequencies are shown. For Local Airport Advisory use FSS frequency 123.6.

R - Receive only

Frequencies above thin line box are removed to NAVAID site. Other frequencies at FSS providing voice communication may be available as determined by altitude and terrain. Consult Airport/Facility Directory for complete information.

FSS providing voice communication

OBSTRUCTIONS

- 1000 ft. and higher AGL
- below 1000 ft. AGL
- Group Obstruction
- Obstruction with high-intensity lights May operate part-time
- Elevation of the top above mean sea level
- Height above ground
- Under construction or reported: position and elevation unverified

NOTICE: Guy wires may extend outward from structures.

- NOTES:
- THIS MAP REPRODUCED FROM THE FAA HOUSTON SECTIONAL AERONAUTICAL CHARTS DATED DECEMBER 29, 2022
 - THERE ARE NO PUBLIC AIRPORTS WITHIN A 10,000 FOOT RADIUS OF THE SITE.
 - THERE IS ONE SMALL PRIVATELY OWNED, PRIVATE USE AIRPORTS WITHIN A 6-MILE RADIUS OF THE SITE.

I/IIB-45

<input type="checkbox"/> DRAFT <input checked="" type="checkbox"/> FOR PERMITTING PURPOSES ONLY <input type="checkbox"/> ISSUED FOR CONSTRUCTION	PREPARED FOR PINE HILL FARMS LANDFILL COMPANY, LP	MAJOR PERMIT AMENDMENT AREA AIRPORTS ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS
DATE: 02/2023 FILE: 0120-076-11 CAD: 1-AREA AIRPORTS.DWG	DRAWN BY: JDW DESIGN BY: SSM REVIEWED BY: JAE	
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM

FIGURE 1

G:\0120\76\EXPANSION 2023\PARTS 1-IN\COORDINATION LETTERS\FIG 1-AREA AIRPORTS.dwg, by: jmg, 1:2

ATTACHMENT B

**PROJECT SUMMARY AND
SITE LOCATION MAPS**

**PROJECT SUMMARY
AND
SITE LOCATION MAP**

Project Summary Royal Oaks Landfill Cherokee County, Texas

Introduction

The Royal Oaks Landfill is in the process of developing a major permit amendment application to provide long-term disposal capacity for authorized solid waste that is generated in this area. The landfill currently serves residences and businesses in the communities of Cherokee County and nearby counties. The permit amendment application will be submitted to the Texas Commission on Environmental Quality (TCEQ) and will undergo a detailed review before the operative Permit for this facility is issued.

The objective of this summary is to provide an overview of the proposed project. The following subsections detail information regarding the owner and operator of the site, general site information, and a summary of the proposed site design.

Owner/Operator Information

The Royal Oaks Landfill is owned by the City of Jacksonville and operated by Pine Hill Farm TX, LP. Pine Hill Farms TX, LP is a subsidiary of Republic Services (Republic). Republic is one of the leading providers of solid waste services in the nation and provides services to residential, municipal and commercial customers across the country.

Site Information

The following drawings are attached to this summary.

- Figure 1 – Site Location Map. This figure shows the site location on a standard TxDOT county highway map.
- Figure 2 – General Topographic Map. This figure shows the site location on a USGS topographic map.
- Figure 3 – Aerial Photograph. This figure details both the currently permitted landfill and proposed reconfigured landfill on an aerial photograph.
- Figure 4 – Site Plan. This plan details both the currently permitted landfill and proposed landfill configuration on a detailed topographic map.
- Figure 5 – Existing and Proposed Landfill Completion Plan. This figure provides a comparison between the currently permitted landfill and the proposed reconfigured landfill completion plan.

Site History

The Royal Oaks Landfill is an existing 144.3-acre municipal solid waste facility (TCEQ Permit No. MSW-1614A) located approximately 0.5 miles east of the intersection of Heath Lane and U.S. Highway 69 in Cherokee County.

The site was originally permitted as a Type I Municipal Solid Waste Landfill in 1984. The landfill was operated by the City of Jacksonville until 1988, when the permit was transferred to Laidlaw Waste Systems, Inc. The permit was amended in 1996 to horizontally and vertically expand the landfill. In 2002, the permit was transferred to Pine Hill Farms Landfill TX, LP, a limited partnership with Republic.

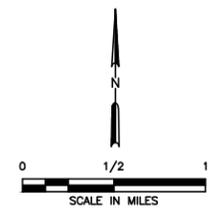
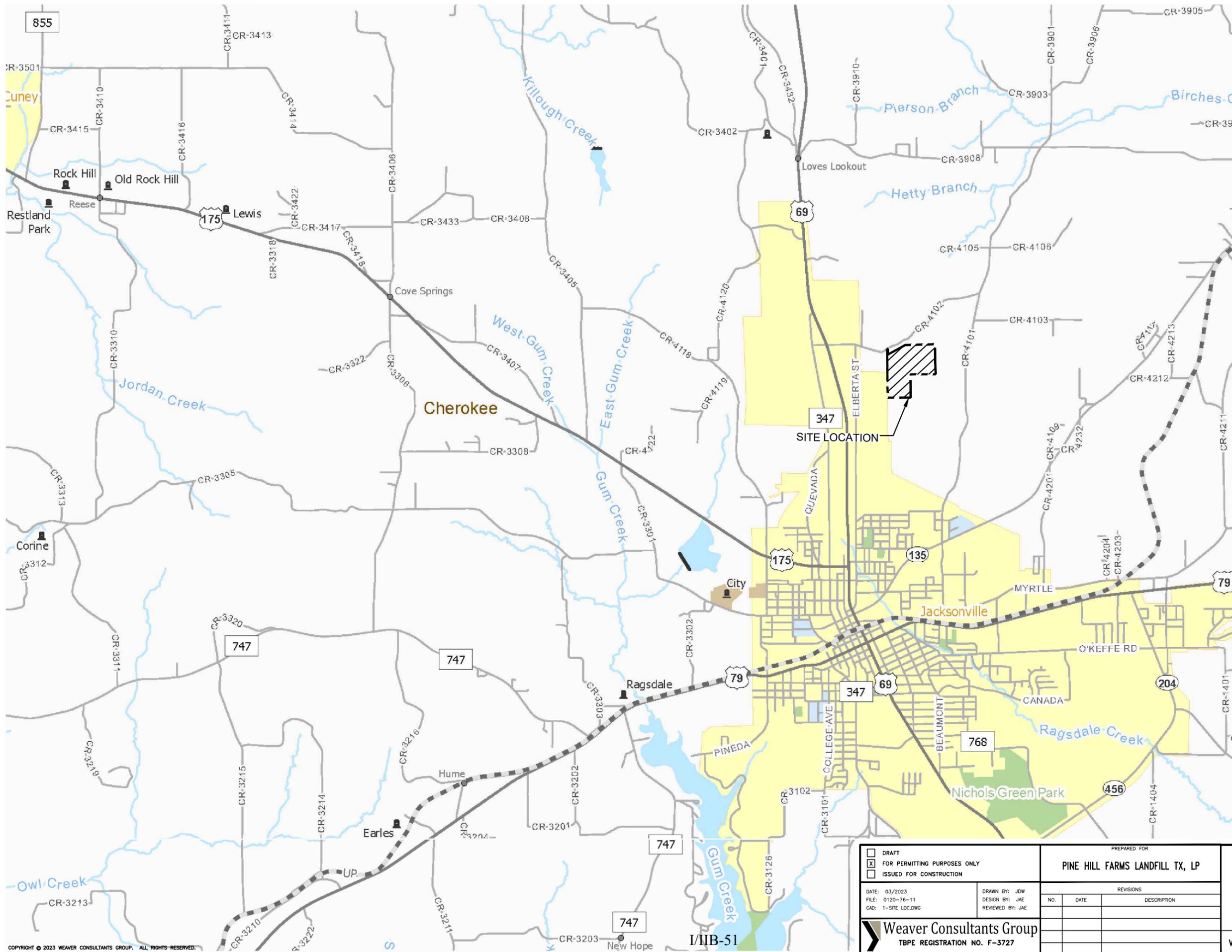
Design Summary

The following information presents a summary of the design and operations of the proposed Royal Oaks Landfill project.

- The Royal Oaks Landfill is an existing Type I municipal solid waste landfill facility (MSW Permit No. MSW-1614A). The existing landfill currently serves residences and businesses in the communities of Cherokee County and nearby counties.
- With this amendment application, the existing 144.3-acre permit boundary will not be changed. The permitted limit of waste will increase by 28.6 acres from approximately 54.5 acres to approximately 83.1 acres.
- Accepted wastes will remain consistent with the current municipal solid waste landfill permit. The classifications of solid waste to be accepted at the Royal Oaks Landfill include household waste, yard waste, commercial waste, industrial waste (nonhazardous), construction-demolition waste, and some special wastes.
- A liner and final cover system that meets all regulatory requirements will be used for the solid waste containment system. The design objective of the containment system (final cover, liner, and leachate management systems) is to isolate the solid waste and remove leachate (defined as liquid that has contacted solid waste) that may collect on the liner system. Collected leachate will be stored on-site then either processed onsite or transferred to an authorized treatment facility for disposal. The construction procedures of the liner and cover systems follow strict TCEQ-approved quality control procedures, which are verified by an independent testing firm. Each of the containment system components must be thoroughly reviewed and approved by the TCEQ before solid waste is placed in the landfill.
- To control landfill gas emissions and minimize the potential for subsurface migration, a landfill gas (LFG) collection and control system (GCCS) may be installed at the site. The collection system will consist of vertical extraction wells and collection piping throughout the waste mass. The collected LFG will be combusted in a flare or processed for beneficial reuse as renewable energy. If installed, routine

monitoring of the GCCS will be performed to verify the efficiency of the GCCS to collect and control generated LFG.

- To verify that the highest level of environmental protection is provided, the following landfill monitoring systems are provided:
 - Groundwater Monitoring System. The purpose of the groundwater monitoring system is to verify the integrity of the containment system and verify that area groundwater is not adversely impacted by the landfill. This is accomplished by obtaining water samples from the monitor wells located on the perimeter of the landfill, which are screened in the upper most groundwater zones. The water samples are tested at an off-site laboratory.
 - Gas Monitoring System. The purpose of the landfill gas monitoring system is to verify that landfill gas does not migrate off-site. This is accomplished by sampling monitoring probes located on the perimeter of the landfill.
- These systems are routinely sampled and tested.
- Site Operations. The site will be operated by personnel who have been trained and certified by the TCEQ. A detailed site operating plan will be included in the permit amendment application. The plan will detail the required equipment, personnel, and safety procedures required to operate the site in accordance with TCEQ regulations. The active landfill area will be covered each evening to prevent potential nuisance conditions such as odors and vectors. The Royal Oaks Landfill will continue to be inspected by the TCEQ on a regular basis to ensure the site is in compliance with state regulations.



- 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
- ▨ LANDFILL PROPERTY**

NOTES:
 1. REPRODUCED FROM 2018 TEXAS DEPARTMENT OF TRANSPORTATION COUNTY MAPS, CHEROKEE COUNTY.

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<input type="checkbox"/> ISSUED FOR CONSTRUCTION	
DATE: 03/2023	DRAWN BY: JDW
FILE: 0120-76-11	DESIGN BY: JAE
CAD: 1-SITE.LOC.DWG	REVIEWED BY: JAE
Weaver Consultants Group	
TBPE REGISTRATION NO. F-3727	

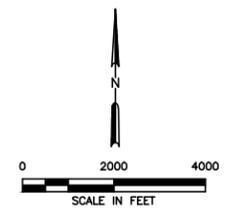
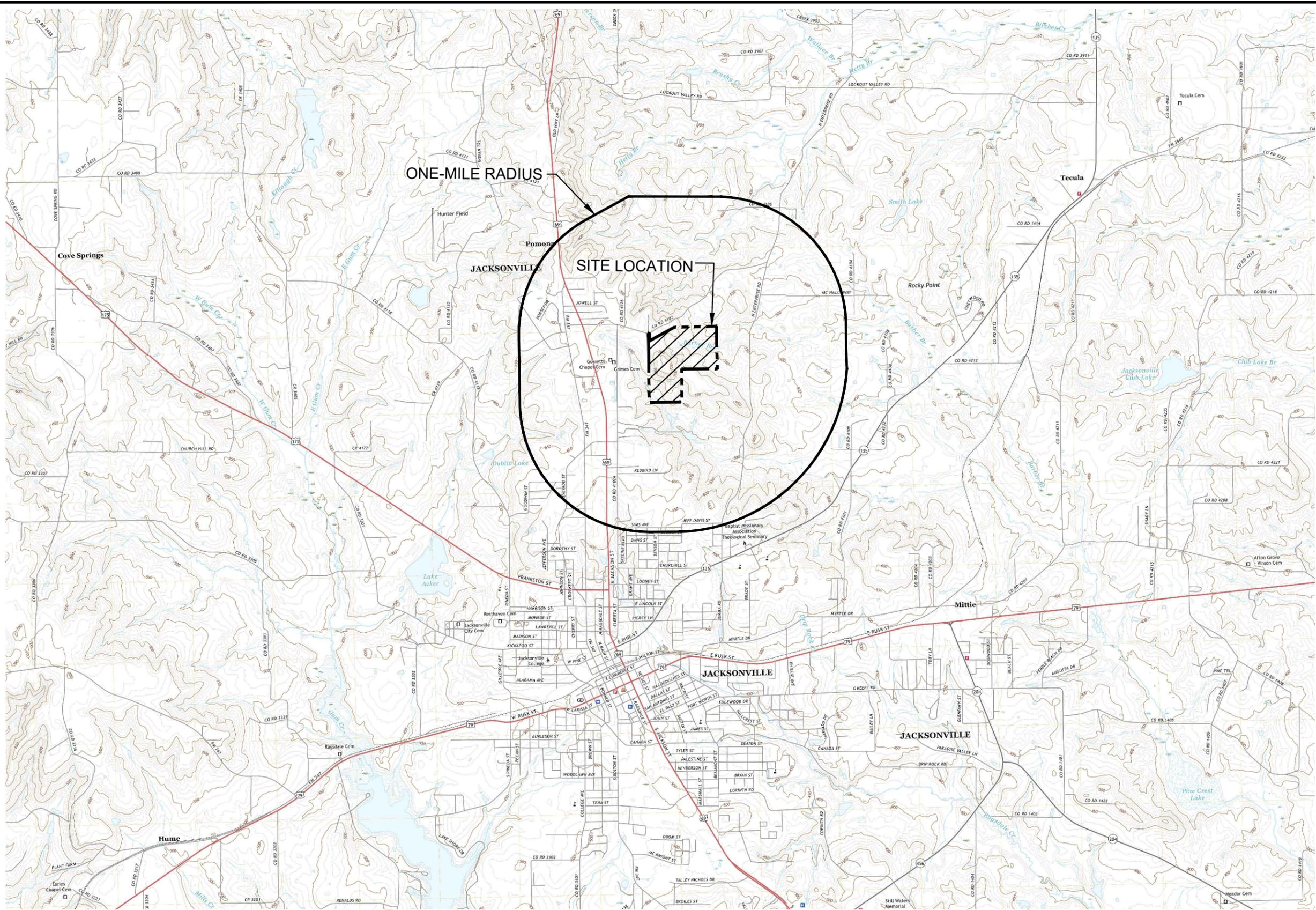
REVISIONS		
NO.	DATE	DESCRIPTION

SITE LOCATION MAP

ROYAL OAKS LANDFILL
 CHEROKEE COUNTY, TEXAS

WWW.WCGRP.COM **FIGURE 1**

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LEGEND

ROAD CLASSIFICATION

- Expressway
- Secondary Hwy
- Ramp
- Interstate Route
- Local Connector
- Local Road
- 4WD
- US Route
- State Route

LANDFILL PROPERTY

JACKSONVILLE WEST, TX 2022 JACKSONVILLE EAST, TX 2022 MOUNT SELMAN, TX 2022 TECULA, TX 2022

NOTES:
 1. REPRODUCED FROM 7.5 MINUTE, JACKSONVILLE WEST, JACKSONVILLE EAST, MOUNT SELMAN, AND TECULA TEXAS QUADRANGLE USGS MAP DATED 2022.

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FILE: 0120-76-11	DESIGN BY: JAE
CAD: 2-GENERAL TOPO.DWG	REVIEWED BY: JAE
Weaver Consultants Group	
TBPE REGISTRATION NO. F-3727	

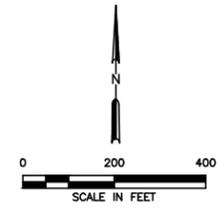
REVISIONS		
NO.	DATE	DESCRIPTION

GENERAL TOPOGRAPHIC MAP

ROYAL OAKS LANDFILL
 CHEROKEE COUNTY, TEXAS

WWW.WCGRP.COM **FIGURE 2**

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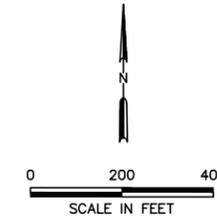
LEGEND

	PERMIT BOUNDARY
	PERMITTED LIMIT OF WASTE
	PROPOSED LIMIT OF WASTE

NOTE:
 1. AERIAL PHOTOGRAPH PROVIDED BY FIRMATEK, LLC DATED 11-10-2022.

O:\0120\76\EXPANSION 2023\PARTS 1-I\COORDINATION LETTERS\3-AERIAL PHOTO.DWG, byoung, 1:2

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	PINE HILL FARMS LANDFILL TX, LP																	
DATE: 03/2023 FILE: 0120-76-11 CAD: 3-AERIAL PHOTOGRAPH.DWG	DRAWN BY: JDW DESIGN BY: JAE REVIEWED BY: JAE	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																		
NO.	DATE	DESCRIPTION																
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE 3															



LEGEND

- PERMIT BOUNDARY
- - - -** PERMITTED LIMIT OF WASTE
- · - · -** PROPOSED LIMITS OF WASTE
- CELL BOUNDARY
- E 10500** SITE GRID
- 610** EXISTING CONTOUR (SEE NOTE 1)

NOTES:

1. EXISTING CONTOURS DEVELOPED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022.
2. PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.

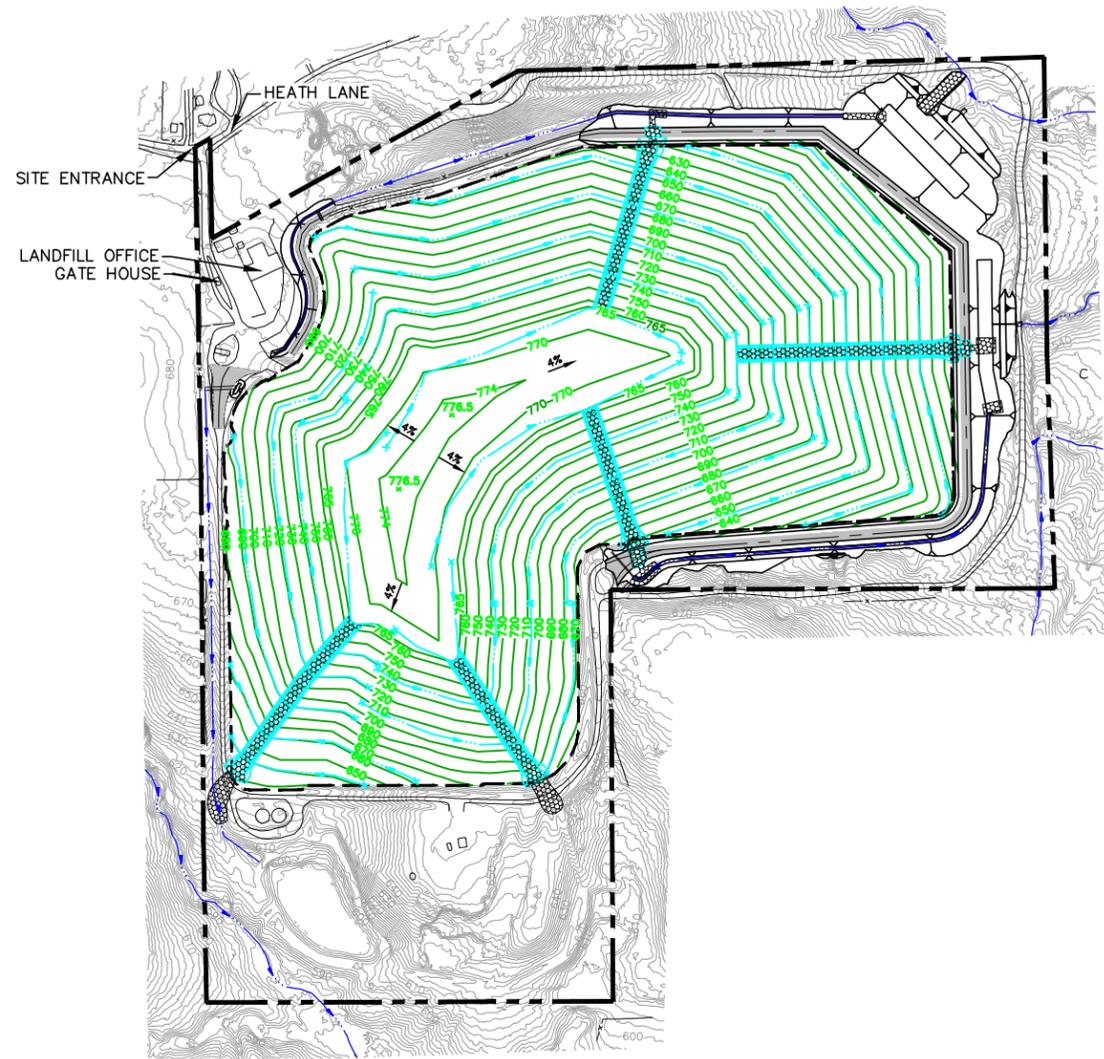
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	PINE HILL FARMS LANDFILL TX, LP																	
DATE: 12/2023 FILE: 0120-76-11 CAD: 4-SITE PLAN.DWG	DRAWN BY: JDW DESIGN BY: JAE REVIEWED BY: JAE	<table border="1"> <thead> <tr> <th colspan="3">REVISIONS</th> </tr> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>		REVISIONS			NO.	DATE	DESCRIPTION									
REVISIONS																		
NO.	DATE	DESCRIPTION																
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		WWW.WCGRP.COM	FIGURE 4															

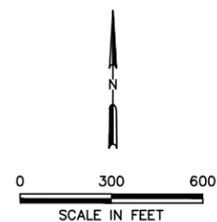
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PERMITTED LANDFILL COMPLETION PLAN



PROPOSED LANDFILL COMPLETION PLAN



LEGEND

	PERMIT BOUNDARY
	LIMIT OF WASTE
	EXISTING CONTOUR (SEE NOTE 1)
	FINAL COVER CONTOUR
	DRAINAGE FLUME
	DRAINAGE SWALE
	GABIONS

- NOTES:**
- EXISTING CONTOURS DEVELOPED BY FIRMATEK, LLC FROM AERIAL PHOTOGRAPHY FLOWN NOVEMBER 10, 2022.
 - PERMIT BOUNDARY WAS REPRODUCED FROM LEGAL DESCRIPTION PROVIDED BY STANGER SURVEYING COMPANY, DATED APRIL 1995.

I/IIB-55

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DATE: 12/2023 FILE: 0120-76-11 CAD: 5-FINAL COVER COMPARISON.DWG	DRAWN BY: JDW DESIGN BY: JAE REVIEWED BY: JAE	ROYAL OAKS LANDFILL CHEROKEE COUNTY, TEXAS													
Weaver Consultants Group TBPE REGISTRATION NO. F-3727		REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">NO.</th> <th style="width: 10%;">DATE</th> <th style="width: 80%;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	DESCRIPTION										WWW.WCGRP.COM
NO.	DATE	DESCRIPTION													
			FIGURE 5												

ATTACHMENT C

LANDFILL COMPLETION PLAN

POINT D- NORTHWEST CORNER
 N 32° 00' 06.07"
 W 95° 16' 00.79"
 EXISTING GRADE-678
 MAX ELEV OF LANDFILL-776.5
 MAX ELEV OF EQUIPMENT ON
 LANDFILL-821.5

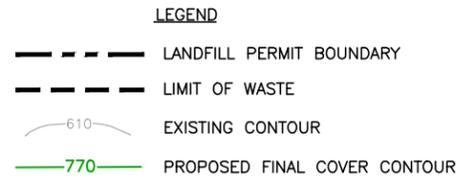
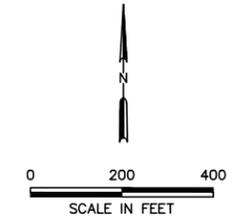
POINT E-NORTHEAST CORNER
 N 32° 00' 08.98"
 W 95° 15' 41.53"
 EXISTING GRADE-576
 MAX ELEV OF LANDFILL-776.5
 MAX ELEV OF EQUIPMENT ON
 LANDFILL-821.5

POINT C-TOP DECK
 N 31° 59' 57.96"
 W 95° 15' 57.53"
 EXISTING GRADE-765.4
 MAX ELEV OF LANDFILL-776.5
 MAX ELEV OF EQUIPMENT ON
 LANDFILL-821.5

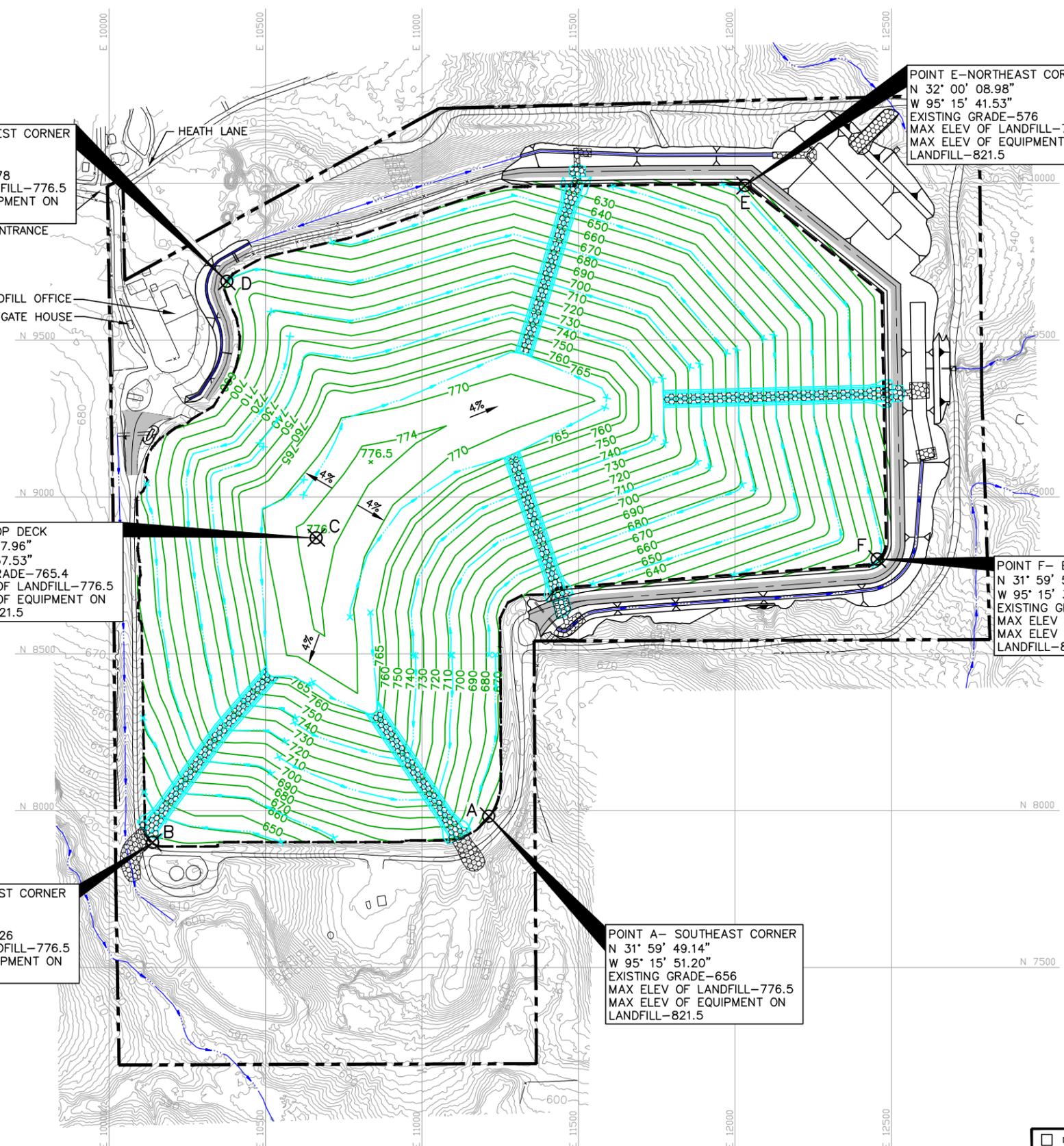
POINT F- EAST CORNER
 N 31° 59' 57.17"
 W 95° 15' 36.73"
 EXISTING GRADE-583
 MAX ELEV OF LANDFILL-776.5
 MAX ELEV OF EQUIPMENT ON
 LANDFILL-821.5

POINT B-SOUTHWEST CORNER
 N 31° 59' 48.38"
 W 95° 16' 03.68"
 EXISTING GRADE-626
 MAX ELEV OF LANDFILL-776.5
 MAX ELEV OF EQUIPMENT ON
 LANDFILL-821.5

POINT A- SOUTHEAST CORNER
 N 31° 59' 49.14"
 W 95° 15' 51.20"
 EXISTING GRADE-656
 MAX ELEV OF LANDFILL-776.5
 MAX ELEV OF EQUIPMENT ON
 LANDFILL-821.5



- NOTES:**
- EXISTING CONTOURS AND ELEVATIONS PROVIDED BY FIRMATEK FROM AERIAL PHOTOGRAPHY FLOWN ON 11-10-2022.
 - NOTE THAT THE MAXIMUM ELEVATION OF THE LANDFILL AT EACH POINT CONSIDERED ASSUMES THE MAXIMUM ELEVATION OF THE LANDFILL. THE ELEVATION LISTED (821.5 FT-MSL) ACCOUNTS FOR LANDFILL EQUIPMENT THAT MAY BE USED ON TOP OF THE LANDFILL ON A TEMPORARY BASIS (E.G., A 45-FOOT HIGH DRILL RIG THAT MAY BE USED TO INSTALL LANDFILL GAS RECOVERY WELLS).



<input type="checkbox"/> DRAFT	PREPARED FOR	PINE HILL FARMS LANDFILL TX, LP	FAA POINT LOCATIONS									
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<input type="checkbox"/> ISSUED FOR CONSTRUCTION												
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COORDINATION WITH TEXAS HISTORICAL COMMISSION

- August 10, 2023, THC Review Email.
- August 10, 2023, Cultural Resources Survey of the Royal Oaks Landfill Expansion project.

AUGUST 10, 2023, THC REVIEW EMAIL

Young, Brian

From: noreply@thc.state.tx.us
Sent: Thursday, August 10, 2023 9:36 AM
To: Todd McMakin; reviews@thc.state.tx.us; Arlo.M.Mckee@usace.army.mil
Subject: Royal Oaks Landfill Expansion



Re: Project Review under Section 106 of the National Historic Preservation Act and/or the Antiquities Code of Texas

THC Tracking #202310283

Date: 08/10/2023

Royal Oaks Landfill Expansion (Permit 31167)
440 Heath Lane
Jacksonville, TX 75766

Description: Archeological draft report for a negative findings survey. USACE SWF-2021-00405

Dear Todd McMakin:

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

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

Above-Ground Resources

- No historic properties are present or affected by the project as proposed. However, if historic properties are discovered or unanticipated effects on historic properties are found, work should cease in the immediate area; work can continue where no historic properties are present. Please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties.

Archeology Comments

- No historic properties affected. However, if cultural materials are encountered during construction or disturbance activities, work should cease in the immediate area; work can continue where no cultural materials are present. Please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.
- THC/SHPO concurs with information provided.
- This draft report is acceptable. To facilitate review and make project information and final reports available through the Texas Archeological Sites Atlas, we appreciate submission of tagged pdf copies of the final report including one restricted version with all site location information (if applicable), and one public version with all site location information redacted; an online abstract

form submitted via the abstract tab on eTRAC; and survey area shapefiles submitted via the shapefile tab on eTRAC. For questions on how to submit these please visit our video training series at: <https://www.youtube.com/playlist?list=PLONbbv2pt4cog5t6mCqZVaEAX3d0MkgQC>
Please note that these steps are required for projects conducted under a Texas Antiquities Permit.

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

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

Sincerely,



for Mark Wolfe, State Historic Preservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

cc: Arlo.M.Mckee@usace.army.mil

**AUGUST 10, 2023, CULTURAL RESOURCES SURVEY OF THE ROYAL
OAKS LANDFILL EXPANSION PROJECT**

**Cultural Resources Survey of the
Royal Oaks Landfill Expansion Project,
Cherokee County, Texas**

Final Report - Restricted



Authored by:
Todd McMakin
Brad Husemann
and
Emma Richburg

Stone Point Services, LLC
11827 County Road 41
Tyler, TX 75706

Submitted to:
Hydrex Environmental
312 Old Tyler Road
Nacogdoches, TX 75961

USACE Permit Number: SWF-2021-00405
THC Antiquities Permit No. 31167

Stone Point Services, SPS22C0215

A handwritten signature in black ink, appearing to read "Todd McMakin", is written over a light gray background.

Todd McMakin
Principal Investigator

August 10, 2023

**Cultural Resources Survey of the
Royal Oaks Landfill Expansion Project,
Cherokee County, Texas**

Final Report - Restricted

Submitted by

Todd McMakin, Owner/Senior Archeologist
Stone Point Services, LLC
11827 County Road 41
Tyler, TX 75706
903-881-3103

Submitted to:

Hydrex Environmental
312 Old Tyler Road
Nacogdoches, TX 75961

Royal Oaks Landfill Expansion
Survey Dates: May 30-31, 2023
Total Area Surveyed: 48.2-acres (19.5-hectares)
Maps: USGS Jacksonville West Quadrangle (7.5')
USGS Mount Selmon Quadrangle (7.5')

USACE Permit Number: SWF-2021-00405
THC Antiquities Permit No. 31167

Stone Point Services, SPS22C0215

August 10, 2023

Abstract

On May 30 to 31, 2023, Stone Point Services, LLC conducted a cultural resource survey of the proposed Royals Oaks Landfill Expansion project, located in the city of Jacksonville in Cherokee County, Texas for Hydrex Environmental. The proposed project is approximately 370 by 526-meters (1214 by 1725-feet) rectangular parcel of property in a bottomland and upland setting adjacent to the existing Republic Services Royal Oaks Landfill and is comprised of 19.5-hectares (48.2-acres). The anticipated depth of impact (vertical APE) is 15.2-meters (50-feet) below the present ground surface. It is understood that this work will operate under Nationwide Permit (NWP) 39 through the US Army Corps of Engineers (USACE) Fort Worth District and that the USACE will have review authority for this project (USACE# SWF-2021-00405). As such, this project will be reviewed under Section 106 of the National Historic Preservation Act (NHPA). Furthermore, as the proposed undertaking is located on city property it is understood that this work will include permitting and regulatory oversight by the Texas Historical Commission (THC) in order to comply with the requirements of the Antiquities Code of Texas (ACT). This survey was conducted as part of USACE permit application # SWF-2021-00405 and under Texas Antiquities Permit 31167. The survey area consists of a wooded area proposed for a landfill expansion. The subject property is surrounded by an existing landfill, agricultural fields, floodplain, and woodlands.

Background research revealed no previously recorded archeological sites within the survey area and field investigations identified no new cultural resources (archeological sites or historic resources) within the survey area. We therefore find that this project will not impact National Register of Historic Places (NRHP) listed, eligible, or potentially eligible structures or sites within the survey area, nor will it impact State Antiquities Landmark (SAL) resources. This project is recommended to proceed with no additional consideration of archeological or historic resources. All records produced as a result of this project will be submitted to Stephen F. Austin State University (SFASU) for curation. Survey methods conducted within the survey area meet or exceed methods recommended by the THC and the Council of Texas Archeologists (CTA) (2020).

Late Discovery Protocol

In the event of an inadvertent discovery of human remains and/or archeological cultural deposits, all project activity near the location will cease immediately until proper notification of consulting parties has occurred and mitigative measures have been determined and implemented.

Executive Summary

On May 30 to 31, 2023, Stone Point Services, LLC conducted a cultural resource survey of the proposed Royals Oaks Landfill Expansion project, located in the city of Jacksonville in Cherokee County, Texas for Hydrex Environmental. The proposed project is approximately 370 by 526-meters (1214 by 1725-feet) rectangular parcel of property in a bottomland and upland setting adjacent to the existing Republic Services Royal Oaks Landfill and is comprised of 19.5-hectares (48.2-acres). The anticipated depth of impact (vertical APE) is 15.2-meters (50-feet) below the present ground surface. It is understood that this work will operate under Nationwide Permit (NWP) 39 through the US Army Corps of Engineers (USACE) Fort Worth District and that the USACE will have review authority for this project (USACE# SWF-2021-00405). As such, this project will be reviewed under Section 106 of the National Historic Preservation Act (NHPA). Furthermore, as the proposed undertaking is located on city property it is understood that this work will include permitting and regulatory oversight by the Texas Historical Commission (THC) in order to comply with the requirements of the Antiquities Code of Texas (ACT). This survey was conducted as part of USACE permit application # SWF-2021-00405. The survey area consists of a city owned landfill and wooded area. The subject property is surrounded by agricultural fields, floodplain, and woodlands.

Field investigations were conducted from May 30 to 31, 2023, by Principal Investigator Todd McMakin along with archeologist Brad Husemann. Survey methods included pedestrian survey spaced at 15-meter (50-foot) intervals within the survey area. Shovel tests were placed at 30-meter (100-foot) intervals along transects spaced at 30-meters (100-feet) apart in high potential areas, with supplemental shovel tests also placed in areas deemed higher in potential. Lower potential areas were surveyed at reduced intervals and placed in areas more likely to contain intact sites. The minimum number of shovel tests required for the 19.5-hectares (48.2-acres) tract is 55 shovel tests (THC 2020). In total, 57 shovel tests were excavated within the project area, representing approximately 1.2 shovel tests per acre. All shovel tests were negative for cultural materials. Approximately 10.36-hectares (25.6-acres) of the project area have been severely impacted by previous mechanical disturbance and erosion. Shovel testing was conducted within those areas with intact soils, representing approximately 9.15-hectares (22.6-acres). Within the intact portions of the survey area, approximately 2.5 shovel tests were excavated per acre.

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methods conducted within the survey area meet or exceed methods recommended by the THC and the Council of Texas Archeologists (CTA) (2020).

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Pendleton Property Project Summary

Project Management: Hydrex Environmental

Project Location:
 440 Heath Lane
 Jacksonville, TX 75766
 County: Cherokee

<p>Proposed development (APE): 19.5-hectares (48.2-acres)</p>	<p>Area Surveyed: 19.5-hectares (48.2-acres)</p>	<p>Date(s) of Background Research: March 21, 2023</p>
<p>Field methods: 57 shovel tests 15-meter (50-foot) pedestrian transects 30-meter (100-foot) interval shovel testing (high potential) Subject shovel testing (low potential)</p>	<p>Field Crew: Todd McMakin Brad Husemann</p>	<p>Date(s) of Field Visit: May 30 and 31, 2023</p>
<p>Direct Effects Determination: No resources for direct effects</p>	<p>Recommendations: This project is recommended to proceed with no additional consideration of cultural resources.</p>	<p>Project Reference SPS #: SPS22C0215 Antiquities Permit No. 31167 USACE Permit: SWF-2021-00405</p>

Acknowledgements

Stone Point Services would like to thank Hydrex Environmental for providing us with the necessary data to complete this survey. Todd McMakin served as Principal Investigator and provided input on the Draft Technical Report. Todd McMakin and Brad Husemann completed all fieldwork. Appreciation is also extended to Katherine McMakin, Danny Lewis and Jill Jodie, GIS Specialists for Stone Point Services.

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Chapter 1: Introduction

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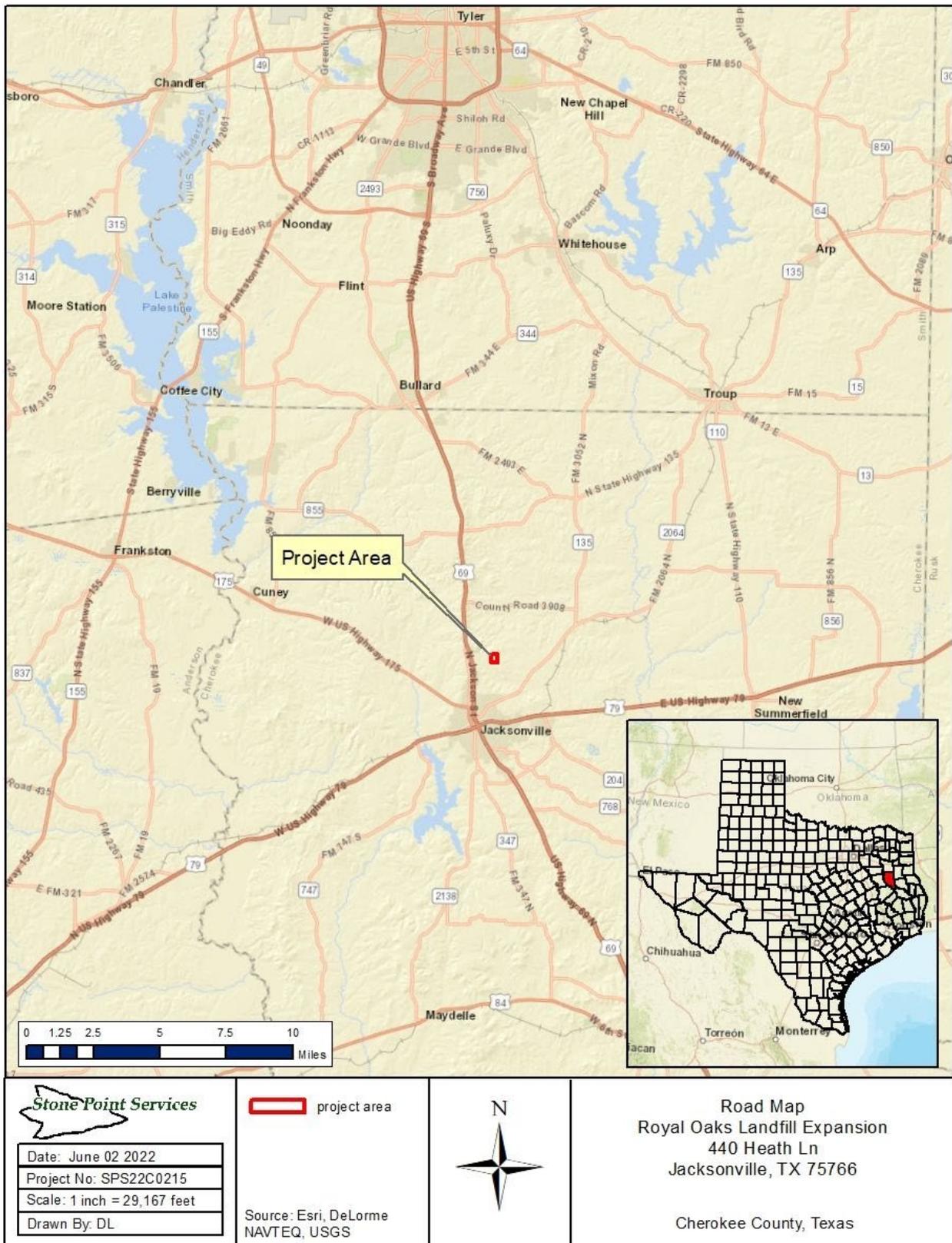
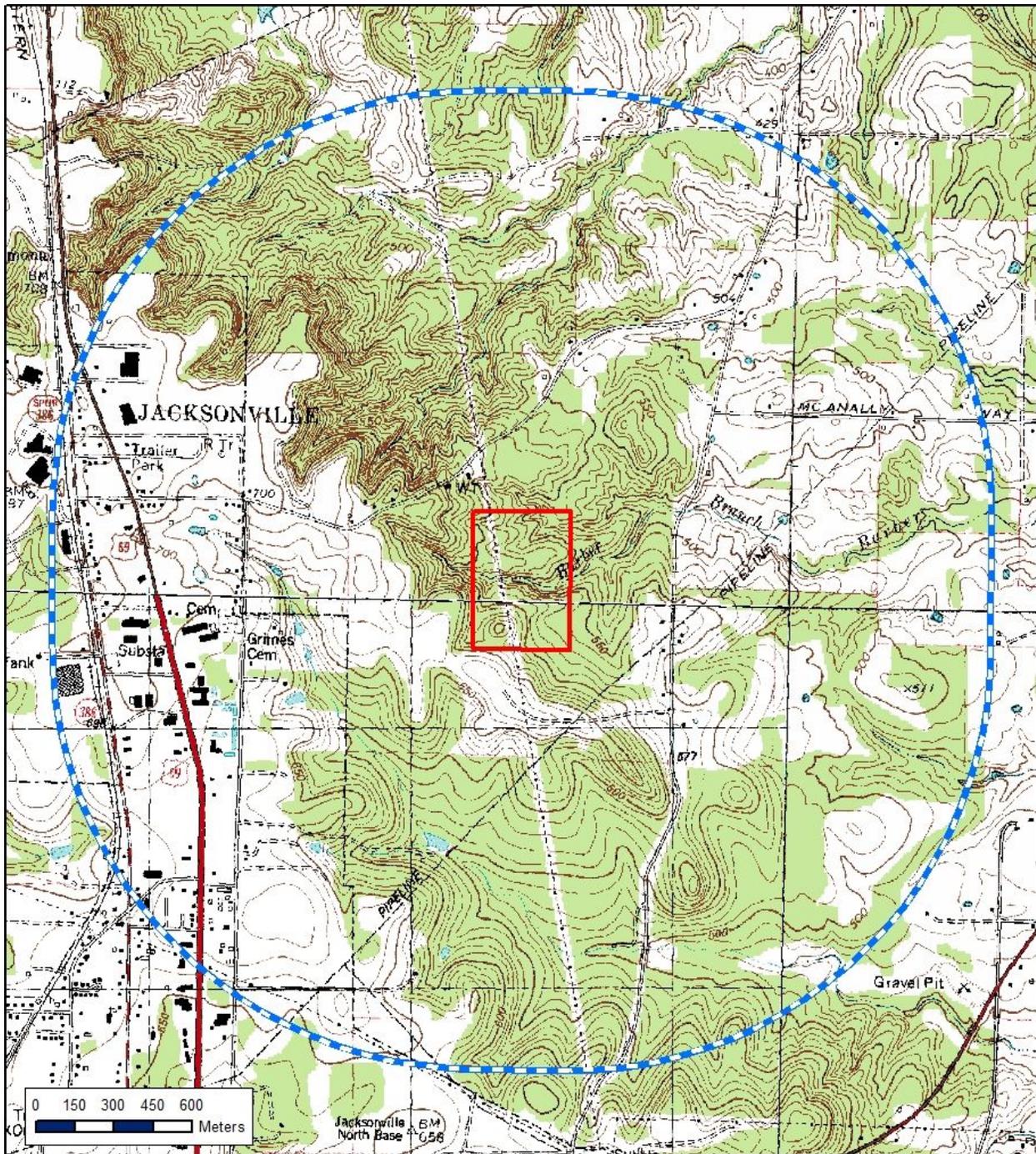
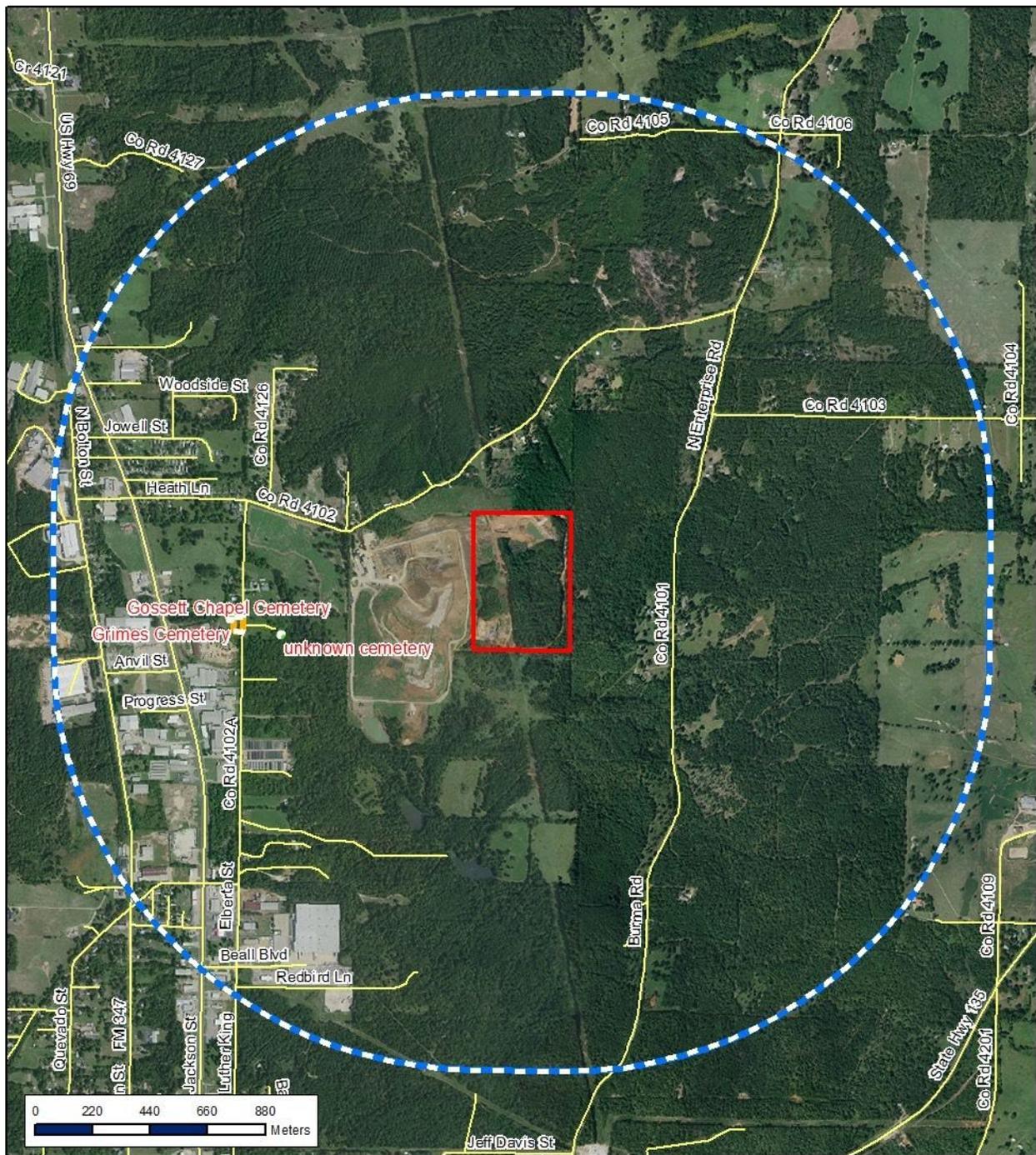


Figure 1: General overview map.



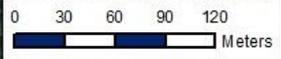
 <p>Date: June 02 2022 Project No: SPS22C0215 Scale: 1 inch = 2,000 feet Drawn By: KM</p>	<p> project area</p> <p> 1.0 mile review area</p> <p>Source: USGS</p>	<p>N</p> 	<p>Topographic Map USGS Jacksonville West, Tecula, Mount Selmon, Jacksonville East 7.5 min Quads Royal Oaks Landfill Expansion 440 Heath Ln Jacksonville, TX 75766</p> <p>Cherokee County, Texas</p>
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Figure 2: USGS Jacksonville West, Tecula, Mount Selmon, and Jacksonville East 7.5-min Quadrangle maps showing the project area.



	 project area  street  1.0 mile review area  historic Texas cemetery  cemetery		<p>Aerial Map Royal Oaks Landfill Expansion 440 Heath Ln Jacksonville, TX 75766</p> <p>Cherokee County, Texas</p>
	<p>Date: March 21 2023 Project No: SPS22C0215 Scale: 1 inch = 2,000 feet Drawn By: DL</p>		

Figure 3: Aerial map showing the project area.



	<ul style="list-style-type: none"> project area street 	<p>N</p> 	<p>Project Area Royal Oaks Landfill Expansion 440 Heath Ln Jacksonville, TX 75766</p>
<p>Date: June 02 2022</p>			
<p>Project No: SPS22C0215</p>			
<p>Scale: 1 inch = 375 feet</p>			
<p>Drawn By: DL</p>		<p>Cherokee County, Texas</p>	

Figure 4: Construction area for the proposed Royals Oaks Landfill Expansion project.

Chapter 2: Natural and Cultural Setting

Environmental Setting

The survey area is located in Cherokee County, in the city of Jacksonville, TX. This portion of Cherokee County lies within the Pineywoods ecological region (Texas Parks and Wildlife Department [TPWD] 2023a). This area consists of rolling hills of pine and oak with rich hardwood bottomlands that are frequently renewed by long-term flooding (TPWD 2023b). The subject property is located in a rural setting, north of Jacksonville, surrounded by agricultural fields, floodplain, and woodlands.

Flora and Fauna

Cherokee County is located within the Austroriparian biotic province (Blair 1950; Dice 1943). This region supports a broad range of indigenous species.

Animals that historically may have been used for food, shelter, and clothing (or perhaps for tools) in Cherokee County include white-tailed deer (*Odocoileus virginianus*), fox squirrel (*Sciurus niger*), raccoon (*Procyon lotor*), virginia opossum (*Didelphis virginiana*), bison (*Bison bison*), beaver (*Castor canadensis*), black bear (*Ursus americanus*), turkey (*Meleagris gallopavo*), quail (*Colinus virginianus*), and other smaller birds and rodent species (Davis and Schmidly 1994).

Most of the upland habitats primarily include cropland, forests, and woodland. Typical species noted within this area include Drummond red maple (*Acer rubrum* L. var. *drummondii*), river birch (*Betula nigra*), flowering dogwood (*Cornus florida*), loblolly pine (*Pinus taeda*), big bluestem (*Andropogon gerardii*), Virginia creeper (*Parthenocissus quinquefolia*), and other woodland species that benefit from the heavy rainfall in the region (TPWD 2023b).



Figure 5: View from survey area northeast corner, facing southwest.



Figure 6: View from survey area northwest corner, facing southeast.



Figure 7: View from survey area southwest corner, facing northeast.



Figure 8: View from survey area southeast corner, facing northwest.



Figure 9: Overview of disturbance area in northern part of project area, facing north-northeast from tree line.



Figure 10: Earthen easement (disturbed), facing northwest from tree line.



Figure 11: Detention pond (disturbed), facing west-northwest from treeline.



Figure 12: Overview of disturbance area in southern part of project area, facing south-southwest from tree line.



Figure 13: Overview of undisturbed upland area south of creek, facing southeast.



Figure 14: Overview of undisturbed upland area north of creek, facing west.



Figure 15: Creek bed, facing west-southwest.



Figure 16: Overview of undisturbed floodplain in northeastern part of survey area, facing south.

Geology and Soils

The survey area is located in Cherokee County, in the city of Jacksonville. The survey area is located in the Gulf Coastal Plains physiographic region (United States Geological Survey [USGS] Bureau of Economic Geology [BEG] 2023). This area generally consists of rolling hills of pine and oak with rich hardwood bottomlands that are frequently renewed by long-term flooding (TPWD 2023b). The underlying geologic unit for the area is the Queen City Sand Formation (Map Unit Eqc) (Figure 17), and the Weches Formation (Map Unit Ew). The Queen City Sand Formations consists of fine grained to medium grained sand and clay and extends 30 to 123-meters (100 to 400-feet) below the surface. The Weches Formation consists of marl, quartz sand, and clay and extends approximately 15 to 27-meters (50 to 90-feet) below the surface region (United States Geological Survey [USGS] Bureau of Economic Geology [BEG] 2023).

The US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) *Soil Survey of Cherokee County, Texas* (2023) was used in determining soils within the project area (Figure 18; Table 1). Soils within the project area include Angelina (Map Unit: Md), Trawick-Bub complex, 8 to 40 percent slopes (Map Unit: Bt), and Nacogdoches fine sandy loam, sloping, eroding (Map Unit: Ng). The Angelina series consists of very deep, very poorly drained, slowly permeable soils formed in acid, stratified loamy sediments. Angelina soils occur on flood plains and are ponded for long periods of time. Trawick soils are moderately deep, well drained, and moderately slowly permeable. The Trawick series formed in glauconite materials and can be found on gently sloping to steep uplands. The Bub series consists of well drained, very slowly permeable, shallow to glauconite geologic materials. These soils are on moderately steep to steep hilly Redlands. Nacogdoches soils are deep, well drained, moderately slowly permeable and formed in thick marine sediments high in glauconite. Undisturbed soils in the survey area are likely to exhibit the following horizonation:

Table 1: Soils within the project area

<i>Soil type</i>	<i>Horizon</i>	<i>Depth</i>	<i>Color</i>	<i>Texture</i>
<i>Angelina</i>	01	0-1 inch	-	Leaves, stems, and other litter in various stages of decomposition
	02	1-3 inches	-	Decomposing organic material
	A1g	3-7 inches	Light gray (10YR 6/1)	Sandy clay
	C1g	7-14 inches	Light gray (10YR 7/1)	Sandy clay loam
	C2g	14-26 inches	Light gray (10YR 6/1)	Sandy clay loam
	C3g	26-35 inches	Light gray (10YR 6/1)	Sandy clay loam
	C4g	35-63 inches	Variegated light gray (10YR 6/1)	Clay loam
<i>Trawick</i>	Ap	0-6 inches	Dark reddish brown (5YR 3/3)	Fine sandy loam
	Bt1	6-13 inches	Dark red (10R 3/6)	Clay
	Bt2	13-24 inches	Dark reddish brown (2.5YR 3/4)	Clay

<i>Soil type</i>	<i>Horizon</i>	<i>Depth</i>	<i>Color</i>	<i>Texture</i>
	BCt	24-30 inches	Dark reddish brown (2.5YR 3/4)	Clay loam
	C	30-39 inches	Light olive brown (2.5Y 5/6)	Weathered glauconitic materials
	Cr	39-57 inches	Light olive brown (2.5Y 5/6)	Weathered glauconitic materials
<i>Bub</i>	A	0-4 inches	Dark reddish brown (5YR 3/4)	Gravelly clay loam
	Bt	4-17 inches	Yellowish red (5YR 4/6)	Clay
	Cr1	17-35 inches	Yellowish red (5YR 4/6)	alternate layers of about 60 fractured discontinuous glauconitic ironstone and weathered glauconitic materials and about 40 percent glauconitic shale
	Cr2	35-80 inches	Alternate layers of yellowish red (5YR 4/6), light olive brown (2.5YR 5/6), and dark brown (7.5YR 3/2)	Alternate layers of glauconitic ironstone, glauconitic materials, and glauconitic marl
<i>Nacogdoches</i>	Ap	0-6 inches	Dark reddish brown (5YR 3/4)	Fine sandy loam
	B21t	6-30 inches	Dark red 910R 3/6)	Clay
	B22t	30-70 inches	Dark red (2.5YR 3/6)	Clay
	B3	70-100 inches	Stratified red (2.5YR 4/6)	Clay

A field description of a soil type may vary from the soils designated by the NRCS for a specific area. The degree of sunlight, soil moisture, and personal observations can lead to variation during soil profile descriptions. Additionally, topography, erosion, deposition, and/or artificial impacts may lead to differences in soil horizon thickness between NRCS data collected in advance of an archeological survey and actual project area soil thicknesses observed during fieldwork. For an expanded description of soil forming factors, processes, and interpretive strategies, see Schoeneberger and colleagues (2012) and Brady and Weil (2010). Soils in the project area are partially disturbed from past landfill activities, agricultural land use, and deforestation for agricultural land and landfill use.

For information regarding site formation, post-depositional processes, and the interplay of geomorphology and archeology, see Goldberg and Macphail (2006), Stein and Farrand (2001) and Waters (1992).

LiDAR imagery of the project area (Figures 19-20) shows a region of relatively flat uplands with significant areas of earth movement, or push piles, across the area from vegetation clearing and mass movement of soils by heavy machinery. The intermittent tributary that constitutes the USACE jurisdictional feature is oriented generally east to west across the central portion of the APE. Imagery illustrates relatively steep relief in this area and where mechanical impacts are located across most of the area.

Additional indications of soil disturbance by heavy machinery are present as linear features along existing roads (bordering the area) and borrow area to the north and south (see Chapter 3). The relatively flat area between the machinery disturbances may be the result of previous land clearing and soil movement by heavy machinery. Overall, LiDAR imagery attests to widespread soil impacts within the entirety of the APE. These images verify historic aerial images and field observations which show significant disturbance across most of the area.

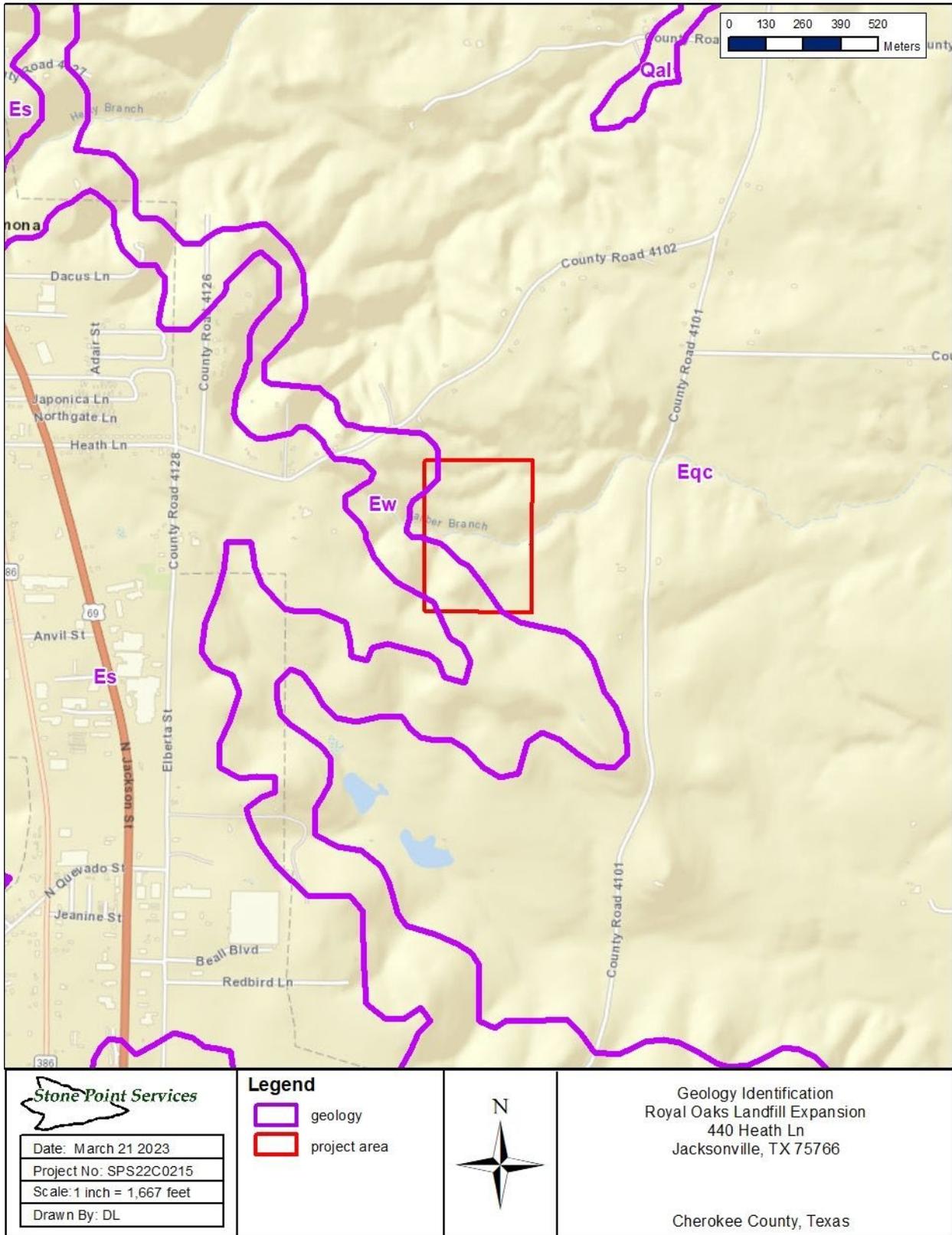


Figure 17: Map indicating underlying geology in the survey area.

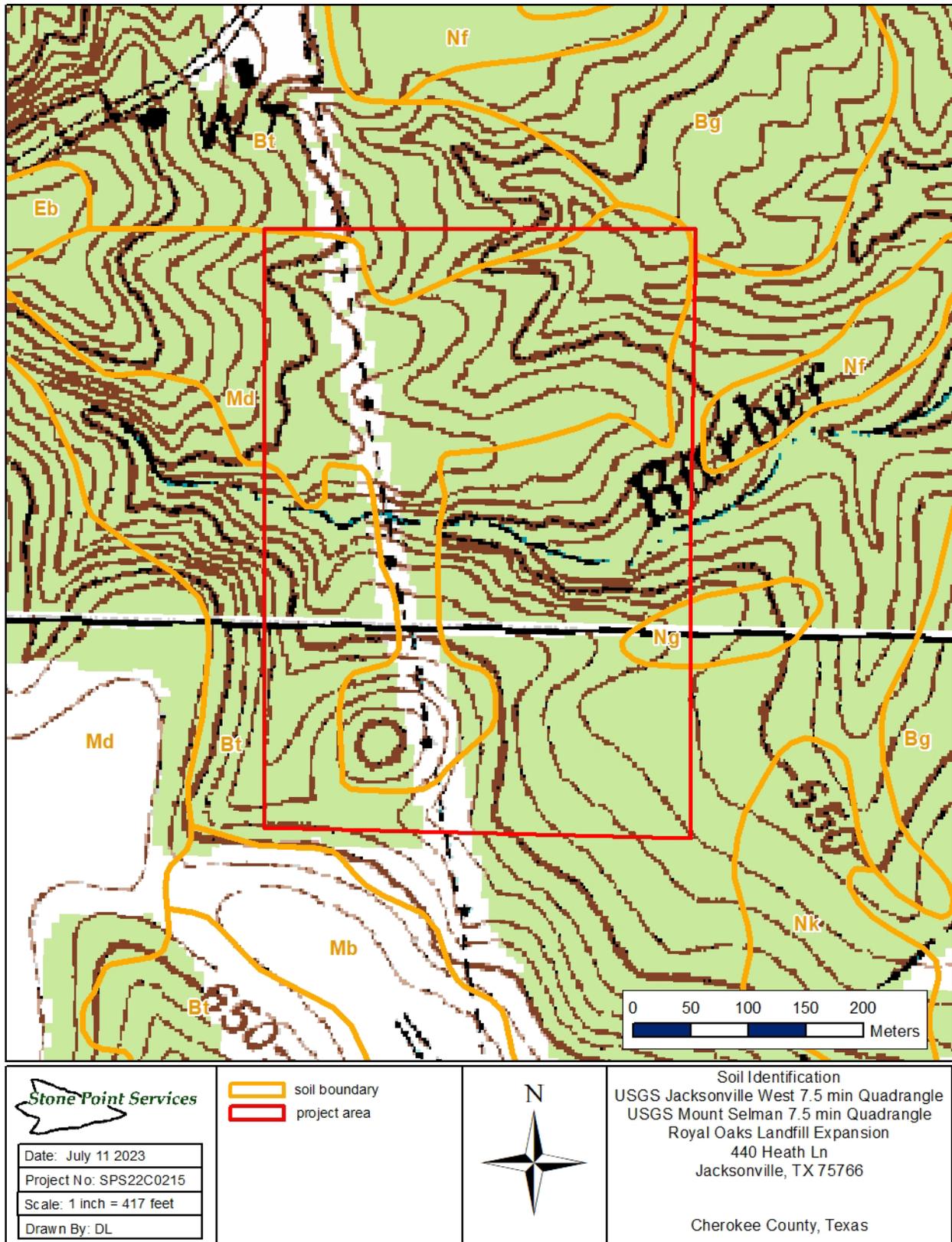


Figure 18: Soil types within the survey area.



Figure 19: LiDAR hillshade map of the project area

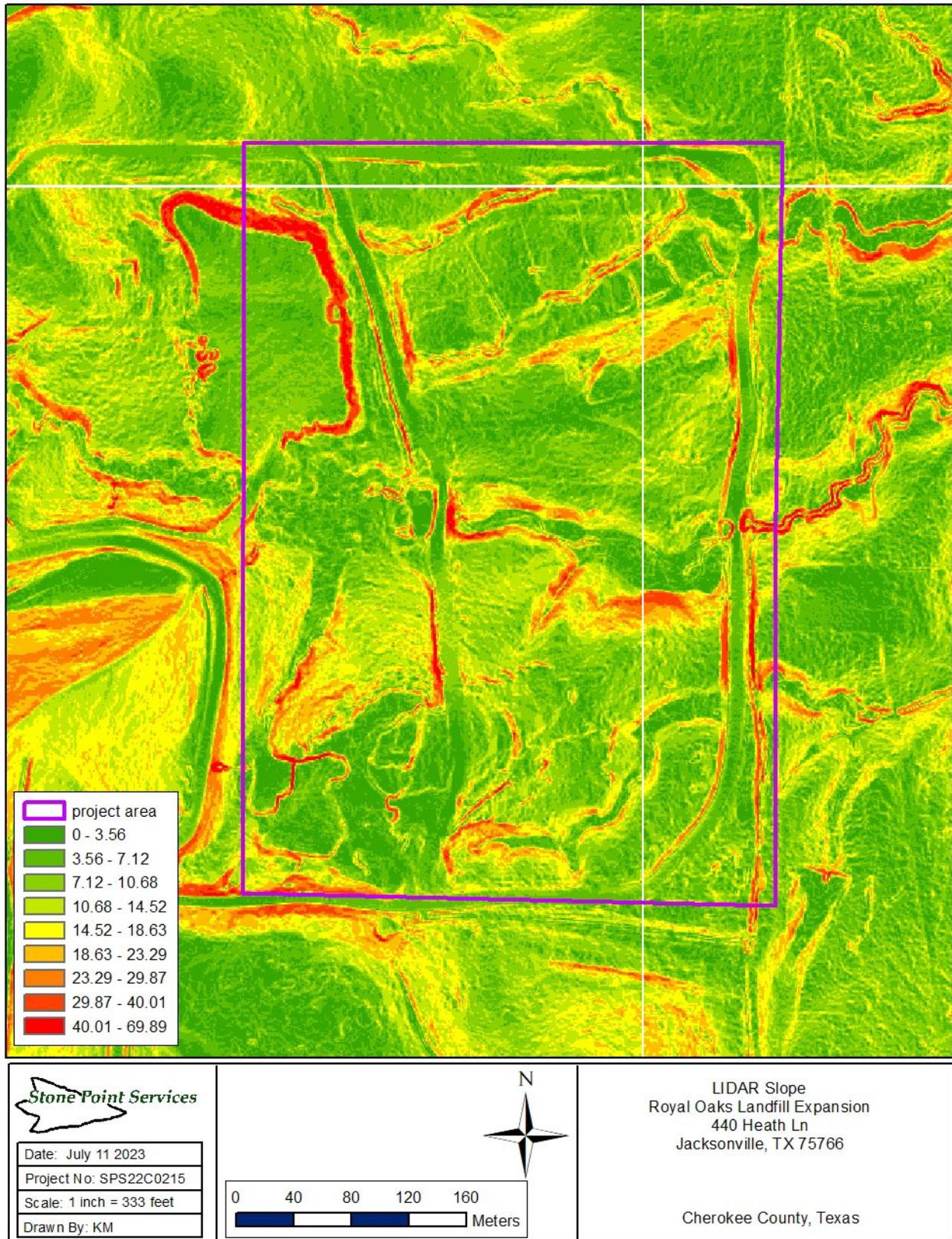


Figure 20: LiDAR slope intensity map of the project area

Cultural Setting

The earliest humans in North America arrived during the Paleoindian Period, which begins at approximately 9500 BC and ends at 7000 BC in Texas. Table 2 identifies the major periods in East Texas. For more detail, please see Perttula (2004).

Table 2: East Texas Cultural Sequence

Dates	Period
9500 - 7000 BC	Paleoindian
7000 - 200 BC	Archaic
200 BC - AD 800	Woodland
AD 800 - 1680	Caddo
AD 800 - 1000	• Formative Caddo
AD 1000 - 1200	• Early Caddo
AD 1200 - 1400	• Middle Caddo
AD 1400 - 1680	• Late Caddo
AD 1500 - 1950	Historic
AD 1542 - 1800	Spanish and French Influence
AD 1800- 1821	American Immigration
AD 1821 - 1836	Mexican State
AD 1836 - 1846	Republic of Texas
AD 1846	Texas becomes a US state
AD 1861 - 1865	Civil War
AD 1865 - 1900	Reconstruction
AD 1900 - present	Modern era

Prehistoric Overview

Cherokee County lies within the northeast Texas Archeological Region (Kenmotsu and Perttula 1993). Prehistoric temporal divisions are usually determined by changes in prehistoric diet and by the types of materials (artifacts) used. In many instances, periods are somewhat subjective. In most cases, tribal affiliation is not assigned to any particular group until well into the late prehistoric periods. For the majority of prehistory, groups are associated with periods rather than distinct cultural divisions. In other words, archeologists will often refer to a "Middle Archaic" population, rather than noting a specific culture. In some areas, such distinctions are possible, but it is somewhat rare.

Paleoindian Period (9500 - 7000 BC)

The Paleoindian Period is the least understood period in east Texas prehistory due to the low numbers of sites investigated that date to this period. In addition, minimal radiocarbon dates and the general lack of stratigraphically intact sites results in a poor understanding of this period. The subsistence strategy relied heavily on big game hunting with a high selectivity for specific tool types. It appears that the social organization of the Paleoindian Period was loosely structured. These societies appear to have included social groups loosely organized around a central nuclear

family. Most Paleoindian sites are very small and located near smaller streams and tributaries. Tools were made of high quality materials and sometimes non-local lithic material was used. In addition, Paleoindians commonly refurbished and recycled tools (Story 1990). The diagnostic artifacts associated from the Paleoindian Period in east Texas include Clovis, Dalton, San Patrice, and Scottsbluff projectile points and Albany scrapers, Red River Knives, and Dalton Adzes (Cliff and Peter 1992).

Archaic Period (7000 - 200 BC)

The Archaic Period is defined by its change in subsistence strategy and a modification in tool manufacturing techniques. Tools were more often made of local materials, were less well made, and they were rarely recycled. Due to its large expanse of time, the Archaic Period is subdivided into three stages with tentative dates: Early (7000 - 4000 BC), Middle (4000 - 2000 BC), and Late (2000 - 200 BC).

Subsistence in the Early Archaic focused on hunting with a greater reliance on gathering. Story (1990) notes small and widely distributed sites reflecting high mobility within a still undefined territory. Dart points associated with the Early Archaic include Cossatot, Dawson, Kirk, Keithville, Palmer, and Wells (Story 1990). Foraging was a primary type of subsistence during the Middle Archaic. The increase in the use of plant food brought about a greater diversity in tool types, including: polished stone tools, mortars and pestles, and a variety of chipped stone tools. Dart points associated with the Archaic include the Big Sandy, Calf Creek, Johnson, Carrollton, Morrill, Evans, Lone Oak, Trinity, and Wesley (Story 1990). During the Late Archaic, an increase in the number of archeological sites and their size indicates an exploitation of all available food resources within the geographic boundaries of any specific group. The following types of projectile points are typical of the period: Ellis, Ensor, Palmillas, Yarbrough, Gary, and Kent (Kenmotsu and Perttula 1993).

Woodland Period (200 BC - AD 800)

The Woodland Period is characterized by the introduction of pottery and the bow and arrow in northeast Texas. Although some occupations were small and of a short duration, many others indicated an increase in population density and a longer occupation. The presence of burial mounds in some parts of northeast Texas represents status differentiation within these cultures. The Woodland Period is characterized by an abundance of Gary points, expanded stem points, and early ceramic styles such as Sandy Paste Wares, Williams Plain, Cooper Boneware, Marksville, and Troyville (Cliff and Peter 1992). There is some difficulty in dating Woodland Period sites because many contain aspects of both the Late Archaic and the Formative Caddo.

Caddo Period (AD 800 - 1680)

The Caddo Period is divided into stages relating to the development of the Caddo, the culture that dominated the area: Formative Caddo (AD 800- 1000), Early Caddo (AD 1000 - 1200), Middle Caddo (AD 1200 - 1400), and Late Caddo (AD 1400 - 1680). Each stage is defined by its associated distinctive tools and pottery. Alba, Bonham, Scallorn, and Catahoula arrow points, and Copena

knives are typical tools. Holly Fine Engraved, Hickory Fine Engraved, Spiro Engraved, Kiam Incised, Coles Creek Incised, and Weches Fingernail Impressed ceramics are examples of the Formative Caddo stage (Clark, Jr. and Ivey 1974; Perttula 1995; Thurmond 1990). The Early Caddo stage is typically associated with Sanders Engraved, Hickory Fine Engraved, Sanders Plain, and Canton Incised ceramics (Perttula 1995). Arrow points from this stage are similar to those of the Formative Caddo.

Formative and Early Caddo Period sites are generally fairly small and are generally found on terraces adjacent to water sources, with mounds located near major rivers. Early Caddo sites are more numerous than formative Caddo Sites and they tend to indicate a general hunting and gathering adaptation, supplemented with horticulture (Perttula et al. 1986:54-55). Maize has been identified on Early Caddo sites. The Middle Caddo appear to be much more common than Early Caddo sites, with most occupations being located on elevated landforms along major and minor tributaries and rivers. The Middle Caddo culture appears to be more heavily reliant on agricultural production. The Late Caddo show significant regional variation. The Late Caddo Period lasted into historic times and is marked by Caddo-European contact. During the 1790s other Indians such as the Choctaw, Delaware, and Cherokee migrated from east of the Mississippi River into Caddo territory. Due to the competition for land and resources there developed an animosity between the Caddo and the newcomers. Today, descendants of the prehistoric Caddo live in northeast Texas and in Oklahoma (Newcomb 1961).

Historic Overview

The Historic Period began at approximately AD 1600 when Columbus and other early explorers reach North America from Europe. Although there was some interaction (primarily Spanish and French) in the 16th century, it was not until the late 17th century and into the early 18th century that Texas would become heavily influenced by the Spanish and French. In order to convert the natives to Catholicism, the Spanish constructed a series of missions in the area that would become Texas. As noted above, the Caddo populations in east Texas during this time included primarily two groups, the Hasinai and the Kadohadacho.

Spain would retain the greatest influence of any nation in east Texas throughout the eighteenth century. The French were located primarily in Louisiana at this time, but some interaction with French traders took place in east Texas. Americans would not make a significant impact on east Texas until after 1800. The Louisiana Purchase in 1803 saw an influx on American settlers into Louisiana and east Texas. Many settlers would come into Texas from the north, following Trammel's Trace, a road that led from the Texas/Arkansas border at the Red River into east Texas and down to Nacogdoches.

The fight for Texas independence had little direct impact on northeast Texas. Most of the battles were fought in the southern and central sections of the state. In 1836, Texas won its independence

from Mexico. The Republic of Texas was short-lived. In December 1845, Texas became the twenty-eighth US state.

History of Cherokee County

The first European to reach the area of present-day Cherokee County was likely the French explorer René-Robert Cavelier, Sieur de La Salle who, after establishing the doomed settlement at Fort St. Louis in 1686, explored Hasinai Caddo territory in East Texas. Henri Joutel was part of that expedition and wrote about their peaceful encounter with a Hasinai Caddo settlement that they named Neches Village. Located near present day Lake Jacksonville, Joutel described it as the largest and most populous he had ever seen (Roach 1952: 4). La Salle was murdered by his own men near the town of Alto and the fort was abandoned in 1687. Just thirty years later the Spanish had established two missions and a fort in the heart of Hasinai territory (modern day Cherokee County). These settlements, San Francisco de las Tejas, San Francisco de las Neches, and Presidio des las Neches served the dual purpose of discouraging French encroachment and converting the local Hasinai people to Christianity. The missions were ultimately unsuccessful, and the Spanish retreated from East Texas by the 1760s (Cherokee County Historical Commission [CCHC] 1986: 3-4).

By the 1820s the Caddo tribes in East Texas were weakened by diseases introduced by the Europeans and the Europeans themselves had largely retreated from eastern Texas. This paved the way for new groups of people to occupy the region. Driven westward into Texas by the expanding United States, a band of the Cherokee tribe led by Chief Bowles crossed the Red River and entered Texas in 1822 with what the Mexican governor reported as one hundred warriors and two hundred women and children (Roach 1952: 5). Within a few years the Cherokee and their associated bands had grown significantly and settled in several villages between the Angelina and Neches Rivers. These people cleared land, raised livestock, planted crops, and built log structures. Many individuals received formal education and the group attempted several times to gain legal title to the land from Mexico, and later the Republic of Texas (CCHC 1986: 5).

Despite being a prosperous and peaceful people, the Cherokee inevitably came into conflict with the Anglo-American settlers who claimed the Cherokee land and settled in increasing numbers during the 1830s. The Killough's were one such family and emigrated from Alabama to settled near present-day Jacksonville in 1837. The Cordova Rebellion occurred that year, and when a band of rebels composed of Native Americans, Mexicans, and a few whites was discovered near Nacogdoches, they fled north to Cherokee Village where they asked Chief Bowels to join them. Bowles refused and the group fled west from the pursuing Texas militia towards the Neches Saline. During this episode they attacked the Killough family and captured or killed eighteen men woman and children (CCHC 1986: 7). This event, known as the Killough Massacre, was blamed on the Cherokee, and as the result the Republic of Texas declared war on the tribe and their associated bands. This declaration resulted in their complete exodus from the state by 1839.

Anglo-Americans began to settle in present-day Cherokee County during the 1830s but only a few settlements existed before the area became a county in 1846. In 1832 a six-league grant was made to William Barr and Samuel Davenport, and the colorful Indian trader Peter Ellis Bean purchased 405-hectares (1,000-acres) along the San Antonio Road just west of the Angelina River. Competing with Bean, Martin Lacey established Lacey's Fort near Alto which saw action during the Cordova Rebellion. Lockranzie, founded by the Durst and Bean families, was located south of the Durst Bridge on the west side of the Angelina River and was renamed Linwood in the 1850s. Stryker Town was located on the west bank of Stryker Creek at the crossing of the Caddo Trace from Trammels Trace to the Neches Saline. Cooks Fort was established when Joseph Cook hired a company of soldiers in Nacogdoches to build a wooden stockade and several buildings on his land three miles southeast of present-day Rusk. In 1846 it was a thriving village of two hundred and fifty people and was considered as a site for the new county seat (Roach 1952: 32-33).

Like a handful of other counties, Cherokee County was carved from Nacogdoches County by act of the Texas Legislature in 1846. Immigration to Texas had increased exponentially during the 1840s as threats from hostile Indians and invasion by Mexico largely subsided. In addition, the annexation of Texas meant that immigrants who purchased land there could settle with confidence knowing that land and law would be protected and upheld by the United States. The increasing population put pressure on the Texas Legislature to subdivide the handful of existing large counties so that residents could travel to their county seat in a day's ride and participate in the local or state political apparatus. It is for these reasons that many Texas counties were established in the 1840s, including Cherokee. After the establishment of the county, which was named after the tribe that previously occupied the land, a commission was chosen to find the new county seat. Sporting familiar names such as Killough, Box, and Lacey, the commission chose 40.5-hectares (100-acres) on the west half the Hundley headright and named it in honor of the distinguished soldier and statesman Thomas Jefferson Rusk who, ironically, was the man who defeated the Cherokee in battle and drove them from Texas (Roach 1952: 37-38).

The 1850s was a decade of prosperity. During this time Cherokee County had become more like the Old South where most of the settlers immigrated from. The population of Cherokee County included approximately 12,000 people. One quarter of the 12,000 residents was comprised of slaves as cotton production expanded within the county. The crop was so valuable that it was used to fund business and industrial ventures. Cotton was hauled overland to Jefferson, Texas and floated down the Red River where it eventually reached the Mississippi and the port of New Orleans. Locals also took advantage of the plentiful pine and hardwood forests. A steam-powered mill was built at Bean's Creek in 1850 by I.N. Fisher and another steam powered sawmill was established southwest of Pine Town (CCHC 1986:13,17). Connecting these products to markets were roads and bridges. The largest road went to Nacogdoches and there were several privately owned toll bridges that operated over the Angelina and Neches Rivers. The first telegraph line was strung in 1854 and, fastened to pine trees, it connected Rusk to Henderson. Wealth from these

industries powered growth and by 1860 Cherokee County was one of only three counties large enough to have its own senator in the Texas Legislature (Roach 1952: 43).

When Texas seceded from the Union and joined the Confederacy in 1861, residents of Cherokee County contributed soldiers, resources, and labor—at a great cost. A state company known as the “Lone Star Defenders” was organized in 1861 and fought with the 3rd Texas Cavalry in action across the south. There was a prisoner of war camp two miles south of Rusk that was crowded with Union prisoners after the Battle of Mansfield. The county also supplied the Confederacy with salt which was in abundance on the salines of the Neches River. As with so many other counties in Texas and across the south, the Civil War had a negative impact on the lives and economy of people living in Cherokee County. The population decreased by over 10 percent, and a shortage of labor meant that non-cultivated land increased while the county’s wealth dropped (Roach 1952: 83-85).

Cherokee County rebounded quickly from the devastation of the war, primarily due to its natural resources and the railroad. The arrival of the railroads drastically altered the settlement patterns and all the antebellum towns except Jacksonville, Rusk, and Alto disappeared because they did not have access to the railroad. While only a small portion of the overall economy in the 1850s, the county’s timber industry increased in the 1880s as railroad construction opened distant markets and encouraged the construction of large sawmills. By the turn of the century there were several large lumber companies that operate in the county such as the Chronister, Arkansas, and Southern Pine Lumber Companies. Many towns grew up around these company mills, such as Wildhurst and Kilraven, but these were largely abandoned by the 1920s when much of the forests were denuded (CCHC 1986: 17).

There were also sporadic, yet notable, attempts to develop an iron industry. Charcoal, limestone, and iron ore had to be smelted in a furnace to create usable pig iron. Cherokee County had large iron ore deposits and plentiful timber to make charcoal. During the Civil War, the Chapel Hill Manufacturing Company had an operation near present-day Ironton. Powered primarily by slave labor, the operation ended when the slaves were freed, and thieves stole the equipment. There were several large foundries that operated in Rusk. The East Texas Penitentiary was located in Cherokee County until 1917 and provided convict labor. The town of New Birmingham, established to be the Texas iron equivalent of Birmingham, Alabama, was built just two miles southwest of Rusk in 1889. The ultra-modern town featured thirty-two mercantile stores, an ice plant, and what may have been Texas’s first electric power plant. Within two years it had a population of 2,000 people, 400 homes, and a three-story hotel that was visited by Jay Gould and Grover Cleveland, however; due to the financial panic of 1896 and a fire at the Tassie Bell furnace, the town of New Birmingham was abandoned along with the Cherokee County iron industry by 1900 (CCHC 1986: 20-22).

With the iron industry no longer profitable, oil would become a driving economic force that would last throughout the twentieth century. Despite multiple failed attempts by others, notably Jack

Colliton who lost over a million dollars, drilling for oil was ultimately successful in Cherokee County. The Humble Oil and Refining Company (now Exxon) operated many wells in the Cary Lake and Boggy Creek fields that were initially producing 10,000 barrels a day (CCHC 1986: 18-19). The oil boom fattened pockets across East Texas with many residents of Cherokee County profiting from oil leases and royalties. Drilling continued throughout the 1940s and 50s and many of the wells are still producing to this day (Roach 1952: 115).

After the Civil War, peaches and tomatoes joined cotton as Cherokee County's chief agricultural exports, all three of which became a mainstay of its economy in the twentieth century. An 8,500-acre commercial peach orchard, located on land previously stripped for iron production, was planted by the Morrill Orchard Company in 1900 and another, the 11,000 tree Dining Car orchard, was established near Ironton. At the suggestion of the American Refrigerated Transit Co. who was shipping the peaches to markets across the U.S., Cherokee County residents diversified their crop and started to grow tomatoes. In 1897 just six freight cars of tomatoes were shipped, but by the next year ninety cars of tomatoes made their way north. Tomatoes proved lucrative as the return on one acre of the fruit was \$250 compared to just \$30 for an acre of cotton (CCHC 1986:15-16). By 1917, Cherokee County accounted for ninety percent of all Texas tomatoes and the City of Jacksonville has been holding an annual Tomato Festival since 1934.

While the Great Depression led to a decline in cotton production in the 1930s, the economy of Cherokee County remained strong due to the East Texas oil field and the population reached 40,000 by 1940. This trend continued thanks to the growth of manufacturing in Jacksonville after WWII and the expansion of the state hospital in Rusk. By the early 1980s some twenty-six percent of the county's labor force worked in professional and related services, twenty-two percent in manufacturing, and eighteen percent in wholesale and retail trade. The population was about 51,000 in 2010 (Ross 2021).

History of Jacksonville, Texas

Jacksonville began as the village of Gum Creek. The area was identified by Jackson Smith when he served as a scout under General Rusk to hunt down the perpetrators of the Killough Massacre in 1838. Smith returned to that land nine years later to build a blacksmith shop and a log home and became the first postmaster of Gum Springs in 1848. The village began to grow when Dr. Jackson built an office and Tom Dean opened a store near Smith's shop. In 1850 Smith paid to have a townsite of twenty-four blocks surveyed near his home and when it was finished, they decided to name it Jacksonville for obvious reasons (CCHC 1986: 55). By the 1850s there were dozens of businesses operating around the square including a log hotel and a bowling alley. There were Methodist and a Baptist church, a small school, and a Masonic lodge.

The Civil War brought suffering and deprivation to the once prosperous town of Jacksonville. Several hundred men from the area left to fight and the town raised its own Company K of the 18th Texas Infantry. Over the course of the war trade diminished and many of the buildings fell

into disrepair. Lawlessness took over and the town developed a bad reputation, known for fights, feuds, and homicides (Jacksonville Centennial Book Committee [JCBC] 1972: 7).

The town was saved with the coming of the International & Great Northern Railroad (IGN) in 1872—but for a price. The railroad bypassed the town by two miles, so the residents had to abandon the old Jacksonville and establish a new townsite beside the tracks. The City of Jacksonville was thus incorporated in 1873 with the IGN train depot being the town center. Buildings were either dismantled and reconstructed or moved by oxen to the new site. The railroad era brought a flurry of new construction. Several saloons and churches sprang up and the town's first school, Jacksonville Collegiate Institute was founded in 1873 (Roach 1952: 173).

Jacksonville expanded in the twentieth century as it became the county center for the trade and export of cotton, peaches, and tomatoes. As a result, the Southern Pacific Railroad expanded their facilities and built yards, warehouses, and shops. (JCBC 1972: 47). The Texas and New Orleans Railroad also constructed various rail facilities to benefit from the growing commercial activity. Other institutions cropped up to serve the burgeoning city. After the first bank failed due to the crash of 1893, the Fleagers operated as the town's only bank until 1903 when one of the owner's absconded with all the deposits. The First National Bank opened in 1904 and has since helped finance local agriculture and business. A hospital known as the Cherokee Sanitarium was built in 1919 and would become the Nann Travis Memorial Hospital. Originally founded in 1854 as the New Danville Masonic Female Academy near Kilgore, Lon Morris Community College moved to Jacksonville in 1908. It was the oldest existing junior college in Texas before it was shuttered due to bankruptcy in 2012 (JCBC 1972: 22-23).

Despite the Great Depression, Jacksonville continued to grow into Cherokee County's largest city. In addition to being a local banking and transportation hub, the city became a wholesale and manufacturing center with a variety of different factories that produced baskets, candy, toys, and plastics. Due to large scale tomato production up until the 1950s, the town was dubbed the "tomato capitol of the world," and continues to have an annual Tomato Fest. The population has increased steadily over the years, from a little over 1,500 in 1904 to almost 15,000 today (City of Jacksonville 2021).

Previous Investigations

Stone Point Services, LLC completed a Texas archeological site file review on March 21, 2023, for a 1.6-kilometer (1-mile) review area around the survey area, utilizing the site files at the Texas Archeological Sites Atlas online database (Figure 21). Two previously recorded archeological sites were recorded within a 1.6-kilometer (1-mile) radius of the project area (Table 3). No archeological projects were identified within a 1.6-kilometer (1-mile) radius of the project area.

Table 3: Previously recorded archeological sites within 1.6-kilometers (1-mile) of project area.

Site #	Date	Description	NRHP Status	Distance from Project Area
41CE11	N/A	Pots found by A. M. Wilson	Unknown	0.73-mi NW
41CE300	1984	Prehistoric artifact scatter	Not Eligible	0.28-mi SW

A Texas State Historic Preservation Office (SHPO) file review was also completed on March 21, 2023. Sources used for this review included the NRHP database, the Texas Archeological Sites Atlas for Cherokee County and the Texas Department of Transportation Historic Property List identified no NRHP listed or eligible historic resources, historic markers, or Recorded Texas Historic Landmarks were identified within 1.6-kilometers (1-mile) of the subject property. Grimes Cemetery is a Historic Texas Cemetery (CE-C004) located 0.885-kilometers (0.55-miles) west of the project area. There is also an unknown cemetery (not recorded as historic) located 0.756-kilometers (0.47-miles) west of the project area.

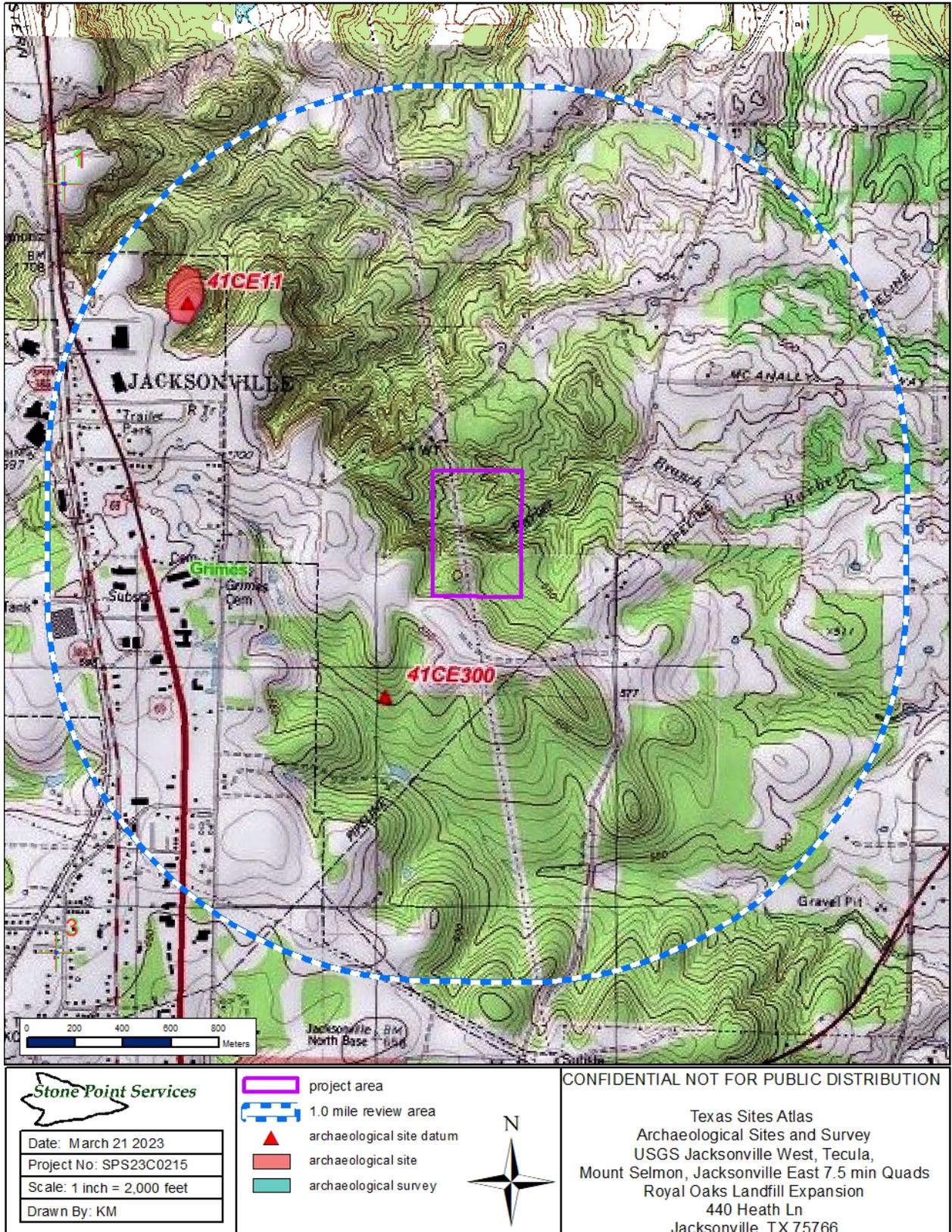


Figure 21: Archeological sites and surveys within 1.6-kilometers (1-mile) of the project area.

Chapter 3: Project Methodology

The methods for this project meet or exceed the minimum requirements for surveys in Texas established by the THC and the CTA (2020). This project included three phases: 1) background research, 2) field investigations, and 3) laboratory analysis. Each phase of the investigations is described in detail below.

Background Research

The background literature and records search for the project area was conducted through the Texas Archeological Sites Atlas, as well as, through online map services, such as the historic aerial photography housed online at the USDA and the Texas Natural Resources Information System (TNRIS). The records examined at the Texas Archeological Sites Atlas included a review of their online system containing information about previously recorded archeological and historic resources in the vicinity of the present project. The literature review was used to determine if previously recorded cultural resources are in or near the project area, and also served to provide a historical context for the study area. If the location of a site was questionable, or if the Texas Archeological Sites Atlas information appeared inaccurate, a trip was made to the Texas Archeological Research Laboratory (TARL) for additional research.

The background research also included information about standing historic structures and known cemeteries located near the survey area. As noted above, the purpose of the background research is to inform the Stone Point Services crew of potentially important cultural resources that have been previously identified near the survey area. Using data from the background research, our researchers can identify those areas that are more likely to contain archeological sites.

In addition to previous investigations, historic aerial photography and road maps were searched for the presence of potentially important historic structures and properties that may be present in the survey area. A combination of all data was used as a general background for the investigations and the resulting report.

General Land Office (GLO) maps were reviewed from 1851 (Figure 22), 1871 and 1877 (Arlitt 1877; Klappenbach and Lungkwitz 1871; Martin 1851). No structures appeared on these maps. All the property associated with the proposed Royal Oaks Landfill Expansion was part of the land originally patented to Thomas Queved as early as 1851. The GLO maps through 1877 indicated that the land was owned by Thomas Queved since 1851. No structures appear on any GLO map of the survey area.

A combination of all data was used as a general background for the investigations and the resulting report. A review of historical aerial imagery from 1943 (Figure 23), 1954, 1971, 1976, 1982, 1983, 1983, 1995, 2004, 2009, 2010, 2012, 2014, 2016, 2018, and how no structures within the project area (Nationwide Environmental Title Research, LLC [NETR] 2023). Google Earth imagery

(2023) from 1995 (Figure 24) shows the disturbance of half of the northern half of the project area, as well as, roads throughout the project area. The surrounding property was used for agricultural purposes from approximately 1947 to 1983, after which the landfill construction included the addition of roads and portions of the land were razed and cleared. Furthermore, no structures are present within the project area on the historic 1951 (edited 1952) USGS Jacksonville topographic quadrangle map and 1946 (edited 1960) USGS Bullard topographic quadrangle map (Figure 25).

The Potential Archeological Liability Map (PALM) provides a model to indicate general areas of highest and lowest probability for archeological sites (Figure 26). The modelled probabilities for this survey area indicate low or low-to-moderate probabilities for both shallow and deep prehistoric archeological sites throughout the survey area. The bottomland portion of the project area is conducive to forming buried soils. Archeological sites across the bottomland, if present, may be positioned below thick alluvium from successive flooding events. The potential for farming and ranching-related historic resources is low within the floodplain and upland areas due to a lack of historic structures located directly in the project area. The archeological survey will focus increased shovel testing on the highest-probability areas within 100-meters (328-feet) of the tributary and in the upland areas where prehistoric and historic sites may be identified.



Figure 22: 1851 GLO map of the survey area.

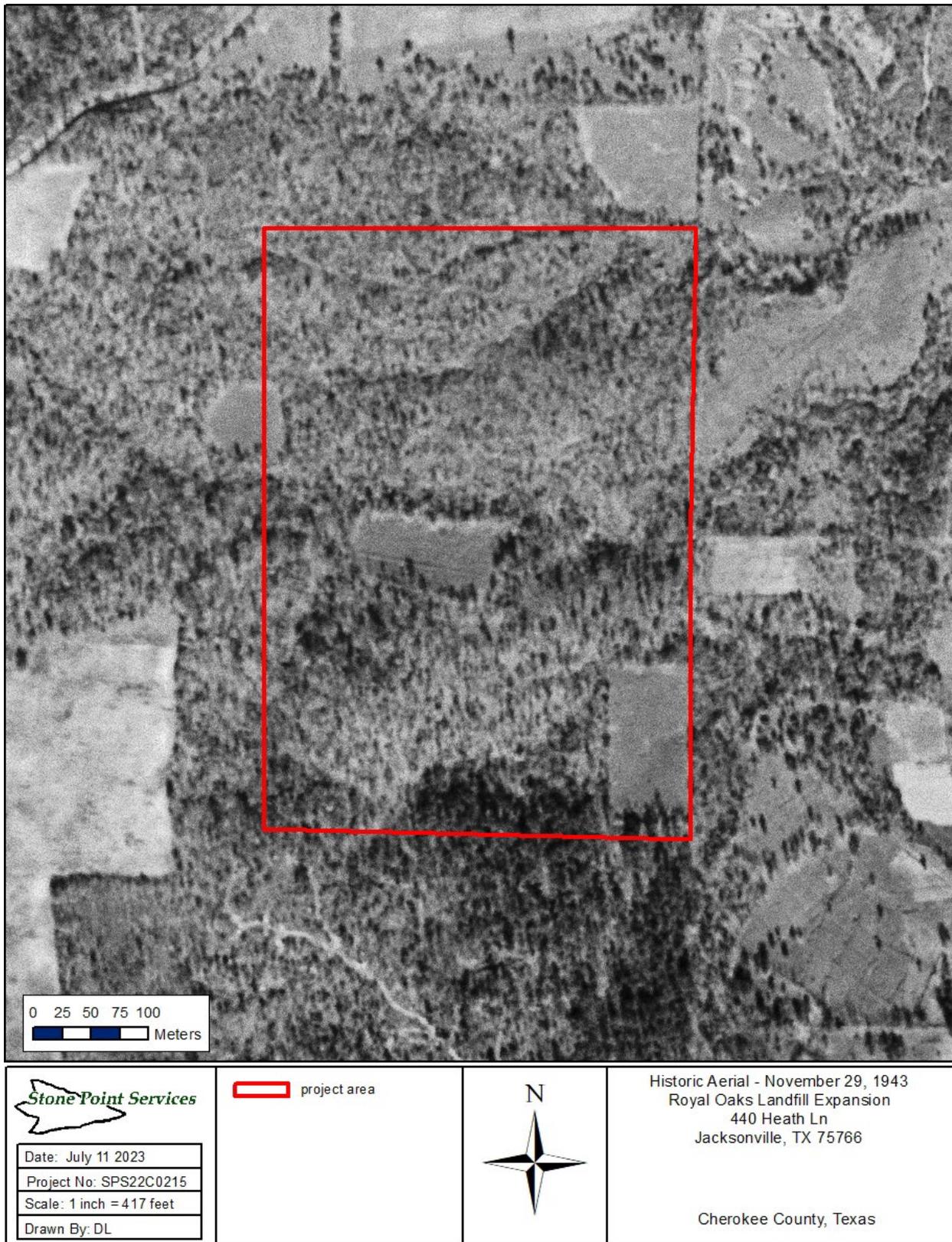


Figure 23: 1943 aerial imagery map of project area.



Figure 24: 1995 historic aerial imagery map of project area.

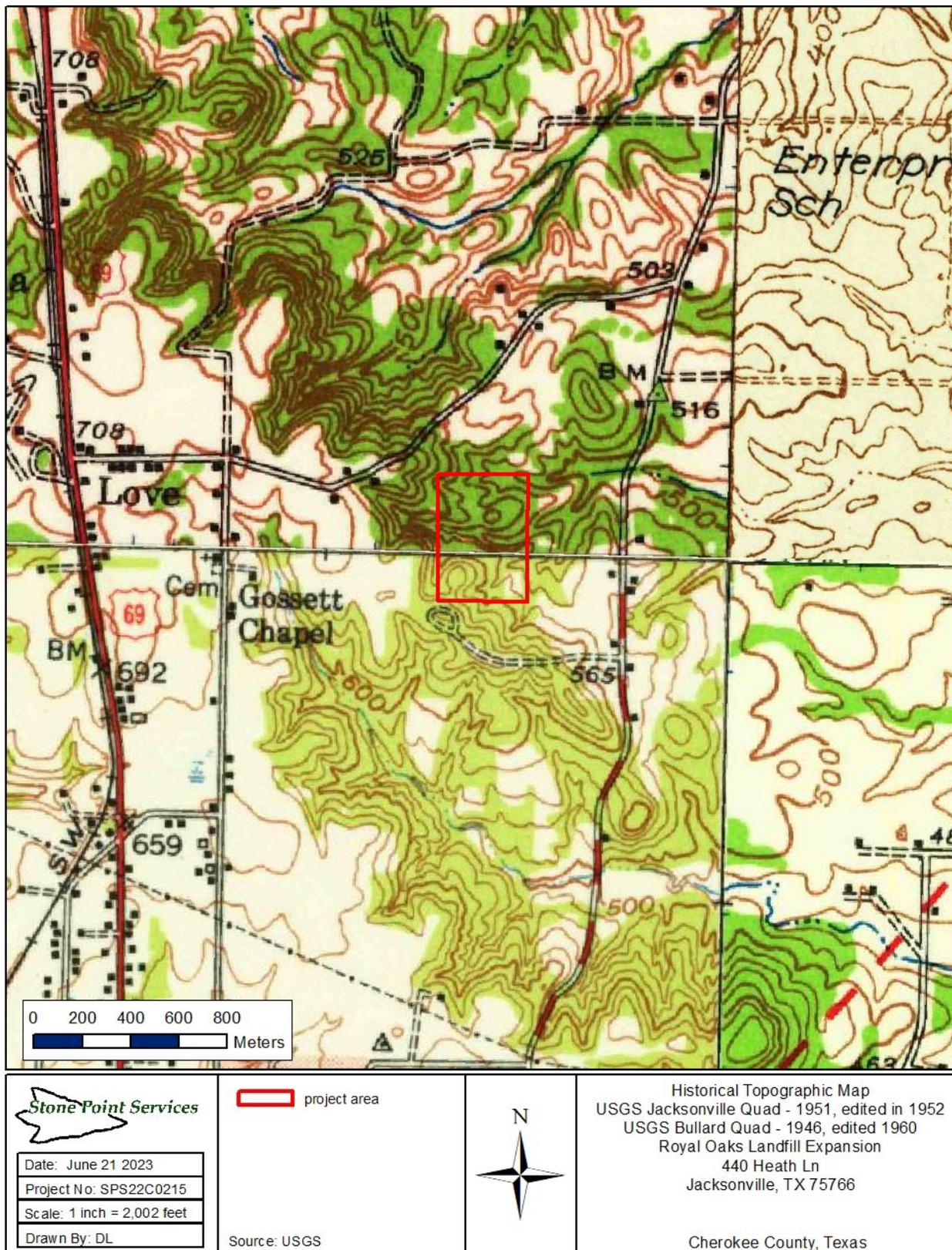


Figure 25: 1951 Jacksonville, 1946 Bullard USGS topographic map of the survey area.

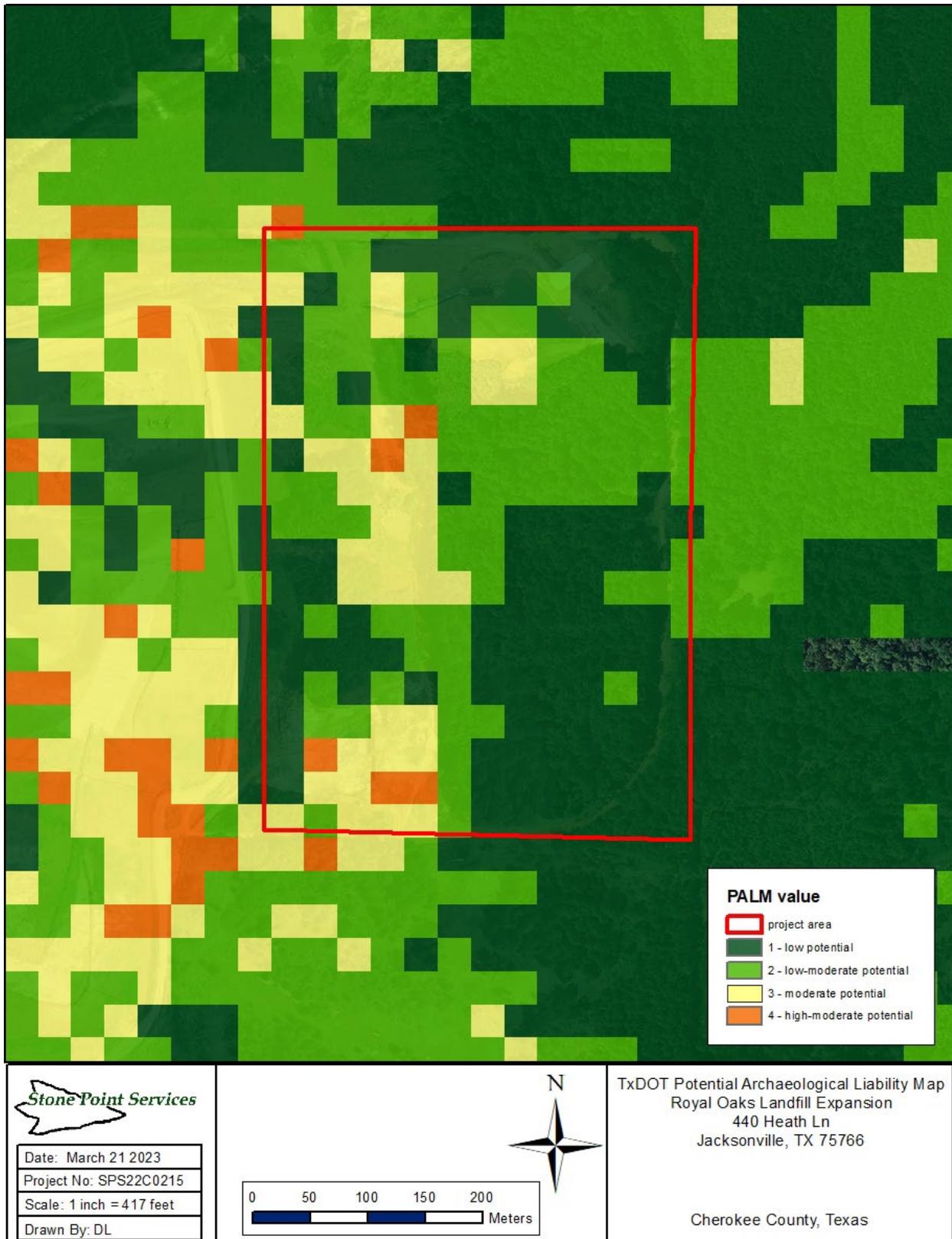


Figure 26: TxDOT Potential Archeological Liability Map.

Field Methods

The archeological investigation of the project area included an intensive archeological survey using both pedestrian survey and shovel testing techniques. Pedestrian survey was used to locate quarries, cemeteries, chimneys, earthworks, and other above ground features, as well as, artifacts lying on the ground surface. Transects used for the pedestrian survey were roughly spaced at 30-meter (100-foot) intervals within the survey area. In addition to the pedestrian survey, shovel tests were spaced at 30-meter (100-foot) intervals along transects spaced 30-meters (100-feet) apart within the project area. Supplemental shovel tests were also placed in areas deemed higher in potential.

Shovel tests measured at least 30-centimeters (12-inches) in diameter and were excavated to sterile subsoil or at least 80-centimeters (31-inches) below ground surface, whichever was encountered first. Each shovel test was excavated in no greater than 20-centimeter (8-inch) levels, as per state guidelines. The location of shovel tests was recorded with a GPS unit (3 to 5-meter (10 to 16-foot) accuracy with differential correction) and plotted on project maps. Soil from shovel testing was screened through 0.64-centimeter (0.25-inch) wire mesh hardware cloth using hand screens. If artifacts are encountered below the ground surface, additional shovel tests will be excavated at 10-meter (33-foot) or closer intervals within the survey boundary to delineate site boundaries. For site delineation efforts, shovel tests will be placed along perpendicular axes from the positive shovel test until two consecutive negative shovel tests are encountered along each axis. A minimum of nine shovel tests will be excavated at any previously recorded or newly identified archeological resource (e.g., initial positive test followed by two negatives in each cardinal direction). Sites were recorded using a GPS unit and plotted on USGS 7.5-minute topographic maps. Site delineation activity will be restricted to property owned by the City of Jacksonville and delineation of any potential site will not extend beyond these property boundaries onto private property. All shovel tests were mapped using ArcGIS 10 with standard shape file formats.

Artifacts, if recovered, were to be field analyzed, photographed, then returned to their original provenience. Each site was to be photographed with high resolution digital color images (ten megapixels or higher) and documented using a Texas archeological site form that was submitted to the TARL upon conclusion of the fieldwork. The Project Archeologist maintained detailed notes on survey methods, sites identified during the survey, and relevant environmental factors associated with each site.

Laboratory Methods

The following post-field activities meet SHPO guidelines. Survey records for survey on public property will be submitted to the archeology laboratory at SFASU for curation. Laboratory methods for preparing notes and additional media will follow the guidelines set forth by the THC and the CTA (2020). Since no artifacts were collected during this survey, no artifacts will be curated as part of this project.

NRHP Eligibility Assessments (Federal)

Archeological resources identified during this survey were evaluated to determine their NRHP eligibility. As per 36 CFR 60.4, four broad criteria should be used when making a NRHP eligibility determination. In order to be considered eligible for the NRHP, a resource must possess integrity (location, design, setting, materials, workmanship, feeling, association), and it must meet at least ONE of the following criteria:

- A. it is associated with events that have made a significant contribution to the broad pattern of history;
- B. it is associated with the lives of persons significant in the past;
- C. it embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;
- D. it has yielded, or is likely to yield, information important to history or prehistory.

Criteria A, B, and C are usually applied to historic structures, features, and non-archeological resources (i.e., battlegrounds, etc.). Criterion D is most often used to determine the NRHP eligibility of archeological resources. In most instances, an archeological site or historical resources must be at least 50 years old when it is assessed. In some instances, especially regarding particularly important resources (e.g., the World Trade Center Site), a structure or location may be nominated for the NRHP even if it does not meet the 50-year rule. As a general rule, any property or site greater than 50 years of age may be considered for the NRHP.

Criterion D is the most commonly applied criterion in archeological surveying. The surveyor must try to determine if the site in question has adequate context for it to answer important questions about history or prehistory. The ultimate decision of eligibility is generally determined by the SHPO and/or the federal agency requesting the survey. The surveyor can make recommendations, but ultimately the SHPO or the federal agency will make the final determination of eligibility, either through concurring with a recommendation or not.

Archeological survey, and associated site delineation, is rarely sufficient to make a final ruling of a site's NRHP eligibility. In most cases, the archeologist will recommend a site as either "potentially eligible" for the NRHP or "not eligible" for the NRHP. If a recommendation of "potentially eligible" is given, and the SHPO or federal agency concurs, the site should be treated as if it is "eligible" for nomination to the NRHP. Additional testing of the site will generally be sufficient to make the final determination of NRHP eligibility. If a recommendation of "not eligible" is made for the site, and if the SHPO and/or federal agency concur, the site is then considered to be unlikely to provide information important to our understanding of history or prehistory.

Archeologists generally look for a certain set of criteria to determine if a site possesses integrity. The most common keys in making this determination are location, setting, materials, and association. When archeologists speak of a site being "intact" or if they mention "context" they usually are referring to whether a site has sufficient deposits that appear to be undisturbed to answer the important questions about the prehistoric and historic past that will make it potentially eligible under Criterion D. The materials (artifacts) present can aid in dating the site and assigning cultural association. If a site is associated with a specific group or period, and that association can be determined through archeological research, then the site may retain sufficient integrity to be recommended potentially eligible for the NRHP. If a site is intact, this means that the site has retained its original location and setting and has not been disturbed. As an example, if an archeological site has buried deposits and ample time-diagnostic artifacts for dating the site, but there is evidence of disturbance, this would call into the question the reliability of any data recovered from the site. As such, a site may be recommended not eligible for the NRHP if it is highly disturbed. Another example would be a small prehistoric site with potentially intact deposits but no time-diagnostic artifacts or organic remains to help identify the age and association of the site. In this latter case, an eligibility determination of not eligible may be rendered. Small lithic (stone) scatters are often determined not eligible due to the lack of research potential.

Historic archeological sites pose a separate but similar set of issues. Although a prehistoric site may sometimes have evidence of a structure, they are far more common on historic sites. A historical structure on a site may be recommended not eligible for the NRHP due to it not meeting Criteria A, B, or C, and yet the archeological site that surrounds the structure may in fact be eligible for the NRHP under Criterion D (information potential). Although the structure is in poor condition and possibly not eligible for the NRHP, the archeological site might contain information about the period in which the structure was used. In this case, the structure may be a contributing element to the site's NRHP eligibility under Criterion D.

State Process - State Antiquities Landmark (SAL) Eligibility Assessments

The ACT requires state agencies and political subdivisions of the state (including cities, counties, river authorities, municipal utility districts, and school districts) to notify the THC of ground-disturbing activity on public land and work affecting state-owned historic buildings. The law also established the designation of State Antiquities Landmark, which may be applied to historic buildings and archeological sites. The Antiquities Code (Texas Natural Resource Code, Title 9, Chapter 191, Subchapter D, Section 191.092) details the eligibility requirements for designation of structures or buildings as a SAL. The criteria for evaluation of archeological sites as a SAL are also contained in Chapter 26 of the Texas Administrative code, (Subchapter C, Rule 26.10). Pertaining to archeological resources, sites, objects, buildings, artifacts, implements, and locations of historical, archeological, scientific, or educational interest, including those pertaining to prehistoric and historical American Indians or aboriginal campsites, dwellings, and habitation sites, their artifacts and implements of culture, as well as, archeological sites of every character that are located in, on, or under the surface of any land belonging to the State of Texas or to any

county, city, or political subdivision of the state are considered SALs and are eligible for designation (Texas Natural Resource Code, Title 9, Chapter 191, Subchapter D, Section 191.092).

There are four categories of resources with regard to SAL designation: archeological sites, shipwrecks, caches and collections and historic buildings and structures. The THC considers the following criteria when evaluating archeological sites and historic buildings and structures for designation as a SAL:

Archeological Sites

There are five criteria for assessing an archeological site for SAL designation under Rule 26.10 *Criteria for Evaluating Archeological Sites*. One or more of the criteria may be used for assessment of the site.

- 1) The site must have the potential to contribute to a better understanding of the history or prehistory of Texas by the addition of new and important information;
- 2) the site's archeological deposits and artifacts are preserved intact within the site which would support research potential or preservation interests of the site;
- 3) the site possesses a unique or rare attributes concerning Texas history or prehistory;
- 4) the study of the site provides an opportunity to test theories and methods of preservation which would contribute new scientific knowledge; and
- 5) there is a high likelihood that vandalism and relic collecting has occurred or could occur leading to a need for landmark designation to ensure maximum legal protection or further investigations to mitigate the effects of vandalism or relic collecting if the site cannot be protected.

Historic Structures

In order to be considered for SAL designation, a historic structure must first be listed with the NRHP. Buildings, structures, cultural landscapes and non-archeological sites, objects and districts may be designated under Rule 26.19 *Criteria for Evaluating Historic Structures* if they meet specific qualifying criteria.

- 1) The property must meet at least one of the following:
 - a) the property is associated with events making a significant contribution to broad patterns of our history, including importance to a particular cultural or ethnic group;
 - b) the property is associated with the lives of significant persons from the past;
 - c) the property embodies the distinctive characteristics of a type, period, or method of construction, represents the work of a master, possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction;

- d) the property has yielded, or may be likely to yield, information important to Texas culture or history;
- 2) the property retains integrity at the time of the nomination, as determined by the executive director of the commission; and
- 3) the property must be listed in the National Register of Historic Places, either individually, or as a contributing property within a historic district.

The ACT requires state agencies and political subdivisions of the state (including cities, counties, river authorities, municipal utility districts, and school districts) to notify the THC of ground-disturbing activity on public land and work affecting state-owned historic buildings. The law also established the designation of SAL, which may be applied to historic buildings and archeological sites. For instance, if Texas public property is involved, or if State funding is involved, then the contracting archeologist will form recommendations for SAL eligibility. Recommendations for SAL designations are made on the basis of information gathered during fieldwork, background research, and laboratory analyses.

In Texas, all unassessed sites that have not been determined ineligible for the NRHP by a federal agency and received concurrence from THC, are treated as eligible by THC until determined otherwise based on further fieldwork or other considerations. Archeological resources, sites, objects, buildings, artifacts, implements, and locations of historical, archeological, scientific, or educational interest, including those pertaining to prehistoric and historical American Indians or aboriginal campsites, dwellings, and habitation sites, their artifacts and implements of culture, as well as, archeological sites of every character that are located in, on, or under the surface of any land belonging to the State of Texas or to any county, city, or political subdivision of the state are considered SALs and are considered eligible for designation until determined otherwise (Texas Natural Resource Code, Title 9, Chapter 191, Subchapter D, Section 191.092).

Contracting archeologists recommend sites as either eligible, ineligible, or unassessed or for designation as a SAL. The term “potentially eligible” is not a recognized category for recommendation when assessing SAL potential. There is no federal involvement with SAL eligibility. Further, not all sites that are eligible for the NRHP are similarly eligible for SAL designation. Likewise, not all sites that are eligible for SAL designation are similarly eligible for NRHP inclusion. Laboratory Methods

The following post-field activities meet SHPO guidelines. Upon completion of all field investigations, if recovered in the field, recovered artifacts were to be returned to the Stone Point Services Lab and washed, catalogued, and analyzed. If not recovered in field, artifacts were photographed and measured for documentation. Records for survey on private property will be submitted to SFASU for curation. Laboratory methods for preparing artifacts, notes, and additional media will follow the guidelines set forth by the THC and the CTA (2020) and by TARL (2023). Since no artifacts were collected during this, no artifacts will be curated as part of this project.

Chapter 4: Results and Recommendations

Stone Point Services, LLC conducted a cultural resource survey of the proposed Royals Oaks Landfill Expansion project, located in the city of Jacksonville in Cherokee County, Texas for Hydrex Environmental. The proposed project is approximately 370 by 526-meters (1214 by 1725-foot) rectangular parcel of property in a bottomland and upland setting adjacent to the existing Republic Services Royal Oaks Landfill and is comprised of 19.5-hectares (48.2-acres). The anticipated depth of impact (vertical APE) is 15.2-meters (50-feet) below the present ground surface. It is understood that this work will operate under NWP 39 through the USACE Fort Worth District and that the USACE will have review authority for this project (USACE# SWF-2021-00405). As such, this project will be reviewed under Section 106 of the NHPA. Furthermore, as the proposed undertaking is located on city property it is understood that this work will include permitting and regulatory oversight by the THC in order to comply with the requirements of the ACT. This survey was conducted as part of USACE permit application # SWF-2021-00405. The survey area consists of a city owned landfill and wooded area. The subject property is surrounded by agricultural fields, floodplain, and woodlands.

Prior to initiation of field investigations, background research was conducted to identify any previously recorded surveys or NRHP listed, eligible, or potentially eligible historic resources within a 1.6-kilometer (1-mile) review area of the project. Grimes Cemetery is a Historic Texas Cemetery (CE-C004) located 0.885-kilometers (0.55-miles) west of the project area. There is also an unknown cemetery (not recorded as historic) located 0.756-kilometers (0.47-miles) west of the project area. A review of the Texas Archeological Sites Atlas and the NRHP Inventory for Cherokee County was conducted on March 21, 2023. The proposed Royal Oaks Landfill project area has not been previously surveyed for archeological or historic resources. No NRHP properties were documented in the survey area. No archeological sites were previously documented within the project area. Two archeological sites have been previously recorded within 1.6-kilometers (1-mile) of the current project area. No archeological surveys were documented within 1.6-kilometers (1-mile) of the current project area.

Field investigations were conducted May 30 to 31, 2023, by Principal Investigator Todd McMakin and Junior Archeologist Brad Husemann. Survey methods included pedestrian survey spaced at 15-meter (50-foot) intervals within the survey area. Shovel tests were placed at 30-meter (100-foot) intervals along transects spaced at 30-meters (100-feet) apart. Supplemental shovel tests were also placed in areas deemed higher in potential. The minimum number of shovel tests required for the 19.5-hectares (48.2-acres) tract is 55 shovel tests (THC 2020). In total, 57 shovel tests were excavated within the project area, representing approximately 1.18 shovel tests per acre. All shovel tests were negative for cultural materials.

The survey included an assessment of direct effects and visual effects. Field investigations revealed that ground disturbance had occurred in the past throughout the project area as the result of various developments of the landfill. No archeological sites or isolated finds were recorded during this survey.

Project Soil Discussion

As noted above, soils across the survey area primarily consist of Trawick-Bub complex, 8 to 40 percent slopes (Map Unit: Bt), Angelina (Map Unit: Md), and Nacogdoches fine sandy loam, sloping, eroding (Map Unit: Ng). The Trawick series are moderately deep, well drained, moderately slowly permeable soils that formed mainly in the Weches geologic formation, which is rich in glauconite. These soils are on gently sloping to steep uplands. Slopes range from 2 to 45 percent. The Bub series consists of well drained, very slowly permeable soils on uplands. These soils are shallow to glauconitic geologic materials. They are on moderately steep to steep hilly redlands of East Texas. The Nacogdoches series consists of deep, well drained, moderately slowly permeable soils that formed in thick marine sediments high in glauconite. These soils are on gently to strongly sloping uplands. The Angelina series consists of very deep, very poorly drained, slowly permeable soils that formed in acid, stratified loamy sediments. These soils are on flood plains and are ponded for long periods of time. Slopes are less than 1 percent. The Angelina series is the only series in the survey area consisting of Holocene alluvium.

Fifty-seven shovel tests were completed across the survey area based off a combination of a 30-meter (98-foot) grid, as well as, supplemental shovel tests based on topography and obvious disturbances (Figures 27-30). Average shovel test depth overall was 33-centimeters (13-inches) with the shallowest terminated due to bedrock at 18-centimeters (7-inches).

Shovel tests in the Trawick-Bub (Bt) complex (Figures 31 and 32) that were left intact enough to read showed varying values of brown to reddish brown sandy loams or loamy sands (A-horizon) overlaying strong brown to yellowish red clays to sandy loams (B-horizon). In some places, an E-horizon consisting of a reddish yellow sandy loam was visible. This soil complex covered the majority of the project area, except in the northern portion.

Shovel tests in the Angelina series (Figure 32) that were left intact enough to read showed varying horizons, due to local variations in deposition. In general, these shovel tests revealed a strong brown sandy clay loam punctuated by thick lenses of coarse sand and gravel, which may represent intense flooding episodes.

Only one shovel test was placed in the Nacogdoches series (Figure 31) and it was too disturbed to show intact horizons.



Figure 27: Project area map with project shovel test locations

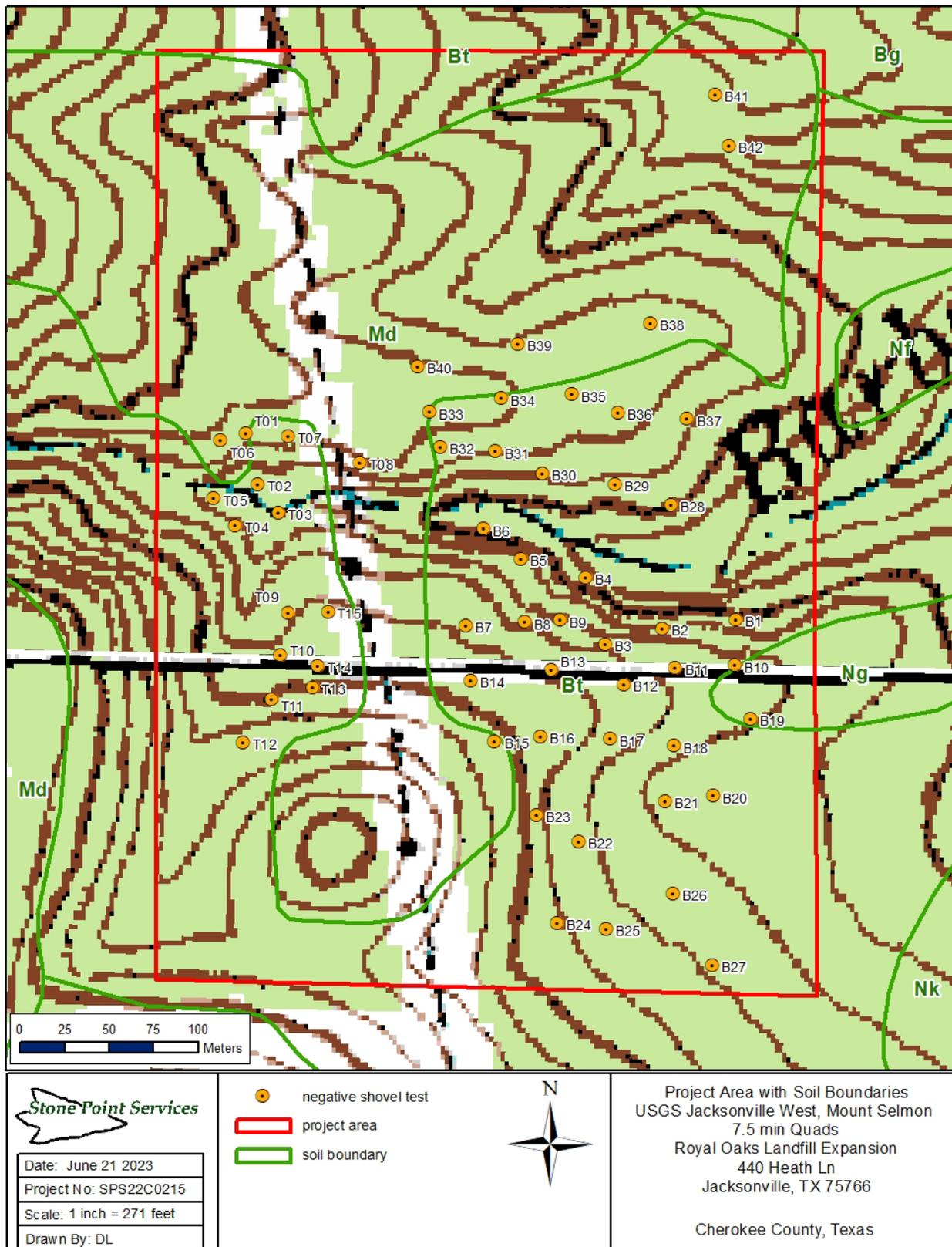


Figure 28: USGS Jacksonville West and Mount Selmon 7.5-min Quad maps showing shovel test locations

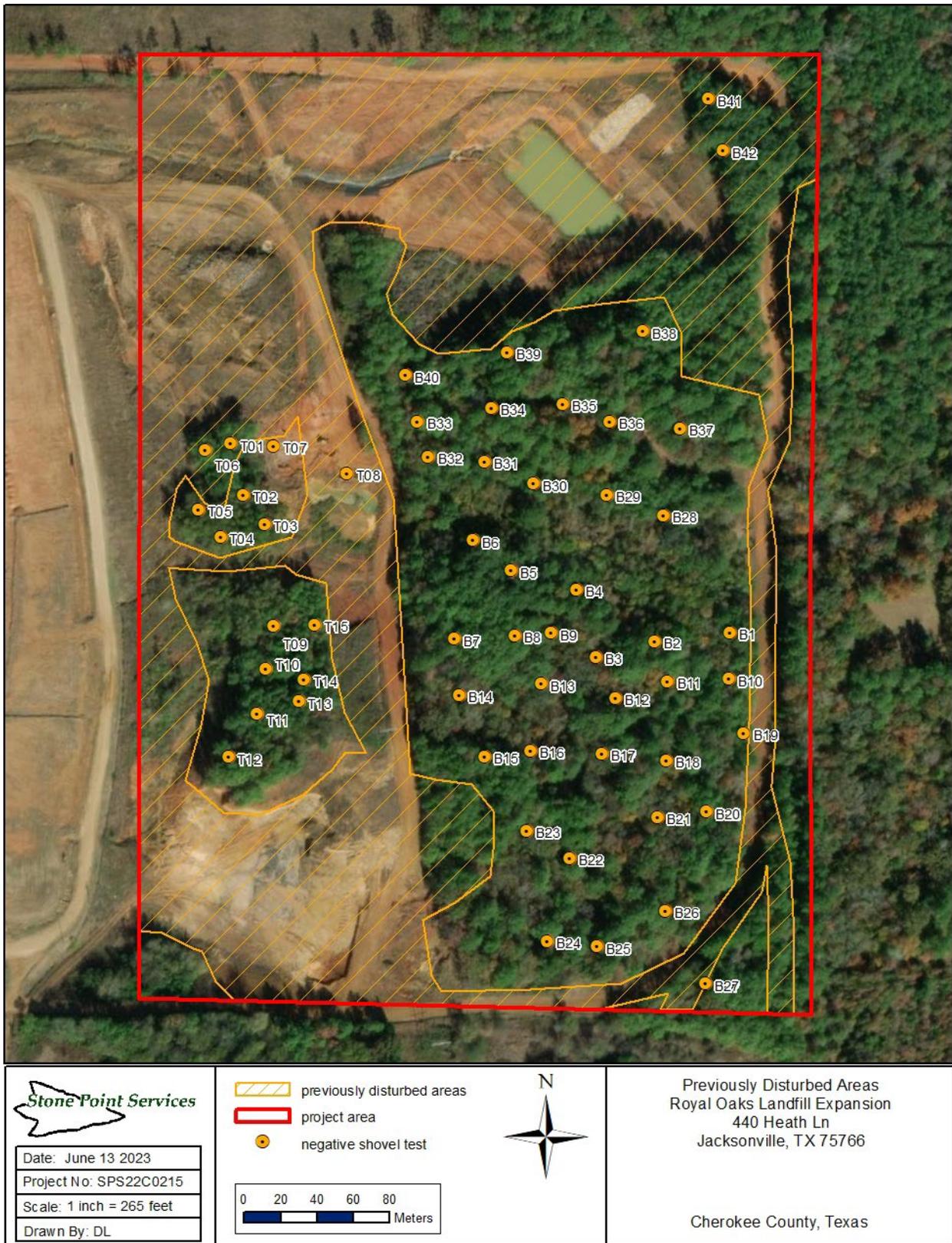


Figure 29: Disturbance map with shovel tests

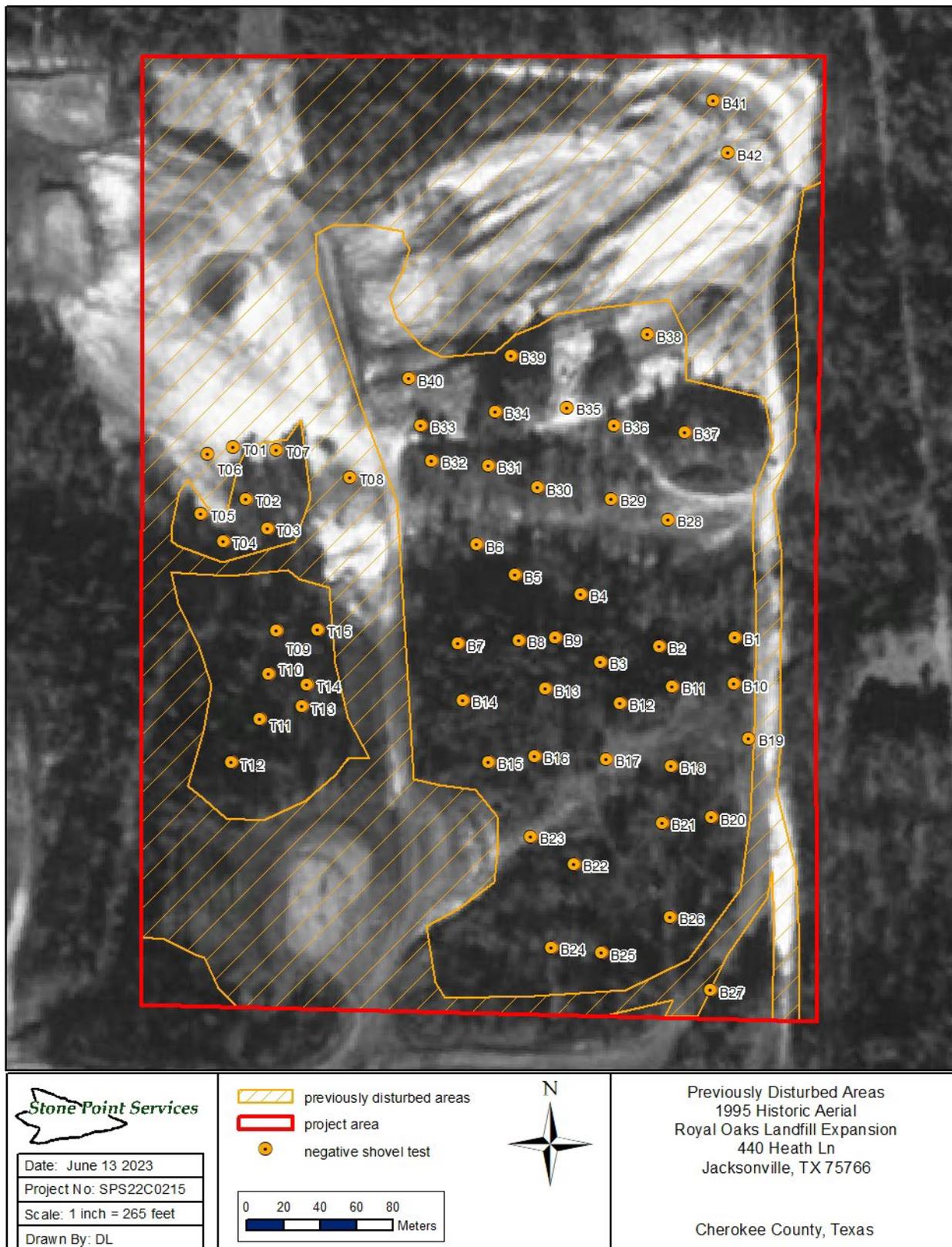


Figure 30: Disturbance map with shovel tests, overlain on 1995 aerial image.



Figure 31: Intact genetic horizons of the Trawick-Bub soil complex with yellowish soil (B9)



Figure 32: Intact genetic horizons of the Trawick-Bub soil complex with reddish soil (B11)



Figure 33: Nacogdoches soil (Disturbed) (B19)



Figure 34: Intact horizons of the Angelina soil series (B42)

Landscape Transformations

Indicators of modern landscape transformations were evident in the northern and southwestern portions of the survey area. Large swaths of the survey area have already been mechanically scraped and deposited in push piles (Figures 9 and 12). A large detention pond (Figure 11) has been excavated in the northern part of the survey area and an earthen easement (Figure 10) has been constructed directly to the east. Shovel testing was mainly focused in areas with intact soils.

Assessment of Deep Testing Potential

The CTA guidelines require that a cultural resources survey must conduct mechanical prospection (deep testing) in areas of Holocene-aged deposition where the project-related impacts will extend below the reach of shovel testing capabilities. The Angelina series (map unit: Md) is mapped across portions of the Royal Oaks project area and consists of very deep, very poorly drained, slowly permeable soils formed in stratified loamy sediments of Holocene age. The Angelina series soils occur on marshy flood plains and are ponded for long periods of time. Due to the age of the parent material in which the Angelina soils formed, it could potentially contain archeological materials that became buried below appreciably-thick alluvium. In the case of this particular Subject Property, however, soil constituents comprising the Angelina series have been removed across the entirety of the soil map unit such that the Angelina soil unit no longer exists within the APE. The Angelina series soils have been removed to expose the basal Weches and Queen City sand Formations of Eocene age (Figures 35 and 36). As noted above in Figures 29 and 30, historic imagery attests to the removal of soil across the survey area that has altered the landscape where clayey floodplain soils of the Angelina series have been completely removed by heavy machinery. LiDAR imagery provided above also shows the areas of mechanical cutting where the Angelina soils were mined for use elsewhere. The removal of the Angelina series soil unit by heavy machinery occurred over the past decades and is not a recent occurrence.

The underlying geologic unit for the area is the Queen City Sand Formation (Map Unit Eqc) and the Weches Formation (Map Unit Ew). The Queen City Sand Formations consists of fine grained to medium grained sand and clay with localized beds of glauconite-quartz sandstone/greensand that contains exposures of ferruginous ledges and rubble. The Weches Formation contains stratigraphic members consisting of marl, quartz sand, glauconitic-rich sandstone, and clay and extends approximately 15 to 27-meters (50 to 90-feet) below the surface region (BEG 2023). Both the Queen City Sand Formation and the Weches Formation are represented across the survey area and are exposed surrounding the basin where the Holocene-aged clayey Angelina soil units was mined. At this time the Holocene-aged Angelina soil unit has been removed from the area by heavy machinery and the current surface exposure consists of a mechanically cut (truncated) surface of the Weches Formation in the southern portion of the survey area, and the Queen City Sand unit in the northern portion of the survey area. Green-colored glauconite sandstone, which forms across deep ocean floors, is observable at the ground surface in the northern portion of the survey area (Figure 37). In the southern portion of the survey area, the Angelina series has been scraped away to expose alternating beds of sandstone and clay associated with the Weches Formation. Due to

the fact that Holocene-aged deposits across the survey area have been removed by machinery and transported away from the survey area for use elsewhere, as demonstrated by exposed Eocene-aged rock at the ground surface, deep testing for archeological materials was not conducted as part of this cultural resources survey.



Figure 35: Truncated Weches Formation at ground surface with no remaining Holocene unit



Figure 36: View of truncated Weches Formation below mechanical push pile



Figure 37: Exposed glauconitic sandstone (greensand) visible at ground surface

Management Recommendations

The survey included both an assessment of direct effects. No NRHP listed, eligible, or potentially eligible structures, archeological sites or other historic properties were present in the APE-DE. Therefore, it is our recommendation that this project be allowed to proceed as planned.

Post Review Discovery

If any new Historic Properties or cultural material (including archeological material such as flint or stone tools, pottery, fire hearths, human remains, historic glass, ceramics, metal, or building foundations) are exposed during construction or disturbance activities, work should cease in the immediate area; work can continue where no historic properties or cultural materials are present. If historic properties are found, please contact the THC's History Programs Division at 512-463-5853 to consult on further actions that may be necessary to protect historic properties. If cultural materials are encountered, please contact the THC's Archeology Division at 512-463-6096 to consult on further actions that may be necessary to protect the cultural remains.

All records produced as a result of this project will follow the guidelines set forth by the THC and the CTA (2020) and will be submitted to SFASU in Nacogdoches, Texas for curation.

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Appendix A: Shovel Test Log

STP	Cultural Material	Location	Latitude	Longitude	Depth and Soil Descriptions
B1	None	Upland Area South of Creek	32.000405	-95.259581	0-11 cm: 7.5YR 4/3 brown sandy loam 11-24 cm: 7.5YR 5/6 strong brown clay 24 cm: Terminated in subsoil
B2	None	Upland Area South of Creek	32.000353	-95.260019	0-12 cm: 7.5YR 4/3 brown loamy sand 12-26 cm: 7.5YR 5/6 strong brown loamy sand 26 cm: Terminated at rock impasse
B3	None	Upland Area South of Creek	32.000268	-95.260355	0-30 cm: 7.5YR 4/3 brown loamy sand 30-44 cm: 7.5YR 5/6 strong brown loamy sand 44 cm: Terminated at rock impasse
B4	None	Upland Area South of Creek	32.000602	-95.260479	0-28 cm: 7.5YR 4/3 brown loamy sand 28-40 cm: 7.5YR 5/6 strong brown clay 40 cm: Terminated at rock impasse
B5	None	Upland Area South of Creek	32.00069	-95.260866	0-29 cm: 5YR 5/4 reddish brown loamy sand 29 cm: Terminated at rock impasse
B6	None	Upland Area South of Creek	32.000837	-95.261092	0-30 cm: 7.5YR 4/3 brown loamy sand 30-32 cm: 5YR 5/4 reddish brown loamy sand 32 cm: Terminated at rock impasse
B7	None	Upland Area South of Creek	32.000344	-95.261186	0-31 cm: 5YR 4/3 reddish brown loamy sand 31-33 cm: 5YR 4/6 yellowish red sandy clay 33 cm: Terminated at rock impasse
B8	None	Upland Area South of Creek	32.000369	-95.260835	0-20 cm: 7.5YR 4/3 brown loamy sand 20-35 cm: 7.5YR 5/6 strong brown loamy sand 35 cm: Terminated at rock impasse
B9	None	Upland Area South of Creek	32.000383	-95.260624	0-22 cm: 10YR 5/2 grayish brown loamy sand 22-45 cm: 10YR 6/6 brownish yellow loamy sand 45 cm: Terminated at rock impasse
B10	None	Upland Area South of Creek	32.000173	-95.25958	0-31 cm: 5YR 4/3 reddish brown loamy sand 31-35 cm: 5YR 4/6 yellowish red loamy sand 35 cm: Terminated at rock impasse
B11	None	Upland Area South of Creek	32.000153	-95.259936	0-23 cm: 7.5YR 4/3 brown loamy sand 23-36 cm: 5YR 5/6 yellowish red loamy sand 36 cm: Terminated at rock impasse

STP	Cultural Material	Location	Latitude	Longitude	Depth and Soil Descriptions
B12	None	Upland Area South of Creek	32.000065	-95.260237	0-21 cm: 7.5YR 4/3 brown loamy sand 21-31 cm: 10YR 6/6 brownish yellow loamy sand 31 cm: Terminated at rock impasse
B13	None	Upland Area South of Creek	32.00013	-95.260672	0-16 cm: 7.5YR 4/3 brown loamy sand 16-36 cm: 7.5YR 4/6 strong brown loamy sand 36 cm: Terminated at rock impasse
B14	None	Upland Area South of Creek	32.000067	-95.261149	0-30 cm: 5YR 4/3 reddish brown loamy sand 30-34 cm: 5YR 5/6 yellowish red clay 34 cm: Terminated at rock impasse
B15	None	Upland Area South of Creek	31.999762	-95.260998	0-19 cm: 5YR 4/3 reddish brown loamy sand 19-25 cm: 5YR 5/6 yellowish red clay 25 cm: Terminated at rock impasse
B16	None	Upland Area South of Creek	31.999794	-95.260729	0-31 cm: 5YR 4/3 reddish brown loamy sand 31-42 cm: 5YR 5/6 yellowish red loamy sand 42 cm: Terminated at rock impasse
B17	None	Upland Area South of Creek	31.999787	-95.260311	0-42 cm: 5YR 5/3 reddish brown loamy sand 42 cm: Terminated at rock impasse
B18	None	Upland Area South of Creek	31.99976	-95.259934	0-28 cm: 5YR 4/3 reddish brown loamy sand 28-33 cm: 5YR 5/6 yellowish red loamy sand 33 cm: Terminated at rock impasse
B19	None	Upland Area South of Creek	31.999904	-95.259484	0-27 cm: 5YR 5/4 reddish brown clay and 5YR 5/4 reddish brown sandy loam and 10YR 6/6 brownish yellow gravel (Disturbed) 27 cm: Terminated at rock impasse
B20	None	Upland Area South of Creek	31.99951	-95.259693	0-31 cm: 5YR 5/4 reddish brown sandy loam 31-33 cm: 5YR 5/6 yellowish red clay 33 cm: Terminated at rock impasse
B21	None	Upland Area South of Creek	31.999478	-95.259978	0-31 cm: 5YR 5/4 reddish brown sandy loam 31-34 cm: 5YR 5/6 yellowish red clay 34 cm: Terminated at rock impasse
B22	None	Upland Area South of Creek	31.999265	-95.260486	0-39 cm: 5YR 5/4 reddish brown sandy loam 39 cm: Terminated at rock impasse
B23	None	Upland Area	31.999395	-95.260741	0-34 cm: 5YR 5/4 reddish brown sandy loam 34-39 cm: 5YR 5/6 yellowish red sandy clay

STP	Cultural Material	Location	Latitude	Longitude	Depth and Soil Descriptions
		South of Creek			39 cm: Terminated at rock impasse
B24	None	Upland Area South of Creek	31.998851	-95.260606	0-41 cm: 7.5YR 5/4 brown sandy loam 41 cm: Terminated at rock impasse
B25	None	Upland Area South of Creek	31.998828	-95.260314	0-37 cm: 5YR 4/3 reddish brown sandy loam 37-42 cm: 5YR 5/6 yellowish red sandy clay 42 cm: Terminated at rock impasse
B26	None	Upland Area South of Creek	31.999014	-95.259923	0-36 cm: 5YR 4/3 reddish brown sandy loam 36 cm: Terminated at rock impasse
B27	None	Upland Area South of Creek	31.998654	-95.259679	0-43 cm: 5YR 4/3 reddish brown sandy loam and 10YR 6/6 brownish yellow sand (Disturbed) 43 cm: Terminated due to disturbance
B28	None	Upland Area North of Creek	32.00098	-95.259981	0-19 cm: 7.5YR 5/3 brown loamy sand 19 cm: Terminated at rock impasse
B29	None	Upland Area North of Creek	32.001075	-95.260317	0-17 cm: 5YR 4/3 reddish brown loamy sand 17-26 cm: 5YR 5/6 yellowish red loamy sand 26 cm: Terminated at rock impasse
B30	None	Upland Area North of Creek	32.001125	-95.260746	0-18 cm: 5YR 5/3 reddish brown loamy sand 18 cm: Terminated at rock impasse
B31	None	Upland Area North of Creek	32.00123	-95.26103	0-24 cm: 5YR 5/3 reddish brown loamy sand 24 cm: Terminated at rock impasse
B32	None	Upland Area North of Creek	32.001246	-95.26136	0-8 cm: 5YR 4/3 reddish brown sandy loam 8-21 cm: 5YR 5/6 yellowish red clay 21 cm: Terminated in subsoil
B33	None	Upland Area North of Creek	32.001422	-95.261427	0-23 cm: 7.5YR 5/3 brown sandy loam 23-42 cm: 7.5YR 6/6 reddish yellow sandy loam 42-52 cm: 5YR 5/6 yellowish red sandy clay loam 52 cm: Terminated in subsoil
B34	None	Upland Area North of Creek	32.001499	-95.261	0-23 cm: 7.5YR 5/3 brown sandy loam 23-45 cm: 5YR 5/4 reddish brown sandy loam 45 cm: Terminated at rock impasse

STP	Cultural Material	Location	Latitude	Longitude	Depth and Soil Descriptions
B35	None	Upland Area North of Creek	32.001526	-95.260582	0-27 cm: 7.5YR 5/4 reddish brown sandy loam 27 cm: Terminated at rock impasse
B36	None	Upland Area North of Creek	32.00144	-95.260306	0-16 cm: 7.5YR 5/3 brown sandy loam 16-25 cm: 5YR 5/3 reddish brown sandy loam 25 cm: Terminated at rock impasse
B37	None	Upland Area North of Creek	32.001414	-95.259896	0-29 cm: 7.5YR 5/4 brown sandy loam 29 cm: Terminated at rock impasse
B38	None	Upland Area North of Creek	32.001895	-95.260124	0-18 cm: 5YR 5/6 yellowish red clay loam 18 cm: Terminated in subsoil
B39	None	Upland Area North of Creek	32.001777	-95.260911	0-30 cm: 7.5YR 5/3 brown sandy loam 30-36 cm: 5YR 5/4 reddish brown sandy loam 36 cm: Terminated at rock impasse
B40	None	Upland Area North of Creek	32.001651	-95.261504	0-28 cm: 7.5YR 5/4 brown sandy loam 28 cm: Terminated at rock impasse
B41	None	Floodplain North of Creek	32.003058	-95.25977	0-18 cm: 7.5YR 5/8 strong brown sandy clay loam 18-22 cm: 7.5YR 5/8 strong brown coarse sand and gravel 22-28 cm: 7.5YR 5/8 strong brown sandy clay loam 28-33 cm: 7.5YR 5/8 strong brown coarse sand and gravel 33-80 cm: 7.5YR 5/8 strong brown sandy clay loam 80 cm: Terminated at maximum depth
B42	None	Floodplain North of Creek	32.002802	-95.25968	0-11 cm: 7.5YR 5/8 strong brown coarse sand and gravel 11-35 cm: 7.5YR 5/8 strong brown mottled with 10YR 7/4 very pale brown medium sand 35-80 cm: 7.5YR 5/8 strong brown sandy clay loam 80 cm: Terminated at maximum depth
T01	None	West central	32.001293	-95.262515	Disturbed 0-63cm: Dark gray sandy clay mixed with modern plastic and asphalt
T02	None	West central	32.00104	-95.262435	Disturbed: Likely fill 0-57cm: Dark gray sandy clay mixed with modern plastic and asphalt
T03	None	West central	32.000896	-95.262309	0-46cm: Yellowish brown sandy loam 46-55cm: Red clay
T04	None	West central	32.000827	-95.262564	0-41cm: Yellowish brown sandy loam 41-55cm: Red clay Evidence of disturbance on surface

STP	Cultural Material	Location	Latitude	Longitude	Depth and Soil Descriptions
T05	None	West central	32.000962	-95.262695	Very wet 0-22cm: Wet yellowish brown sandy loam 22-34cm: Yellowish-red clay (wet)
T06	None	West central	32.00126	-95.262662	0-24cm: Yellowish brown sandy loam 24-37cm: Reddish brown clay
T07	None	West central	32.001285	-95.262263	0-31cm: Yellowish brown sandy loam 31-42cm: Red clay
T08	None	West central	32.001158	-95.261834	0-21cm: Red clay
T09	None	West central	32.000391	-95.262242	0-7cm: Grayish brown sandy loam 7-23cm: Red clay
T10	None	West central	32.000176	-95.262281	Steep slope (~15 degree) 0-26cm: Grayish brown sandy loam with dense roots 26-41cm: Yellowish red clay with dense roots and gravel
T11	None	West central	31.99995	-95.262329	Steep slope (~15 degree) 0-28cm: Grayish brown sandy loam with dense roots 28-45cm: Yellowish red clay with dense roots and gravel
T12	None	West central	31.999733	-95.262491	Very Steep slope (~20 degree) 0-17cm: Grayish brown sandy loam with dense roots 17-26cm: Yellowish red clay with dense roots and gravel
T13	None	West central	32.000017	-95.262088	Steep slope (~10 degree) 0-31cm: Grayish brown sandy loam with dense roots 31-45cm: Yellowish red clay with dense roots and gravel
T14	None	West central	32.000128	-95.262058	Steep slope (10 degree) 0-11cm: Grayish brown sandy loam with dense roots 11-25cm: Yellowish red clay with dense roots and gravel
T15	None	West central	32.000399	-95.262004	0-16cm: Grayish brown sandy loam with dense roots 16-27cm: Yellowish red clay with dense roots and gravel

**COORDINATION WITH
TEXAS DEPARTMENT OF TRANSPORTATION**

- January 9, 2024, TxDOT Review Letter
- Refer to Appendix I/IID for November 30, 2023, Request for Review Letter and Traffic Study

JANUARY 9, 2024, TXDOT REVIEW LETTER

Young, Brian

From: Paul Schneider <Paul.Schneider@txdot.gov>
Sent: Tuesday, January 9, 2024 8:40 AM
To: Young, Brian
Cc: Edwards, Jason; Travis Singleton
Subject: Royal Oaks Landfill - TCEQ Application Coordination

CAUTION: This email originated from outside your organization. Exercise caution when opening attachments or clicking links, especially from unknown senders.

Brian,

TxDOT has reviewed the TCEQ application for the expansion of the Royal Oaks Landfill. The current TxDOT roadway system provides adequate access to the Royal Oaks Landfill and would be minimally affected by the proposed landfill expansion.

Thanks,

Paul

Safety – Believe It, Own It, Live It

Paul D. Schneider, P.E.
Tyler Area Engineer
Texas Department of Transportation
15986 SH 155 South
Tyler, Texas 75703
903/509-9066

From: Young, Brian <byoung@wcgrp.com>
Sent: Wednesday, January 3, 2024 4:32 PM
To: Paul Schneider <Paul.Schneider@txdot.gov>
Cc: Edwards, Jason <jedwards@wcgrp.com>
Subject: RE: Royal Oaks Landfill - TCEQ Application Coordination

This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Mr. Schneider,

I wanted to follow up with you to confirm that the engineering study sent on December 15 was received (see below). If you will provide confirmation, it would be appreciated!

Thanks,

Brian Young, E.I.T.

Project Engineer

Weaver Consultants Group

6420 Southwest Blvd. | Suite 206

Fort Worth, TX 76109

O: 817-735-9770 | F: 817-735-9775 | M: 817-992-8212

byoung@wcgrp.com | www.wcgrp.com 



SAFETY FIRST, TRUSTED ADVISORS, 12:1 CULTURE

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From: Young, Brian

Sent: Friday, December 15, 2023 2:06 PM

To: Paul.Schneider@txdot.gov

Subject: Royal Oaks Landfill - TCEQ Application Coordination

Good afternoon Mr. Schneider,

Please see the attached engineering study for a proposed project near Jacksonville, Texas. We are looking for confirmation from TxDOT that the existing roadway infrastructure around the facility is adequate for the proposed project.

Please review at your convenience and let me know if you have any questions or comments.

Thanks,



NOVEMBER 30, 2023, REPUBLIC REQUEST FOR REVIEW LETTER



Sustainability in Action

November 30, 2023

Mr. Vernon M. Webb, P.E.
District Engineer
Texas Department of Transportation, Tyler District
2709 W. Front Street
Tyler, Texas 75702

Re: Engineering Study
Royal Oaks Landfill
Cherokee County, Texas

Dear Mr. Webb:

The purpose of this letter, submitted on behalf of Pine Hill Farms Landfill TX, LP, is to demonstrate coordination with the Texas Department of Transportation (TxDOT), consistent with Title 30 TAC §330.61(i)(4). This regulation requires that an applicant for a municipal solid waste (MSW) facility coordinate with TxDOT regarding any potential traffic or location restrictions.

Weaver Consultants Group, LLC is preparing a Major Permit Amendment for an existing Type I municipal solid waste (MSW) facility, under contract with Pine Hill Farms Landfill TX, LP to obtain the necessary authorization to expand the existing Royal Oaks Landfill. The proposed expansion will extend the ability of Pine Hill Farms Landfill TX, LP to collect, process, and dispose of solid waste for Cherokee County and surrounding areas. The existing site entrance is located immediately south of Heath Lane, east of northbound US Highway 69, in Cherokee County, Texas.

To assist you in your review, a project summary and site location maps have been provided as an overview of the Major Permit Amendment.

The attached engineering study demonstrates that the site access roads – US Highway 69 and Heath Lane (east and west of the landfill entrance) – will provide adequate access to the site now and in the foreseeable future. The landfill has been in operation for many years and the traffic patterns of the solid waste collection vehicles that use area access roads are well established. As a result of the proposed expansion, landfill vehicles will continue to use a small percentage of access road capacity, and the existing entrance will not be modified. It is expected that the traffic patterns will remain consistent with the current traffic patterns. Additionally, please note a permit is not being requested from TxDOT for this project.

To verify compliance with Title 30 TAC §330.61(i)(4), we are requesting a letter from TxDOT regarding the adequacy of the site access roads and any traffic or location restrictions at or near the site.

Please call if you have any questions or need additional information.

Sincerely,
Pine Hill Farms Landfill TX, LP

A handwritten signature in black ink, appearing to read "Austin Sparks".

Austin Sparks, P.E.
Environmental Manager

Attachments: Attachment A - Royal Oaks Landfill Engineering Study

cc: Jason A. Edwards, Weaver Consultants Group, LLC

COORDINATION WITH TEXAS PARKS AND WILDLIFE DEPARTMENT

- March 7, 2024, Hydrex Response to TPWD Recommendations.
- October 9, 2023, TPWD Review Letter.
- August 2, 2023, Hydrex Request for Review Letter.

**MARCH 7, 2024, HYDREX RESPONSE TO TPWD
RECOMMENDATIONS**

March 7, 2024

Karen B. Hardin
Environmental Review Biologist
Texas Parks and Wildlife
Wildlife Division
4200 Smith School Road
Austin, TX 78744-3291

**RE: RESPONSE TO TPWD RECOMMENDATIONS
Royal Oaks Landfill
Proposed Expansion Area +/- 48 Acres
Cherokee County, Texas
Hydrex Project No. A-12-1509**

Dear Ms. Hardin,

Hydrex Environmental (Hydrex) has reviewed Texas Parks and Wildlife (TPWD) recommendations and informational comments letter, dated October 9, 2023, for the above-referenced project site (attached). Below are responses to the recommendations provided by TPWD, on behalf of Republic Services, Inc. (Republic).

The Royal Oaks Landfill Expansion is proposed, in order to meet the long-term disposal needs for Cherokee County, Texas and surrounding areas. Due to the location of the existing landfill and its components, the only available area for expansion of the Royal Oaks Landfill is east of the existing permitted landfill footprint. The proposed plans involve a horizontal expansion of the landfill, which includes a proposed 28.6-acre landfill expansion footprint for waste disposal and associated infrastructure and stormwater controls, totalling approximately 48 acres. A significant portion of the area proposed for expansion is already utilized for soil borrow pits and landfill access. Development surrounding the exiting landfill are both residential and commercial to the west and north, and numerous potential WOTUS and a closed landfill are located to the south.

FEDERAL LAW: MIGRATORY BIRD TREATY ACT

Recommendation 1: TPWD recommends excluding vegetation clearing or ground disturbance activities during the general bird nesting season, March 15 through September 15, to avoid adverse impacts to breeding birds. If clearing or disturbing vegetation during the general bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance to ensure that no nests with eggs or young will be impacted by construction. Nest surveys should be conducted not more than five days prior to clearing activities. TPWD generally recommends a 100-foot buffer of vegetation remain around active nests until the eggs have hatched and the young have fledged; however, the buffer size depends on various factors and can be coordinated with the local or regional U.S. Fish and Wildlife Service (USFWS) office.

Royal Oaks Landfill
Proposed Expansion Area +/- 48 Acres
Cherokee County, Texas
Hydrex Project No. A-12-1509

Response: The Royal Oaks Landfill will limit vegetation clearing activities to outside the nesting season of March 15 through September 15 when avoidable. If vegetation clearing activities during this period are unavoidable, the Royal Oaks Landfill will conduct a survey of the area as recommended by TPWD. Results of the survey and activities implemented will be documented and maintained in the Site Operating Record.

Recommendation 2: TPWD recommends designing the Project's lighted structures, such as parking areas, buildings, and other structures, to avoid or minimize the use of permanent night-time lighting. TPWD recommends focusing light downward with cutoff luminaires, and to use dark-sky friendly lighting that is illuminated only when needed, as bright as needed, and minimizes blue light emissions. Appropriate lighting technologies, beneficial management practices (BMP), and other dark sky resources can be found at the International Dark-Sky Association and McDonald Observatory websites.

Response: Lighting at the site is minimal (e.g., near the scalehouse and maintenance buildings) and is not proposed to change with this project. If additional lighting is utilized, it will be designed to minimize skyglow.

FEDERAL LAW: ENDANGERED SPECIES ACT (ESA)

Recommendation 3: To avoid impacts to tricolored bats, TPWD recommends avoiding tree clearing during the pup season May 15-August 15.

Response: The Royal Oaks Landfill will limit tree clearing activities to outside the pup season of May 15 through August 15 when avoidable. If vegetation clearing activities during this period are unavoidable, the Royal Oaks Landfill will conduct a survey of the area as recommended by TPWD. Results of the survey and activities implemented will be documented and maintained in the Site Operating Record.

Recommendation 4: TPWD recommends utilizing appropriate BMP in preparation for an anticipated listing decision. If tricolored bats become federally listed prior to construction, then the project should conduct additional coordination with the USFWS – Arlington Ecological Services at (817) 277-1100 for additional project guidance and to ensure compliance with the ESA. The USFWS should be contacted for occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species.

Response: Appropriate BMPs will be utilized in anticipation that the tricolored bat becomes federally listed. If the tricolored bat becomes federally listed prior to construction, coordination with USFWS will be conducted to ensure compliance with ESA.

FEDERAL LAW: CLEAN WATER ACT (CWA)

Recommendation 5: TPWD recommends avoiding development within all jurisdictional streams and wetlands. If the proposed project would have unavoidable impacts to waterways or associated wetlands, TPWD recommends consulting with the Regulatory Branch of the Fort Worth District of the USACE at (817) 886-1731 pursuant to the CWA, including jurisdictional determinations, delineations, and mitigation.

Response: All unavoidable impacts to waters of the U.S. (jurisdictional streams, wetlands, and open waters) will be properly permitted through the USACE Fort Worth District to ensure compliance with Section 404 of the CWA. In accordance with the guidelines of USACE Nationwide Permit (NWP) 39 (Commercial and Institutional Developments), all limitations, criteria, and general and regional conditions will be followed for this project.

STATE LAW: CHAPTER 64, BIRDS

Recommendation 6: Please review the *Federal Law: Migratory Bird Treaty Act* section above for recommendations because they are also applicable for compliance with PWC.

Response: The Royal Oak Landfill will review the *Federal Law: Migratory Bird Treaty Act* and PWC sections 64.002 and 64.003, and will maintain compliance with the PWC, where applicable.

STATE LAW: CHAPTER 68, STATE LISTED SPECIES

Recommendation 7: Wildlife in danger from project activities that will not readily leave the site, can be translocated to a nearby area with similar habitat. TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100-200 yards from the initial encounter location. For purposes of relocation, surveys, monitoring, and research, terrestrial state listed species may only be handled by biological monitors or consultants with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on obtaining this authorization, please contact the Wildlife Permits Office at (512) 389-4647

Response: During construction, all wildlife will be allowed to safely retreat to nearby habitat. In the event any wildlife cannot safely retreat, species that are not state listed will be translocated to nearby and similar habitat. In the event that any state-listed species cannot safely retreat, construction will be halted until a translocation can be conducted by an authorized and permitted biological monitor or consultant.

STATE FISH AND WILDLIFE RESOURCES

Recommendations 8: TPWD recommends reviewing the RTEST list for Cherokee County and employing BMPs to avoid or minimize potential impacts to SGNC when suitable habitat occurs within the project area.

Response: The RTEST list for Cherokee County will be reviewed to determine if suitable habitat for SGNC flora and fauna. If suitable habitat is present at the project site, BMPs will be implemented to avoid or minimize impacts to those species.

I appreciate the opportunity to present this information. If you have any questions regarding these findings or our recommendations, or if further clarification is necessary, please feel free to contact me at ckeim@hydrex-inc.com or (936) 568-9451.

Sincerely,
Hydrex Environmental

Christina Keim

Christina R. Keim, REM, PWS
Manager of Ecological Services



ATTACHMENTS

TPWD RECOMMENDATIONS AND INFORMATIONAL COMMENTS LETTER

DISTRIBUTION

Karen B. Hardin
Environmental Review Biologist
Texas Parks and Wildlife
Wildlife Division
4200 Smith School Road
Austin, TX 78744-3291

Ms. Christina R. Keim, REM, PWS
Manager of Ecological Services
Hydrex Environmental
312 Old Tyler Road
Nacogdoches, Texas 75961



Life's better outside.®

October 9, 2023

Mr. Clayton A. Collier
Hydrex Environmental
312 Old Tyler Road
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Lake Jackson

Dick Scott
Vice-Chairman
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Chairman-Emeritus
Fort Worth

T. Dan Friedkin
Chairman-Emeritus
Houston

David Yoskowitz, Ph.D.
Executive Director

RE: Proposed Royal Oaks Landfill Expansion, Cherokee County, Texas

Dear Mr. Clayton A. Collier:

The Texas Parks and Wildlife Department (TPWD) received a request for review regarding the project referenced above.

Project Description

The project includes a 48-acre expansion of the existing 96-acre Royal Oaks Landfill in Jacksonville, Texas, and will be developed with waste disposal cells, stormwater control structures, and an access road bounding the waste disposal cells. The expansion area contains approximately 20 acres upland forest, 0.37 acres scrub-shrub wetlands, and the remaining area contains soil borrow pits, power line rights-of-way, a detention basin, and disturbed areas void of woody vegetation.

TPWD Review

Under Texas Parks and Wildlife Code (PWC) section 12.0011(b)(2) and (b)(3), TPWD has the authority to provide recommendations and informational comments that will protect fish and wildlife resources to local, state, and federal agencies that approve, license, or construct developmental projects and to provide information on fish and wildlife resources to local, state, and federal agencies or private organizations that make decisions affecting those resources. Pursuant to PWC section 12.0011(b)(2) and (b)(3), TPWD offers the following comments and recommendations concerning this project.

Federal Law

Federal Law: Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits taking, attempting to take, capturing, killing, selling, purchasing, possessing, transporting, and importing of migratory birds, their eggs, parts, or nests, except when specifically authorized by the Department of the Interior. This protection applies to most native bird species, including ground nesting species.

The project's review request form indicates that the project site contained no migratory birds or nests during the site visit and that use of the property by migratory birds is not likely.

TPWD review indicates migratory birds may use the site for nesting or during migration. The list of over 1,000 species protected by the MBTA can be found at <https://www.federalregister.gov/documents/2023/07/31/2023-15551/general-provisions-revised-list-of-migratory-birds> and [https://www.ecfr.gov/current/title-50/chapter-I/subchapter-B/part-10/subpart-B/section-10.13#p-10.13\(c\)\(1\)](https://www.ecfr.gov/current/title-50/chapter-I/subchapter-B/part-10/subpart-B/section-10.13#p-10.13(c)(1)).

Within the project area, potential impacts to migratory birds may occur during disturbance of existing vegetation and bare ground that may contain active bird nests, including nests that may occur in grass, shrubs, and trees and on gravel pads, roads, and bare ground.

Recommendation: TPWD recommends excluding vegetation clearing or ground disturbance activities during the general bird nesting season, March 15 through September 15, to avoid adverse impacts to breeding birds. If clearing or disturbing vegetation during the general bird nesting season is unavoidable, TPWD recommends surveying the area proposed for disturbance to ensure that no nests with eggs or young will be impacted by construction. Nest surveys should be conducted not more than five days prior to clearing activities. TPWD generally recommends a 100-foot buffer of vegetation remain around active nests until the eggs have hatched and the young have fledged; however, the buffer size depends on various factors and can be coordinated with the local or regional U.S. Fish and Wildlife Service (USFWS) office.

Sky glow because of light pollution can have negative impacts on wildlife and ecosystems by disrupting natural diurnal and nocturnal behaviors such as migration, reproduction, nourishment, rest, and cover from predators.

Recommendation: TPWD recommends designing the Project's lighted structures, such as parking areas, buildings, and other structures, to avoid or minimize the use of permanent night-time lighting. TPWD recommends focusing light downward with cutoff luminaires, and to use dark-sky friendly lighting that is illuminated only when needed, as bright as needed, and minimizes blue light emissions. Appropriate lighting technologies, beneficial management practices (BMP), and other dark sky resources can be found at the International Dark-Sky Association and McDonald Observatory websites.

Federal Law: Endangered Species Act (ESA)

Federally listed animal species and their habitat are protected from take on any property by the Endangered Species Act (ESA). Take of a federally listed species can be allowed if it is incidental to an otherwise lawful activity and must be permitted in accordance with Section 7 or 10 of the ESA. Take of a federally listed species or its habitat without allowance from USFWS is a violation of the ESA.

The project materials contain a USFWS protected species list obtained from the USFWS Information Planning and Consultation (IPaC) website. Project materials evaluated potential affects to listed species.

Please note that tricolored bat (*Perimyotis subflavus*) is proposed endangered under the ESA. During the winter, in the southern United States where caves are sparse, tricolored bats are often found hibernating in road-associated culverts where they exhibit shorter torpor bouts and forage during warm nights. During the spring, summer, and fall, tricolored bats are active and found foraging in open areas and roosting in forested habitats. Active season roosting occurs in trees, primarily among leaves of live or recently dead deciduous hardwood trees, but may also be in Spanish moss, pine trees, and occasionally human structures. The sexes live separately during the summer, with males often solitary and females forming small maternity colonies primarily in foliage, but sometimes in buildings and rock crevices. Pupping is estimated to occur from May 15th to August 15th. Protection of hibernacula and pupping habitat is a primary tactic for conservation of the species.

The 20 acres of upland woodlands within the expansion area represent potential summer habitat for the tricolored bat.

Recommendation: To avoid impacts to tricolored bats, TPWD recommends avoiding tree clearing during the pup season May 15-August 15.

Recommendation: TPWD recommends utilizing appropriate BMP in preparation for an anticipated listing decision. If tricolored bats become federally listed prior to construction, then the project should conduct additional coordination with the USFWS – Arlington Ecological Services at (817) 277-1100 for additional project guidance and to ensure compliance with the ESA. The USFWS should be contacted for occurrence data, guidance, permitting, survey protocols, and mitigation for federally listed species.

Federal Law: Clean Water Act (CWA)

Section 404 of the Clean Water Act establishes a federal program to regulate the discharge of dredge and fill material into the waters of the U.S., including wetlands. The United States Army Corps of Engineers (USACE) and the Environmental Protection Agency (EPA) are responsible for regulating water resources under this act. Although isolated wetlands may not be applicable to the USACE permitting process, both jurisdictional and non-jurisdictional waters play an essential role in providing habitat for wildlife and helping to protect water quality.

The project review request form indicates the project will impact 0.37 acres of scrub-shrub wetlands, 512 linear feet of ephemeral stream, and 462 linear feet of intermittent stream.

Recommendation: TPWD recommends avoiding development within all jurisdictional streams and wetlands. If the proposed project would have unavoidable impacts to waterways or associated wetlands, TPWD recommends consulting with the Regulatory Branch of the Fort Worth District of the USACE at (817) 886-1731 pursuant to the CWA, including jurisdictional determinations, delineations, and mitigation.

State Law

State Law: Chapter 64, Birds

PWC section 64.002, regarding protection of nongame birds, provides that no person may catch, kill, injure, pursue, or possess a bird that is not a game bird. PWC section 64.003, regarding destroying nests or eggs, provides that, no person may destroy or take the nests, eggs, or young and any wild game bird, wild bird, or wild fowl.

Recommendation: Please review the *Federal Law: Migratory Bird Treaty Act* section above for recommendations because they are also applicable for compliance with PWC.

State Law: Chapter 68, State Listed Species

PWC regulates state listed threatened and endangered animal species. The capture, trap, take, or killing of state listed animal species is unlawful unless expressly authorized under authorization by USFWS or TPWD.

Hydrex reviewed the TPWD *Rare, Threatened, and Endangered Species of Texas by County* (RTEST) for Cherokee County and concluded that the Project site contains no suitable habitat for state listed species, and that if a state listed species is encountered, the species would be allowed to safely leave the site or translocated.

Recommendation: Wildlife in danger from project activities that will not readily leave the site, can be translocated to a nearby area with similar habitat. TPWD recommends that any translocations of reptiles be the minimum distance possible no greater than one mile, preferably within 100-200 yards from the initial encounter location. For purposes of relocation, surveys, monitoring, and research, terrestrial state listed species may only be handled by biological monitors or consultants with the appropriate authorization obtained through the TPWD Wildlife Permits Program. For more information on obtaining this authorization, please contact the Wildlife Permits Office at (512) 389-4647.

State Fish and Wildlife Resources

In addition to federal and state listed species, TPWD monitors other species of greatest conservation need (SGCN) and actively promotes their conservation. TPWD considers it important to evaluate and, if feasible, minimize impacts to SGCN and their habitat to reduce the likelihood of endangerment and preclude the need to list as threatened or endangered in the future.

The RTEST list identifies SGCN flora and fauna with potential to occur in Cherokee County. These species could be impacted in association with construction, operation, and maintenance activities if suitable habitat or the species occur at the project site. Please refer to the RTEST list for general habitat descriptions for SGCN.

Recommendation: TPWD recommends reviewing the RTEST list for Cherokee County and employing BMPs to avoid or minimize potential impacts to SGCN when suitable habitat occurs within the project area.

Beneficial Management Practices

TPWD recommends implementing the following BMP, to avoid or minimize impacts to wildlife and SGCN, including state listed SGCN, potentially occurring at the project site:

1. TPWD recommends designing the site to minimize removal of vegetation and retain native habitats at the site. TPWD recommends that precautions be taken to avoid impacts to SGCN, natural plant communities, or special features if discovered in the project area during the site assessment or during construction, operation, and maintenance.
2. Waterways, floodplains, riparian corridors, ponds, and wetlands provide valuable wildlife habitat, and TPWD recommends protecting them to the maximum extent possible. TPWD recommends retaining riparian and stream bank vegetation where feasible. During construction, trucks and equipment should use existing bridges to cross creeks. TPWD recommends avoiding disturbance to inert microhabitats in waterways such as snags, brush piles, fallen logs, creek banks, pools, and gravel stream bottoms, as these provide habitat for a variety of fish and wildlife species and their food sources. TPWD recommends allowing natural buffers contiguous to wetlands or aquatic systems to remain undisturbed to preserve wildlife cover, food sources, and travel corridors. Erosion control measures should be installed prior to construction and maintained until disturbed areas are permanently revegetated using site-specific native vegetation.
3. Where trenching or other excavation is involved in construction, TPWD recommends that contractors keep trenching, excavation, and backfilling crews close together to minimize the number of trenches or excavation areas left open at any given time during construction. Any trenches or holes should be inspected for the presence of trapped wildlife prior to backfilling. If trenches and excavation areas cannot be backfilled the day of initial excavation or covered overnight, then escape ramps should be installed, if feasible, at least every 90 meters (approximately 295 feet). Escape ramps consist of short lateral trenches made of soil or wooden planks sloping to the surface at an angle less than 45 degrees (1:1).
4. For soil stabilization and revegetation of disturbed areas within the proposed project area, TPWD recommends erosion control and seed and mulch stabilization materials that avoid entanglement hazards to snakes and other wildlife species. Because the mesh found in many erosion control blankets or mats pose an entanglement hazard to wildlife, TPWD recommends the use of no-till drilling, hydromulching, or hydroseeding rather than erosion control blankets or mats due to a reduced risk to wildlife. If erosion control blankets or mats will be used, the product should contain no netting or contain loosely woven, natural fiber netting in which the mesh design allows the threads to move, therefore allowing expansion

of the mesh openings. Plastic mesh matting and hydromulch containing microplastics should be avoided.

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Thank you for considering the fish and wildlife resources of Texas during development of this project. Please contact me at (903)322-5001 or Karen.Hardin@tpwd.texas.gov if you have any questions.

Sincerely,



Karen B. Hardin
Environmental Review Biologist
Ecological and Environmental Planning Program
Wildlife Division

KBH: 51351

OCTOBER 9, 2023, TPWD REVIEW LETTER



Life's better outside.®

October 9, 2023

Mr. Clayton A. Collier
Hydrex Environmental
312 Old Tyler Road
Nacogdoches, TX 75961

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David Yoskowitz, Ph.D.
Executive Director

4200 SMITH SCHOOL ROAD
AUSTIN, TEXAS 78744-3291
512.389.4800
www.tpwd.texas.gov

To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

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Mr. Clayton A. Collier
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October 9, 2023

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Thank you for considering the fish and wildlife resources of Texas during development of this project. Please contact me at (903)322-5001 or Karen.Hardin@tpwd.texas.gov if you have any questions.

Sincerely,



Karen B. Hardin
Environmental Review Biologist
Ecological and Environmental Planning Program
Wildlife Division

KBH: 51351

AUGUST 2, 2023, HYDREX REQUEST FOR REVIEW LETTER

August 2, 2023

Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, TX 78744-3291

**RE: Wildlife Habitat Assessment Program Project Review Request
Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
USACE Project No. SWF-2021-00405
Hydrex Project No. A-12-1586**

Dear TPWD Representative:

This Wildlife Habitat Assessment (WHAB) Program Project Review Request is being submitted for the proposed expansion of an existing landfill in Cherokee County, Texas. The project in review consists of an approximate 144-acre property that includes the existing permitted landfill of 96 acres and the proposed landfill expansion area of 48 acres. The project is situated within the city limits of Jacksonville along Heath Lane (CR 4102). The approximate NAD83 geographic coordinates for the site entrance and area delineated are as follows: N 32.002444, W 95.268041.

Hydrex has completed a WHAB Program Project Review Request Form for the above-referenced project site in accordance with the requirements set forth in 30 TAC §330.63(b)(5) in order to address potential impacts to threatened and endangered species from development of the project site.

To this end, Hydrex has reviewed the state- and federal-listed rare, threatened, and endangered species of Texas for Cherokee County, the Texas Natural Diversity Database (TXNDD), and the *Information for Planning and Consultation (IPaC) - Official Species List* generated by the U.S. Fish and Wildlife Service. This information was used to complete the attached *Threatened and Endangered Species Habitat Study* report. In order to comply with the regulatory requirements for the assessment, Hydrex respectfully requests a review of the proposed project.

WILDLIFE HABITAT ASSESSMENT PROGRAM PROJECT REVIEW REQUEST
Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
USACE Project No. SWF-2021-00405
Hydrex Project No. A-12-1586

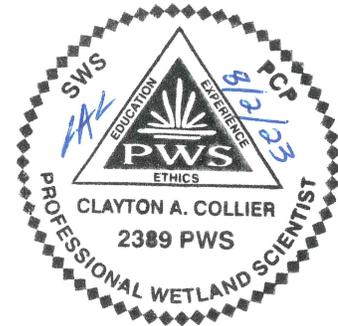
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We look forward to your timely response regarding the project review. Should you have any questions or need any additional information regarding this project, please feel free to contact me at (936) 568-9451 or ccollier@hydrex-inc.com.

Sincerely,
Hydrex Environmental



Clayton A. Collier, REM, PWS
Senior Environmental Scientist



ATTACHMENTS

Wildlife Habitat Assessment Program Project Review Request Form
Threatened and Endangered Species Habitat Survey

DISTRIBUTION

Texas Parks and Wildlife Department
Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, TX 78744-3291

Mr. Austin Sparks, P.E.
Environmental Manager – East Texas Area
Republic Services, Inc.
12920 FM 2767
Tyler, Texas 75708

Mr. Clayton A. Collier, REM, PWS
Senior Environmental Scientist
Hydrex Environmental
312 Old Tyler Road
Nacogdoches, Texas 75961

Project Coordination and Review Requests **(Including Threatened and Endangered Species)**

EARLY PROJECT COORDINATION

If you are in the information gathering phase of project coordination and assessment, *in lieu of* submitting a Project Review form or a letter request, you may obtain information from the following Texas Parks and Wildlife Department (TPWD) sources regarding sensitive resource information for use in your analyses. TPWD recommends you use at least the following two sources of information when analyzing for project impacts to sensitive resources, including before submitting a request for TPWD review and recommendations.

RARE, THREATENED, AND ENDANGERED SPECIES OF TEXAS BY COUNTY - This database includes lists of species known to occur and potentially occurring in Texas at the county level. It can be accessed online at: http://www.tpwd.state.tx.us/landwater/land/maps/gis/ris/endangered_species/ or by contacting our administrative staff at (512) 389-4571. Appropriate use and interpretation of the county level lists are the responsibility of the recipient.

TEXAS NATURAL DIVERSITY DATABASE (TXNDD) – The TXNDD is publicly available location specific data on rare, threatened and endangered species, natural communities and other significant features of conservation concern to TPWD. This information can be obtained by submitting a data request to txnnd@tpwd.state.tx.us. Response to a data request will include available TXNDD records, reports, and geographic information system compatible shapefiles of recorded locations for species and other rare resources on the U.S. Geological Survey (USGS) 7.5 minute topographic quadrangle of the project and surrounding area. Responses generally take a maximum of five business days from receipt of the request. Appropriate use and interpretation of TXNDD data are the responsibility of the recipient.

WILDLIFE HABITAT ASSESSMENT (WHAB) PROGRAM REVIEW

PROJECT REVIEW REQUESTS – The WHAB Program can provide a review of your assessment, after your analysis for impacts using the above two data sources. Please complete the WHAB Review Request form (attached; use Word format for fill-in version), or use the form as an outline of information to include with your letter request. The WHAB Program response will provide an evaluation of your environmental assessment for impacts to fish and wildlife and their habitats, including rare, threatened, and endangered species, other significant resources and concerns presently known or potentially occurring in the vicinity of your project. WHAB Program responses generally take 4 to 6 weeks on average from receipt, depending on the size of your request.

The request should include all the information listed on the next two pages and be sent to the address shown on the last page. The more pertinent information you provide, the more customized our review, and the faster our turnaround. Review requests submitted without adequate project detail may cause a delay in our response as we will need to contact you and wait for supplemental information. The potential for adverse impacts to natural resources from project activities varies based on the type of activity; location; season; vegetation; present physical features (both natural and man-made); degree of disturbance; planned avoidance, minimization, mitigation, enhancement, and restoration measures; species-specific tolerance levels; etc. Current color photographs and aerial photographs of the site greatly facilitate the review process. Complete information allows us to more accurately assess the potential for project impacts, as well as, assists us in narrowing the list of rare, threatened, and endangered species and other natural resources that may need to be addressed further.



WILDLIFE HABITAT ASSESSMENT PROGRAM

Review Requests

(Including Threatened and Endangered Species)

Name: Clayton A. Collier, REM, PWS Date: 06/17/2023
Your Company: Hydrex Environmental Phone: (936) 568-9451
Your Company Address: 312 Old Tyler Rd. Fax: (936) 568-9527
City, State, Zip: Nacogdoches, Texas, 75961 E-mail: ccollier@hydrex-inc.com

Project Title, Number and Site Location: Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Jacksonville, TX County(ies): Cherokee County

1. Scope of Project:

(a) What regulations will this review help you to comply with? OR, if not regulatory, why is the review being requested? Who is the project sponsor?

This request is being submitted in accordance with the requirements set forth in 30 TAC 330.63(b)(5) in order to address potential impacts to threatened and endangered species.

(b) What and where is the project site? What activities will be conducted at the site? (Especially activity types, extent, boundaries, length & width, waterways, vegetation disturbance, and total acreage of site and acreage of the site that will be disturbed)

The Royal Oaks Landfill is an existing municipal solid waste landfill permitted through the TCEQ. The proposed +/- 48-acre landfill expansion project site is located on the east side of the existing landfill. A significant portion of the area proposed for expansion is already utilized for soil borrow pits and landfill access. The proposed Royal Oaks Landfill Expansion components include construction of waste disposal cells, stormwater control structures, and an access road bounding the waste disposal cells.

(c) If this request is for a site investigation or risk assessment, why is the site being investigated? If applicable, what contaminant pathways are being evaluated?

The site is being investigated to determine potential impacts to threatened or endangered species.

(d) Schedule of activities – Approximately when (which calendar months, how many years) will the project be active on the site?

Activities at the project site are expected to be initiated in 2024.

2. Vegetation: Species, dominant plants, structure and composition, vegetation layers, height of layers, natural vegetation community types.

The 48-acre expansion area is comprised of ~20 acres of upland forest, 0.37 areas of scrub-shrub wetlands, and the remaining area includes soil borrow pits, power line ROWs, a detention basin, and disturbed areas devoid of woody vegetation. The upland forest is generally dominated by short-leaf pine (*Pinus echinata*), post oak (*Quercus stellata*), and sweetgum (*Liquidambar styraciflua*). Understory in the upland forest is dominated by Chinese privet (*Ligustrum sinense*), eastern red cedar (*Juniperus virginiana*), winged sumac (*Rhus copallinum*), yaupon holly (*Ilex vomitoria*) and rusty blackhaw (*Viburnum rufidulum*). The scrub-shrub wetland is dominated by black willow saplings (*Salix nigra*) and cattail (*Typha domingensis*) and giant goldenrod (*Solidago gigantea*).

3. Other Natural Resources/Physical Features:

(a) Soils, geology, watercourses, aquifers, flood zones, etc.

Geologic outcrops in the expansion area consist of the Weches Formation and Queen City Sand. Soils across the expansion area are comprised of Bub-Trawick complex and Pits. The headwaters of Barbers Branch begins on the property. Impacts from the expansion project will include 518 LF of ephemeral stream and 462 LF of intermittent stream. The entire expansion area is located within Zone X, outside the 500-year floodplain.

(b) Habitat, animals, animal assemblages, other sensitive features, etc.

No unique habitats, animals, animal assemblages, or other sensitive features were identified during the habitat survey of the project site.

4. **Existing Site Development:** Extent of pavement, gravel, shell, or other cover; buildings, landscaped, xeriscaped, drainage system, etc.

Portions of the expansion area are currently used as soil borrow pits, stormwater ditches and detention, and utility ROWs.

5. **Historic Use/Function of Site:** Pasture, forest, urban, row crops, rangeland, wetland, etc. If the request is for a risk assessment, when was, or for how long, has the site been active, inactive? Are cultural resources present on the site or will the project cross or impact state or federal lands, local parklands?

Portions of the expansion area has been previously developed and is actively used for operations supporting the existing adjacent landfill.

6. **Has a threatened and endangered species survey or assessment,** wetland delineation, or other biological assessment already been performed? (In general, TPWD recommends an on-site habitat assessment be performed.) Yes No

(a) If yes, provide surveyor name, qualifications, methods or protocols, acreage surveyed, level of effort, weather conditions, time of day, and dates the survey was performed.

Hydrex Environmental. Reference the Threatened and Endangered Species Habitat Study report attached. Maps and site photographs are included with the report. Hydrex Environmental also conducted a Delineation of Waters of the U.S., including wetlands.



WILDLIFE HABITAT ASSESSMENT PROGRAM

Review Requests (Continued)

(Including Threatened and Endangered Species)

6. (b) If yes, please provide results and copy of survey/assessment report.

7. **Could current on-site or adjacent habitat support rare species?** Yes No
Specifically, explain why or why not.

Due to the activities currently taking place on the expansion area, and its close proximity to an existing landfill, areas that could provide habitat to rare species were not identified and are unlikely to be present.

8. **Provide a description of potential negative direct and indirect impacts** from proposed project activities or former and current site activities, such as types of habitat and acreage to be degraded or lost, temporarily and permanently. Also, describe cumulative effects that could be anticipated from the project on the natural environment.

The landfill expansion will encompass approximately 48 acres of land, including 0.37 acres of scrub-shrub wetlands, 518 LF of ephemeral stream, and 462 LF of intermittent stream. Expansion of an existing landfill will result in significantly less impacts to the environment than creation of a new solid waste landfill at a different site.

9. **Provide a description of planned beneficial mitigation and enhancements** or restoration efforts. Be sure to note the avoidance, minimization, and compensatory mitigation measures planned to address the threat of negative impacts (e.g. which erosion control measures will be used, what will site restoration activities encompass, etc.).

In order to avoid the destruction or adverse modification of the critical habitat of endangered or threatened species, contractors will take precautions to avoid listed species. These recommendations are listed below.

Best management practices should be implemented for all erosion controls. Appropriate soil and erosion controls should be used and maintained in effective operating conditions during construction in order to stabilize disturbed areas and all exposed soils. Any erosion or seed/mulch stabilization materials to be used for this project should not present entanglement hazards to lizards, snakes, and other wildlife species.

The Migratory Bird Treaty Act (MBTA) prohibits the take of protected migratory bird species without prior authorization by the U.S. Fish and Wildlife Service (USFWS). Therefore, Hydrex personnel reviewed the property for the presence of migratory birds and their suitable habitat. During the initial site visits, no migratory birds, nor their nests, were observed. Site conditions indicate that the use of the property for migratory birds is not likely. Therefore, it is unlikely that any nests will be impacted within the project area.

10. **Include copies of coordination with other agencies** relevant to impacts or enhancements of natural resources for this project, or agency & contact name.

11. **Clearly delineate exact location of site and its boundaries** using an applicable USGS quad (most preferable) as the base layer or best map available. The topographic map citation should include the USGS quad name. The map must contain identifiable features and a scale that allows us to find your site **and** accurately pinpoint your site boundaries. When using internet maps, provide both a location map (zoomed out for highway reference) and a layout map (zoomed in for site features, boundaries, and neighboring street reference).

12. **Originals or color-copy photographs** of site and surrounding area with captions or narratives.

13. **Aerial photographs with pertinent features labeled.** Aerials should show the year photograph was taken.

Send completed form to:

Texas Parks and Wildlife Department

Wildlife Division
Wildlife Habitat Assessment Program
4200 Smith School Road
Austin, Texas 78744-3291
(512) 389-4571 (Phone) (512) 389-4599 (Fax)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 552.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected.

**THREATENED AND ENDANGERED
SPECIES HABITAT STUDY**

**ROYAL OAKS LANDFILL
PROPOSED EXPANSION +/- 48 ACRES**

CHEROKEE COUNTY, TEXAS

**USACE Project No.: SWF-2021-00405
Hydrex Project No. A-12-1586**

Report Date: August 2, 2023

Prepared for:

**Mr. Austin Sparks, P.E.
Environmental Manager – East Texas Area
Republic Services, Inc.
12920 FM 2767
Tyler, Texas 75708**

Prepared by:

**Hydrex Environmental
312 Old Tyler Road
Nacogdoches, Texas 75961
(936) 568-9451 FAX (936) 568-9527**



August 2, 2023

Mr. Austin Sparks, P.E.
Environmental Manager – East Texas Area
Republic Services, Inc.
12920 FM 2767
Tyler, Texas 75708

RE: THREATENED AND ENDANGERED SPECIES HABITAT STUDY
Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
USACE Project No. SWF-2021-00405
Hydrex Project No. A-12-1586

Dear Mr. Sparks,

Hydrex Environmental (Hydrex) has been contracted by Republic Services, Inc. (Republic) to complete a threatened and endangered species habitat study at the above-referenced project site. This report presents a summary of our findings, conclusions, and recommendations.

INTRODUCTION

The project in review consists of an approximate 144-acre property that includes the existing permitted landfill of 96 acres and the proposed landfill expansion area of 48 acres. The project is situated within the city limits of Jacksonville along Heath Lane (CR 4102). The approximate NAD83 geographic coordinates for the site entrance and area delineated are as follows: N 32.002444, W 95.268041.

The majority of the existing landfill has been previously disturbed due to development of the site as an active municipal solid waste (MSW) landfill. Development most notably consists of current and completed waste disposal cells, roads, a scale house, main office, maintenance shop, and stormwater control features. Current development within the expansion area consists of soil borrow areas, stormwater control features, roads, and a powerline right-of-way.

Republic proposes to horizontally expand the landfill and construct new waste cells in the area located east of the current limits of waste. The primary purpose of this study was to determine the potential of the proposed landfill expansion to affect any federal- or state-listed threatened and endangered species for Cherokee County, Texas, or their critical habitat.

METHODS AND PROCEDURES

Hydrex performed a preliminary habitat study for all federal- and state-listed species for Cherokee County, Texas. Federal-listed species were provided by the *Official Species List* generated through the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online system, while state-listed and rare species were provided by Texas Parks and Wildlife Department (TPWD) (Attachment C). The TPWD Texas Natural Diversity Database (TXNDD) for the area was also reviewed for known pre-existing rare, threatened, and endangered plants, animals, natural communities, and animal aggregations near the project site.

As part of the preliminary habitat study, Hydrex performed a desktop review of readily available maps and aerial photographs in order to determine the potential for each listed species based on habitat descriptions provided by TPWD. The following sources were utilized:

- USGS 7.5 Minute Topographic Quadrangle Map: Mount Selman and Jacksonville West, TX 1986.
- Soil Survey Data for Cherokee County; NRCS.
- Aerial Photographs: 1947 USGS; 1957 USGS; 1971 USGS; 1980 USGS; 1996 USGS/TOP; 2004 NAIP/TOP; 2009 NAIP/TOP; 2015 TOP; 2011 BING; 2018 NAIP; 2020 NAIP.
- FEMA Flood Insurance Rate Map: Panel Nos. 48073C175D and 48073C0285D, effective 1/6/2011.
- Light Detection and Ranging (LiDAR) Data: USGS, 2016.

The results of the preliminary habitat study identified species that could not be ruled out based on a desktop review. Therefore, a site reconnaissance was performed on April 4, 2023 to visually inspect the project site for listed individuals and their associated habitat.

FINDINGS

Field activities associated with this survey were performed by Hydrex personnel on June 10, 2021, July 15, 2021, and February 28, 2023. Twenty (21) listed species, their federal and state status, and a description of their habitat are presented in Table 1 below. Table 1 also presents the determination made by Hydrex regarding the potential for the presence of species' habitat and the potential for this project to have an effect on a listed species. Site maps of the project area are included in Attachment A. Photographs representing site conditions at the time of the assessment are included in Attachment B.

Table 1. Threatened and Endangered Species Listed for Cherokee County, Texas by USFWS and TPWD.

Scientific Name	Common Name	Federal Status*	State Status*	Habitat Description	Potential Habitat Present		Potential Effect on Species
					Desktop Review	Field Survey	
Birds							
<i>Peucaea aestivalis</i>	Bachman's Sparrow	NL	T	Open pine woods with scattered bushes and grassy understory in Pineywoods region, brushy or overgrown grassy hillsides, overgrown fields with thickets and brambles, grassy orchards; remnant grasslands in Post Oak Savannah region; nests on ground against grass tuft or under low shrub.	No	No	No Effect

Scientific Name	Common Name	Federal Status*	State Status*	Habitat Description	Potential Habitat Present		Potential Effect on Species
					Desktop Review	Field Survey	
<i>Charadrius melodus</i>	Piping Plover	LT	T	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.	No	No	No Effect
<i>Picoides borealis</i>	Red-cockaded Woodpecker	LE	E	Cavity nests in older pine (60+ years); forages in younger pine (30+ years); prefers longleaf, shortleaf, and loblolly.	No	No	No Effect
<i>Elanoides forficatus</i>	Swallow-tailed Kite	NL	T	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.	No	No	No Effect
<i>Plegadis chihi</i>	White-faced Ibis	NL	T	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.	No	No	No Effect
<i>Mycteria americana</i>	Wood Stork	NL	T	Prefers to nest in large tracts of bald cypress (<i>Taxodium distichum</i>) or red mangrove (<i>Rhizophora mangle</i>); 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.	No	No	No Effect
Fishes							
<i>Polyodon spathula</i>	Paddlefish	NL	T	Species occurred in every major river drainage from the Trinity Basin eastward, but its numbers and range had been substantially reduced by the 1950's; recently reintroduced into Big Cypress drainage upstream of Caddo Lake. Prefers large, free-flowing rivers but will frequent impoundments with access to spawning sites.	No	No	No Effect
<i>Erimyzon claviformis</i>	Western Creek Chubsucker	NL	T	Eastern Texas streams from the Red River to the San Jacinto drainage. Habitats include 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.	No	No	No Effect
Mammals							
<i>Ursus americanus</i>	Black bear	NL	T	Generalist. Historically found throughout Texas. In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. <i>luteolus</i> , bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas	No	No	No Effect
<i>Urus americanus luteolus</i>	Louisiana Black Bear	NL	T	Bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Possible as transient; bottomland hardwoods and large tracts of inaccessible forested areas.	No	No	No Effect
<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat	NL	T	Historically, lowland pine and hardwood forests with large hollow trees. roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures.	Yes	No	No Effect

Mollusks							
<i>Pleurobema riddellii</i>	Louisiana Pigtoe	NL	T	Streams and moderate-size rivers, usually flowing water on substrates of mud, sand, and gravel; not generally known from impoundments; Sabine, Neches, and Trinity (historic) River basins.	No	No	No Effect
<i>Lampsilis satura</i>	Sandbank Pocketbook	NL	T	Small to large rivers with moderate flows and swift current on gravel, gravel-sand, and sand bottoms; east Texas, Sulfur south through San Jacinto River basins; Neches River.	No	No	No Effect
<i>Obovaria arkansasensis</i>	Southern Hickorynut	NL	T	Clay, sand, and medium sized gravel substrates with low to moderate current; Neches, Sabine, and Cypress river basins.	No	No	No Effect
<i>Potamilus amphichaenus</i>	Texas Heelsplitter	NL	T	Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters, and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt, or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019]	No	No	No Effect
<i>Fusconaia askewi</i>	Texas Pigtoe	NL	T	Occurs in small streams to large rivers, usually in water with at least some current; not known from reservoirs. Found in a variety of habitats but most common in riffles. Inhabits various substrates though most often sand, gravel, and cobble (Howells 2010a; Randklev et al. 2013b; Randklev et al. 2014a; Troia et al 2015). [Mussel of Texas 2019].	No	No	No Effect
Reptiles							
<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	NL	T	Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.	No	No	No Effect
<i>Pituophis ruthveni</i>	Louisiana Pine Snake	LT	T	Terrestrial: Deep sandy soils with large stands of well-managed long leaf pine woodlands.	Yes	No	No Effect
<i>Cemophora coccinea</i>	Northern Scarlet Snake	NL	T	Terrestrial: Prefers well drained soils with pine, hardwood, or mixed hardwood scrub in addition to open grassland habitats with appropriate soils.	Yes	No	No Effect
<i>Phrynosoma cornutum</i>	Texas Horned Lizard	NL	T	Occurs to 6000 feet, but largely limited below the pinyon-juniper zone on mountains in the Big Bend area. Open, arid and semi-arid regions with sparse vegetation, including grass, 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; breeds March-September.	No	No	No Effect
Plants							
<i>Hibiscus dasycalyx</i>	Neches River rose mallow	LT	T	Open marshy habitats in seasonally wet alluvial soils, most often near standing rather than flowing water; flowering June-August.	No	No	No Effect

PT= Potentially Threatened, LT or T=Threatened, LE or E=Endangered, C=Candidate, DL=Delisted, NL=Not Listed (Status as of January 2023)
Light blue cells indicate federal-listed species.

All twenty (21) federal- and state-listed species, as presented on Table 1, were given a “no effect” determination due to one or more of the following reasons.

- The habitat study revealed no suitable habitat for the species following a field investigation.
- The existing habitat is currently fenced in and receives traffic and disturbance from the existing landfill.

Therefore, the project area does not consist of suitable or high quality habitat for any federal- or state-listed species.

Although a “no effect” determination was given for these twenty (21) species, if any federal- or state-listed species are encountered during construction activities, the species must be allowed to safely leave the site or TPWD should be contacted to translocate the species to suitable habitat.

The TXNDD, provided by TPWD, indicates the project site is located approximately 1.1 miles north of a documented occurrence of a species of greatest conservation need (SGCN): blackspot shiner (*Notropis atrocaudalis*). The blackspot shiner is not a federal- or state-listed species. We believe the project site has no suitable habitat for blackspot shiner.

CONCLUSIONS AND RECOMMENDATIONS

The project in review consists of an approximate 144-acre property that includes the existing permitted landfill of 96 acres and the proposed landfill expansion area of 48 acres. The project is situated within the city limits of Jacksonville along Heath Lane (CR 4102). The majority of the existing landfill has been previously disturbed due to development of the site as an active municipal solid waste (MSW) landfill. Current development within the expansion area consists of soil borrow areas, stormwater control features, roads, and a powerline right-of-way.

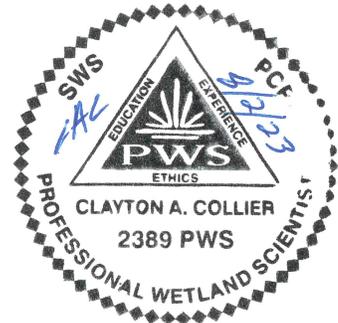
Based on the results of the threatened and endangered species habitat study, all twenty (21) listed federal- and state-listed species for Cherokee County, TX were given a "no effect" determination.

We appreciate the opportunity to present this information. If you have any questions regarding these findings, or if further clarification is necessary, please feel free to contact me at ccollier@hydrex-inc.com or (936) 568-9451. I look forward to working with you in the future.

Sincerely,
Hydrex Environmental



Clayton A. Collier, REM, PWS
Senior Environmental Scientist



ATTACHMENTS

Attachment A PLATES

Plate A-1	USGS Topographic Map
Plate A-2	Site Map (2020 Aerial Photograph)
Plate A-3	NRCS Soil Survey Map
Plate A-4	National Wetlands Inventory Map
Plate A-5	TXNDD Habitat Map

Attachment B PHOTOGRAPHIC DOCUMENTATION

Attachment C USFWS & TPWD DOCUMENTS

USFWS Information for Planning and Conservation (IPaC) Official Species List
TPWD Annotated County List for Cherokee County

Attachment D CONSULTANT QUALIFICATIONS

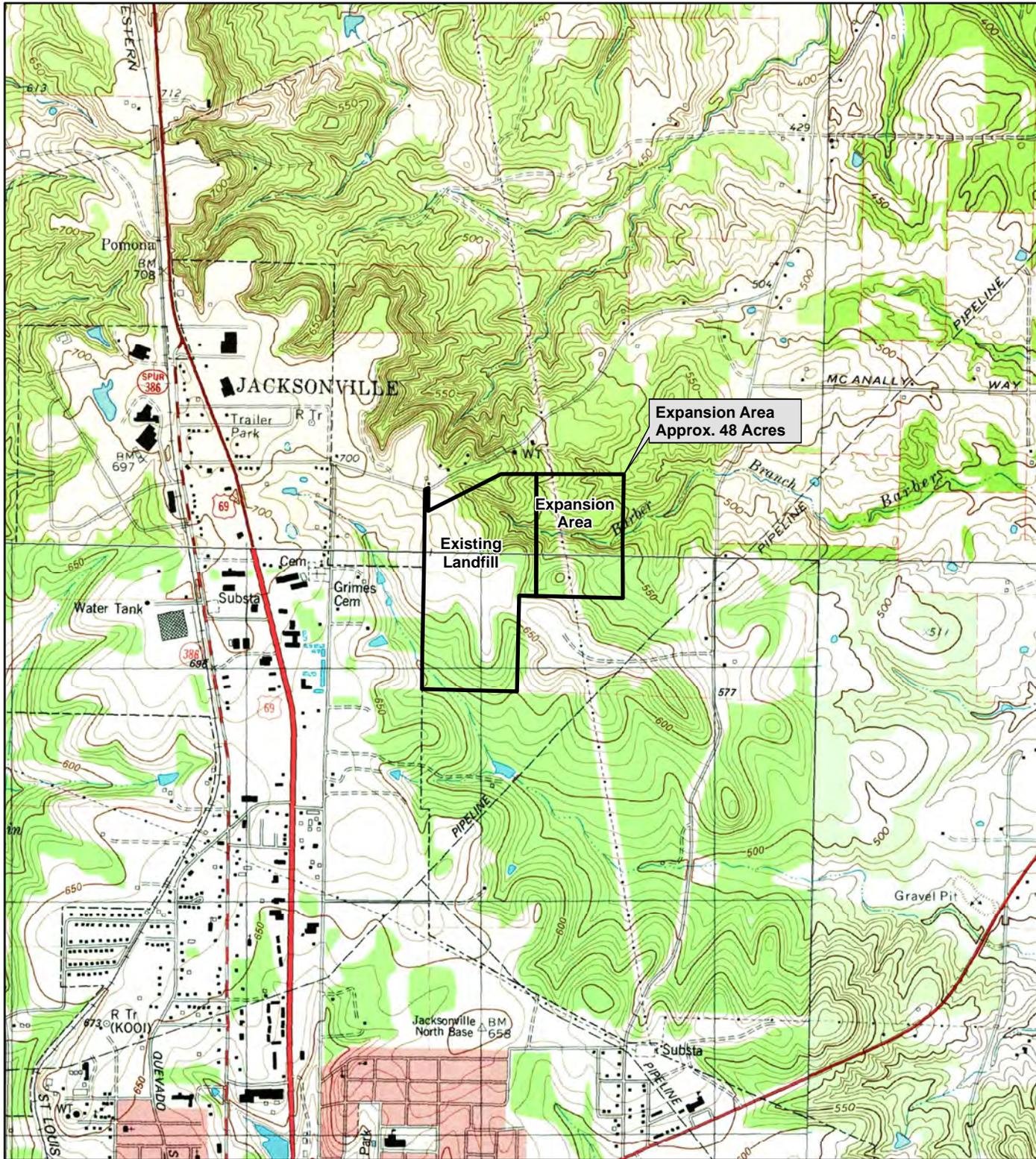
DISTRIBUTION

Mr. Austin Sparks, P.E.
Environmental Manager – East Texas Area
Republic Services, Inc.
12920 FM 2767
Tyler, Texas 75708

Mr. Clayton A. Collier, REM, PWS
Senior Environmental Scientist
Hydrex Environmental
312 Old Tyler Road
Nacogdoches, Texas 75961

ATTACHMENT A
PLATES

BASMAP SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAP (JACKSONVILLE EAST, TX 1976; JACKSONVILLE WEST, TX 1982; TECUILA, TX 1976; MOUNT SELMAN, TX 1976)



Expansion Area
Approx. 48 Acres

Existing
Landfill

Expansion
Area

□ Delineation Area

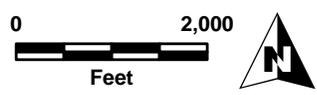
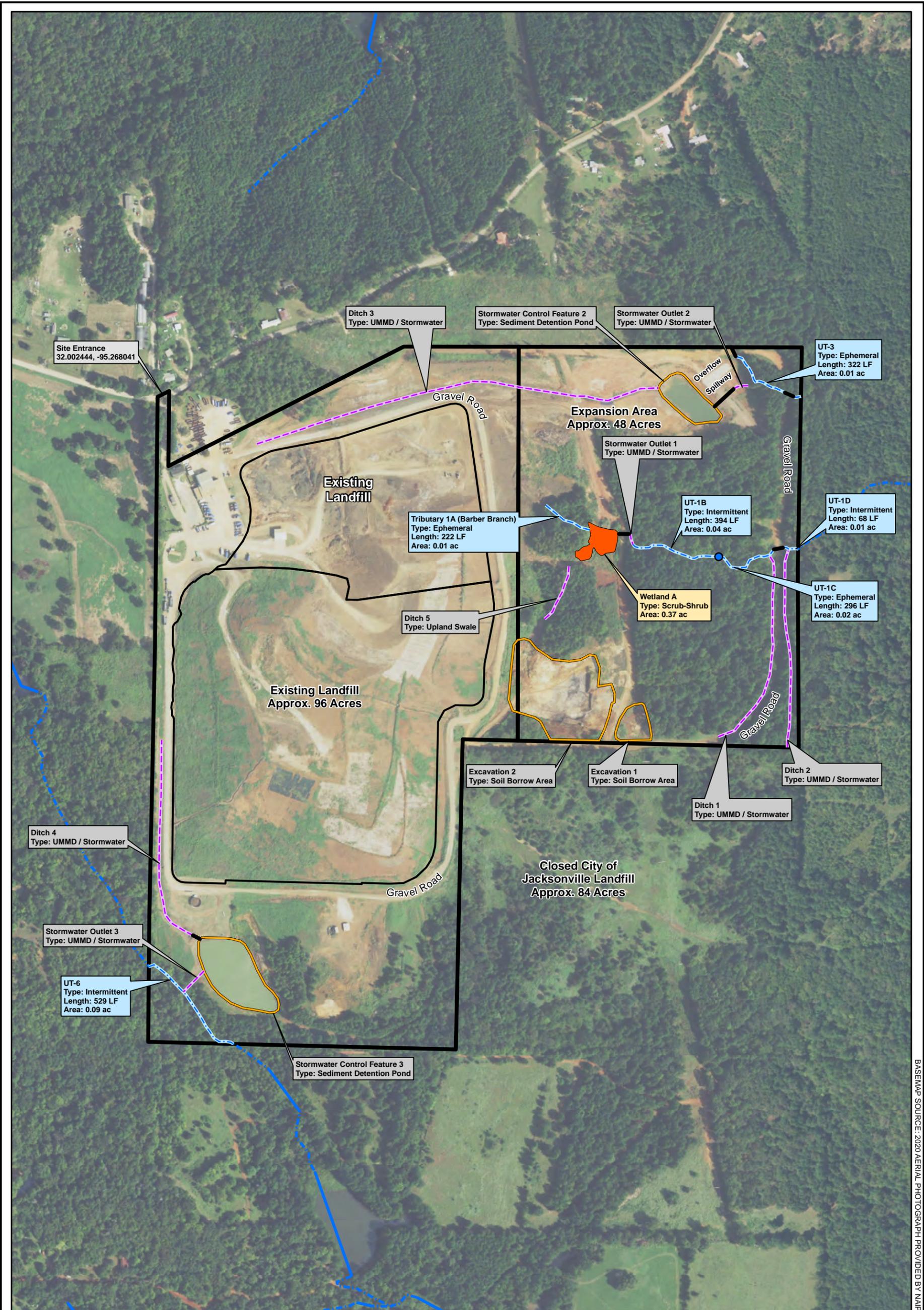


PLATE A-1
USGS TOPOGRAPHIC MAP

Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
Threatened and Endangered Species Habitat Study
Map Revised: 07/12/2023 | Project Number: A-12-1509 | GIS Analyst: DTM



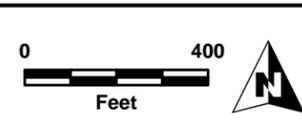
BASEMAP SOURCE: 2020 AERIAL PHOTOGRAPH PROVIDED BY NAPI

Current Limits Of Waste	Delineated Scrub-Shrub Wetland	Delineated Ephemeral Stream	USGS NHD Perennial Stream
Property Boundary	Landfill Excavations	Delineated Intermittent Stream	USGS NHD Intermittent Stream
		Upland Man-Made Ditch (UMMD) / Stormwater	
		Culvert	



PLATE A-2

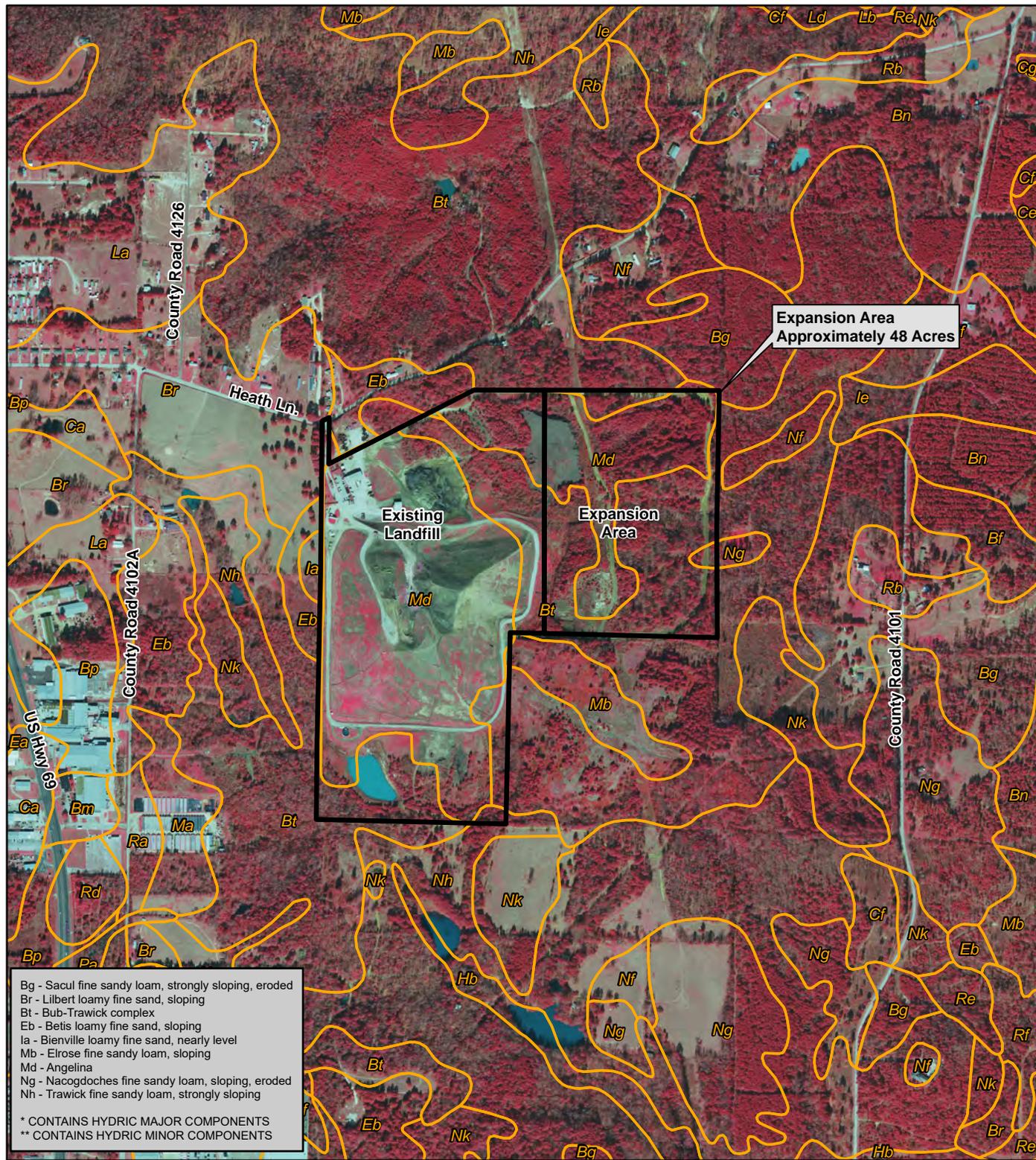
SITE MAP (2020 AERIAL PHOTOGRAPH)



Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
Threatened and Endangered Species Habitat Study

Map Revised: 07/12/2023 | Project Number: A-12-1509 | GIS Analyst: DTM

BASEMAP SOURCE: 2015 AERIAL CIR PHOTOGRAPH PROVIDED BY TOP; SOIL SURVEY DATA PROVIDED BY NRCS; TRANSPORTATION BY TIGER

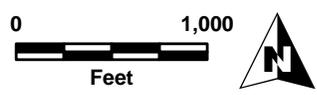


Bg - Sacul fine sandy loam, strongly sloping, eroded
 Br - Libert loamy fine sand, sloping
 Bt - Bub-Trawick complex
 Eb - Betis loamy fine sand, sloping
 Ia - Bienville loamy fine sand, nearly level
 Mb - Elrose fine sandy loam, sloping
 Md - Angelina
 Ng - Nacogdoches fine sandy loam, sloping, eroded
 Nh - Trawick fine sandy loam, strongly sloping

* CONTAINS HYDRIC MAJOR COMPONENTS
 ** CONTAINS HYDRIC MINOR COMPONENTS

Delineation Area
 NRCS Soil Map Unit

*NRCS correspondence with the Bryan, Texas Soil Survey office has confirmed a mapping error from the web soil survey for the subject property. Soil mapping unit polygons labeled "Md - Angelina Series" should be labeled "Pits" and correlate with landfill development. According to the NRCS, an error was made when transposing the paper soil survey to digital format. The map correction has been made to Plate A-6, and the web soil survey is to be updated within the next year or so based on correspondence with NRCS.

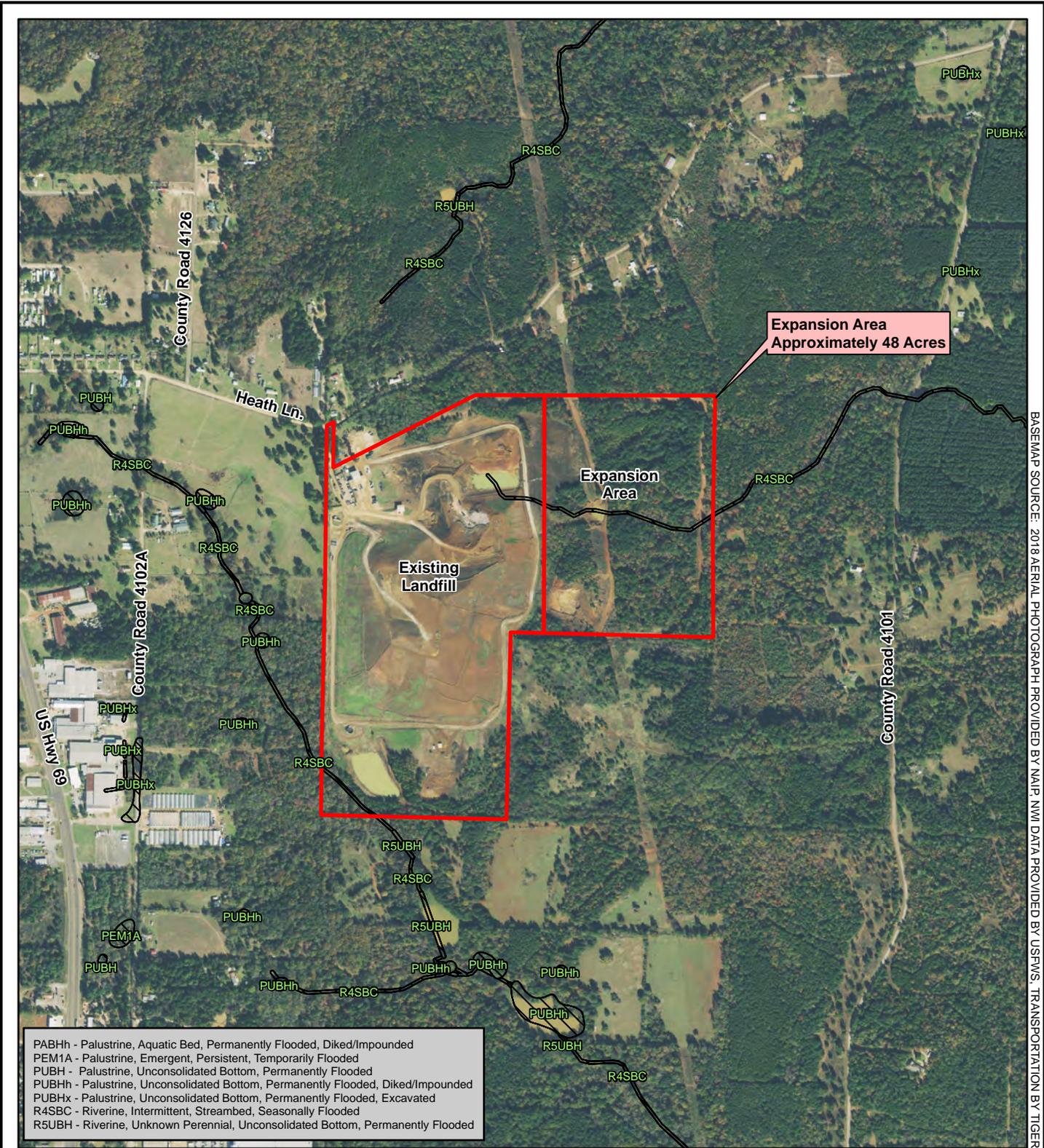


← PLATE A-3 →

NRCS SOIL SURVEY MAP

Royal Oaks Landfill
 Proposed Expansion +/- 48 Acres
 Cherokee County, Texas
 Threatened and Endangered Species Habitat Study

Map Revised: 07/12/2023 Project Number: A-12-1509 GIS Analyst: DTM



BASEMAP SOURCE: 2018 AERIAL PHOTOGRAPH PROVIDED BY NAIP. NWI DATA PROVIDED BY USFWS. TRANSPORTATION BY TIGER

**Expansion Area
Approximately 48 Acres**

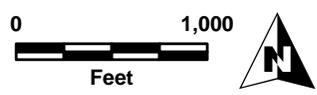
Expansion Area

Existing Landfill

- PABHh - Palustrine, Aquatic Bed, Permanently Flooded, Diked/Impounded
- PEM1A - Palustrine, Emergent, Persistent, Temporarily Flooded
- PUBH - Palustrine, Unconsolidated Bottom, Permanently Flooded
- PUBHh - Palustrine, Unconsolidated Bottom, Permanently Flooded, Diked/Impounded
- PUBHx - Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated
- R4SBC - Riverine, Intermittent, Streambed, Seasonally Flooded
- R5UBH - Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded

Delineation Area

NWI Wetlands



Hydrex
ENVIRONMENTAL

1120 NW Stallings Drive
Nacogdoches, Texas 75964
(936) 568-9451

PLATE A-4

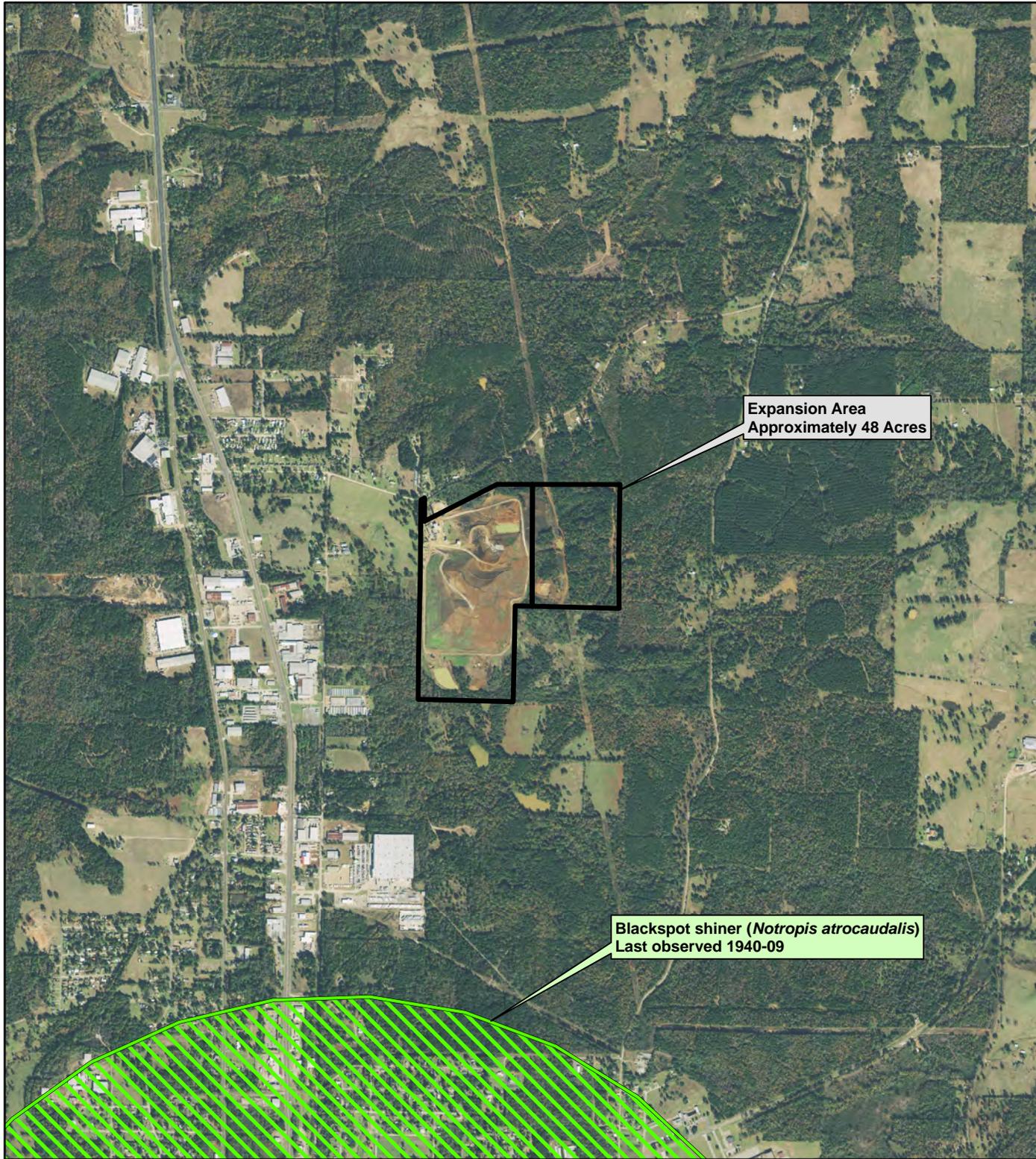
←—————→

NATIONAL WETLANDS INVENTORY MAP

Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
Threatened and Endangered Species Habitat Study

Map Revised: 07/12/2021	Project Number: A-12-1509	GIS Analyst: SMD
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BASMAP SOURCE: 2018 AERIAL CIR PHOTOGRAPH PROVIDED BY NAMP. CRITICAL HABITAT PROVIDED BY USFWS. ELEMENT OCCURRENCE PROVIDED BY TXNDD



Expansion Area
Approximately 48 Acres

Blackspot shiner (*Notropis atrocaudalis*)
Last observed 1940-09

- Delineation Area
- TXNDD Element Occurrence

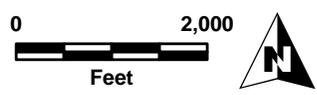


PLATE A-5
TXNDD HABITAT MAP

Royal Oaks Landfill
Proposed Expansion +/- 48 Acres
Cherokee County, Texas
Threatened and Endangered Species Habitat Study

Map Revised: 07/12/2023 Project Number: A-12-1509 GIS Analyst: DTM

ATTACHMENT B
PHOTOGRAPHIC DOCUMENTATION

Site Photographs



Representative photo in the southeastern portion of the expansion area.



Representative photo in the northeastern portion of the expansion area.



Representative photo in the northwestern portion of the expansion area.



Representative photo in the southwestern portion of the expansion area.

Site Photographs



Representative photo in the central portion of the expansion area.



Photo showing the stream outfall at the eastern expansion area boundary.



Representative photo looking east into the expansion area.



Representative photo of site disturbance located throughout the expansion area.

ATTACHMENT C
USFWS & TPWD DOCUMENTS



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arlington Ecological Services Field Office
501 West Felix Street
Suite 1105
Fort Worth, TX 76115-3410
Phone: (817) 277-1100 Fax: (817) 277-1129
Email Address: arles@fws.gov

In Reply Refer To:
Project Code: 2023-0067222
Project Name: Royal Oaks Landfill - Proposed Expansion

July 03, 2023

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 enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, which may occur within the boundary of your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under section 7(a)(1) of the Act, Federal agencies are directed to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Under and 7(a)(2) and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether their actions may affect threatened and endangered species and/or designated critical habitat. A Federal action is an activity or program authorized, funded, or carried out, in whole or in part, by a Federal agency (50 CFR 402.02).

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For Federal actions other than major construction activities, the Service suggests that a biological evaluation (similar to a Biological Assessment) be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

After evaluating the potential effects of a proposed action on federally listed species, one of the following determinations should be made by the Federal agency:

1. *No effect* - the appropriate determination when a project, as proposed, is anticipated to have no effects to listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, the action agency should maintain a complete record of their evaluation, including the steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information.
2. *May affect, but is not likely to adversely affect* - the appropriate determination when a proposed action's anticipated effects to listed species or critical habitat are insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where "take" of a listed species occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur. This determination requires written concurrence from the Service. A biological evaluation or other supporting information justifying this determination should be submitted with a request for written concurrence.
3. *May affect, is likely to adversely affect* - the appropriate determination if any adverse effect to listed species or critical habitat may occur as a consequence of the proposed action, and the effect is not discountable or insignificant. This determination requires formal section 7 consultation.

The Service has performed up-front analysis for certain project types and species in your project area. These analyses have been compiled into *determination keys*, which allows an action agency, or its designated non-federal representative, to initiate a streamlined process for determining a proposed project's potential effects on federally listed species. The determination keys can be accessed through IPaC.

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found at: <https://www.fws.gov/service/section-7-consultations>

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>). Additionally, wind energy projects should follow the wind energy guidelines (<https://www.fws.gov/media/land-based-wind-energy-guidelines>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation>. The Federal Aviation Administration (FAA) released specifications for and made mandatory flashing L-810 lights on new towers 150-350 feet AGL, and the elimination of L-810 steady-burning side lights on towers above 350 feet AGL. While the FAA made these changes to reduce the number of migratory bird collisions (by as much as 70%), extinguishing steady-burning side lights also reduces maintenance costs to tower owners. For additional information concerning migratory birds and eagle conservation plans, please contact the Service's Migratory Bird Office at 505-248-7882.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arlington Ecological Services Field Office

501 West Felix Street

Suite 1105

Fort Worth, TX 76115-3410

(817) 277-1100

PROJECT SUMMARY

Project Code: 2023-0067222

Project Name: Royal Oaks Landfill - Proposed Expansion

Project Type: Landfill - Solid Waste

Project Description: Proposed expansion of the existing landfill, encompassing approximately 48 acres. Expansion will include construction of additional landfill cells, new stormwater controls, and other features as needed.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@32.00089425,-95.26107624027327,14z>



Counties: Cherokee County, Texas

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 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 Fisheries¹, 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.

MAMMALS

NAME	STATUS
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location does not overlap the critical habitat. This species only needs to be considered under the following conditions: <ul style="list-style-type: none">▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> There is proposed critical habitat for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none">▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Red-cockaded Woodpecker <i>Picoides borealis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7614	Endangered

REPTILES

NAME	STATUS
Alligator Snapping Turtle <i>Macrochelys temminckii</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

CLAMS

NAME	STATUS
Louisiana Pigtoe <i>Pleurobema riddellii</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/10233	Proposed Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

FLOWERING PLANTS

NAME	STATUS
Neches River Rose-mallow <i>Hibiscus dasycalyx</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1441	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

MIGRATORY BIRDS

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

-
1. The [Migratory Birds Treaty Act](#) of 1918.
 2. The [Bald and Golden Eagle Protection Act](#) of 1940.
 3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds Sep 1 to Jul 31
Brown-headed Nuthatch <i>Sitta pusilla</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jul 15
Chimney Swift <i>Chaetura pelagica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25

NAME	BREEDING SEASON
Prothonotary Warbler <i>Protonotaria citrea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker <i>Melanerpes erythrocephalus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10
Wood Thrush <i>Hylocichla mustelina</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is $0.25/0.25 = 1$; at week 20 it is $0.05/0.25 = 0.2$.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)

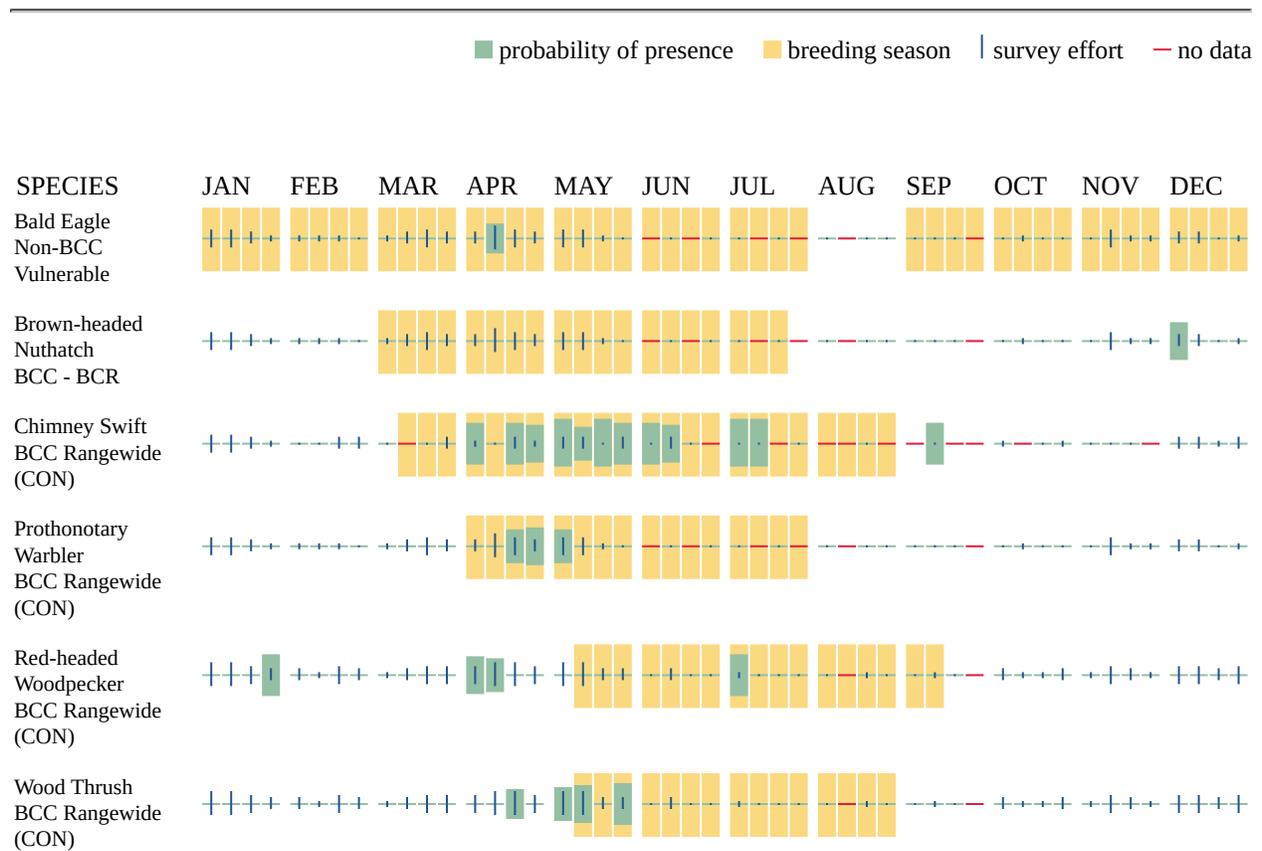
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (-)

A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>

- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

MIGRATORY BIRDS FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look

at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be

aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

WETLANDS

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- [R4SBC](#)

IPAC USER CONTACT INFORMATION

Agency: Hydrex Environmental
Name: Daniel Morgan
Address: 312 Old Tyler Road
City: Nacogdoches
State: TX
Zip: 75961
Email: dtmorgan2393@gmail.com
Phone: 9365689451

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers
Name: Fred Land

Last Update: 1/4/2023

CHEROKEE COUNTY

AMPHIBIANS

eastern tiger salamander *Ambystoma tigrinum*

Terrestrial adults generally occur under cover objects or in burrows surrounding a variety of lentic freshwater habitats, such as ponds, lakes, bottomland wetlands, or upland ephemeral pools. The specific terrestrial habitats are also varied and the occurrence of this species seems to be more closely associated with sandy, loamy or other soils which have easy burrowing properties, rather than any particular ecological system type. Requires fishless breeding pools for successful reproduction.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

Gulf Coast waterdog *Necturus beyeri*

This species is associated with permanent flowing water within forested habitats, from small streams to large rivers. They are frequently associated with slow moving, sandy bottomed spring fed streams with lots of aquatic habitat such as log jams and leaf litter beds.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: GNR State Rank: S3

southern crawfish frog *Lithobates areolatus areolatus*

Terrestrial and aquatic: The terrestrial 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

spotted dusky salamander *Desmognathus conanti*

This species occurs in association with aquatic habitats in forested areas. Small, clear, spring fed streams with sandy substrate bordered with ferns and moss as well as murky, stagnant water bodies in cypress swamps, baygalls, and flood plains in bottomland forests support populations of this species.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S1

Strecker's chorus frog *Pseudacris streckeri*

Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

BIRDS

Bachman's sparrow *Peucaea aestivalis*

Open pine woods with scattered bushes and grassy understory in Pineywoods region, brushy or overgrown grassy hillsides, overgrown fields with thickets and brambles, grassy orchards; remnant grasslands in Post Oak Savannah region; nests on ground against grass tuft or under low shrub

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G3 State Rank: S1B

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CHEROKEE COUNTY

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

Franklin's gull *Leucophaeus pipixcan*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2N

piping plover *Charadrius melodus*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Beaches, sandflats, and dunes along Gulf Coast beaches and adjacent offshore islands. Also spoil islands in the Intracoastal Waterway. Based on the November 30, 1992 Section 6 Job No. 9.1, Piping Plover and Snowy Plover Winter Habitat Status Survey, algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low-very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast. However, beaches are probably a vital habitat along the central and northern coast (i.e. north of Padre Island) during periods of extreme high tides that cover the flats. Optimal site characteristics appear to be large in area, sparsely vegetated, continuously available or in close proximity to secondary habitat, and with limited human disturbance.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2N

red-cockaded woodpecker *Dryobates borealis*

Cavity nests in older pine (60+ years); forages in younger pine (30+ years); prefers longleaf, shortleaf, and loblolly

Federal Status: LE	State Status: E	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

Sprague's pipit *Anthus spragueii*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3N

swallow-tailed kite *Elanoides forficatus*

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CHEROKEE COUNTY

BIRDS

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Lowland forested regions, especially swampy areas, ranging into open woodland; marshes, along rivers, lakes, and ponds; nests high in tall tree in clearing or on forest woodland edge, usually in pine, cypress, or various deciduous trees.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2B

white-faced ibis *Plegadis chihi*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; currently confined to near-coastal rookeries in so-called hog-wallow prairies. Nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4B

wood stork *Mycteria americana*

The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Prefers to nest in large tracts of baldcypress (*Taxodium distichum*) or red mangrove (*Rhizophora mangle*); forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: SHB,S2N

CRUSTACEANS

blackbelted crayfish *Procambarus nigrocinctus*

It occurs in moderately flowing small creeks. Found among rocks and accumulated debris.

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G1G2	State Rank: S1

FISH

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

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CHEROKEE COUNTY

FISH

Mississippi silvery minnow *Hybognathus nuchalis*

Found in eastern Texas streams, from the Brazos River eastward and northward to the Red River; found in moderate current; silty, muddy, or rocky substrate. In Texas, adults likely to inhabit smaller tributary streams.

Federal Status: State Status: SGCN: Y
Endemic: Global Rank: G5 State Rank: S4

paddlefish *Polyodon spathula*

Species occurred in every major river drainage from the Trinity Basin eastward, but its numbers and range had been substantially reduced by the 1950's; recently reintroduced into Big Cypress drainage upstream of Caddo Lake. Prefers large, free-flowing rivers but will frequent impoundments with access to spawning sites.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G4 State Rank: S3

Sabine shiner *Notropis sabiniae*

Inhabits small streams and large rivers of eastern Texas from San Jacinto drainage northward along the Gulf Coast to the Sabine River Basin; Habitat generalist with affinities for shallow, moving water and rarely found in pools and backwater areas;
 closely restricted to substrate of fine, silt free sand in small creeks and rivers having slight to moderate current.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 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

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

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

MAMMALS

big brown bat *Eptesicus fuscus*

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CHEROKEE COUNTY

MAMMALS

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

black bear *Ursus americanus*

Generalist. Historically found throughout Texas. In Chisos, prefers higher elevations where pinyon-oaks predominate; also occasionally sighted in desert scrub of Trans-Pecos (Black Gap Wildlife Management Area) and Edwards Plateau in juniper-oak habitat. For ssp. luteolus, bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S3

eastern red bat *Lasiurus borealis*

Red bats are migratory bats that are common across Texas. They are most common in the eastern and central parts of the state, due to their requirement of forests for foliage roosting. West Texas specimens are associated with forested areas (cottonwoods). Also common along the coastline. These bats are highly mobile, seasonally migratory, and practice a type of "wandering migration". Associations with specific habitat is difficult unless specific migratory stopover sites or wintering grounds are found. Likely associated with any forested area in East, Central, and North Texas but can occur statewide.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

eastern spotted skunk *Spilogale putorius*

Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G4	State Rank: S1S3

hoary bat *Lasiurus cinereus*

Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S4

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

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CHEROKEE COUNTY

MAMMALS

Louisiana black bear *Ursus americanus luteolus*

Bottomland hardwoods, floodplain forests, upland hardwoods with mixed pine; marsh. Possible as transient; bottomland hardwoods and large tracts of inaccessible forested areas.

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G5T2 State Rank: SNA

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

muskkrat *Ondatra zibethicus*

Found in fresh or brackish marshes, lakes, ponds, swamps, and other bodies of slow-moving water. Most abundant in areas with cattail. Dens in bank burrow or conical house of vegetation in shallow vegetated water. It is primarily found in the Rio Grande near El Paso and in SE Texas in the Houston area.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S5

northern yellow bat *Lasiurus intermedius*

Occurs mainly along the Gulf Coast but inland specimens are not uncommon. Prefers roosting in spanish moss and in the hanging fronds of palm trees. Common where this vegetation occurs. Found near water and forages over grassy, open areas. Males usually roost solitarily, whereas females roost in groups of several individuals.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S4

Rafinesque's big-eared bat *Corynorhinus rafinesquii*

Historically, lowland pine and hardwood forests with large hollow trees. roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures

Federal Status: State Status: T SGCN: Y
Endemic: N Global Rank: G3G4 State Rank: S2

southeastern myotis bat *Myotis austroriparius*

Caves are rare in Texas portion of range; buildings, hollow trees are probably important. Historically, lowland pine and hardwood forests with large hollow trees; associated with ecological communities near water. Roosts in cavity trees of bottomland hardwoods, concrete culverts, and abandoned man-made structures.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G4 State Rank: S3?

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CHEROKEE COUNTY

MAMMALS

swamp rabbit

Sylvilagus aquaticus

Primarily found in lowland areas near water including: cypress bogs and marshes, floodplains, creeks and rivers.

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: G3G4	State Rank: S2

MOLLUSKS

Louisiana pigtoe

Pleurobema riddellii

Occurs in small streams to large rivers in slow to moderate currents in substrates of clay, mud, sand, and gravel. Not known from impoundments (Howells 2010f; Randklev et al. 2013b; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G2	State Rank: S1

sandbank pocketbook

Lampsilis satura

Occurs in small streams to large rivers in slow to moderate current in sandy mud to sand and gravel substrate. Can occur in a variety of habitats but most common in littoral habitats such as banks or backwaters or in protected areas along point bars (Randklev et al. 2013b; Randklev et al. 2014a; Troia et al. 2015). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic:	Global Rank: G2?	State Rank: S1

southern hickorynut

Obovaria arkansasensis

Clay, sand, and medium sized gravel substrates with low to moderate current; Neches, Sabine, and Cypress river basins

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: GNR	State Rank: S1

Texas heelsplitter

Potamilus amphichaenus

Occurs in small streams to large rivers in standing to slow-flowing water; most common in banks, backwaters and quiet pools; adapts to some reservoirs. Often found in soft substrates such as mud, silt or sand (Howells et al. 1996; Randklev et al. 2017a). [Mussels of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G3	State Rank: S1

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CHEROKEE COUNTY

MOLLUSKS

Texas pigtoe *Fusconaia askewi*

Occurs in small streams to large rivers, usually in water with at least some current; not known from reservoirs. Found in a variety of habitats but most common in riffles. Inhabits various substrates though most often sand, gravel, and cobble (Howells 2010a; Randklev et al. 2013b; Randklev et al. 2014a; Troia et al 2015).[Mussel of Texas 2019]

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G2?	State Rank: S2S3

REPTILES

alligator snapping turtle *Macrochelys temminckii*

Aquatic: Perennial water bodies; rivers, canals, lakes, and oxbows; also swamps, bayous, and ponds near running water; sometimes enters brackish coastal waters. Females emerge to lay eggs close to the waters edge.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S2

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

Louisiana pine snake *Pituophis ruthveni*

Terrestrial: Deep sandy soils with large stands of well-managed long leaf pine woodlands.

Federal Status: LT	State Status: T	SGCN: Y
Endemic: N	Global Rank: G1G2	State Rank: S1

northern scarlet snake *Cemophora coccinea*

Terrestrial: Prefers well drained soils with pine, hardwood, or mixed hardwood scrub in addition to open grassland habitats with appropriate soils.

Federal Status:	State Status: T	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S4

prairie skink *Plestiodon septentrionalis*

The prairie skink can occur in any native grassland habitat across the Rolling Plains, Blackland Prairie, Post Oak Savanna and Pineywoods ecoregions.

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G5	State Rank: S2

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CHEROKEE COUNTY

REPTILES

pygmy rattlesnake *Sistrurus miliarius*

The pygmy rattlesnake occurs in a variety of wooded habitats from bottomland coastal hardwood forests to upland savannas. The species is frequently found in association with standing water.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S2S3

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

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

western box turtle *Terrapene ornata*

Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5 State Rank: S3

western chicken turtle *Deirochelys reticularia miaria*

Aquatic and terrestrial: This species uses aquatic habitats in the late winter, spring and early summer and then terrestrial habitats the remainder of the year. Preferred aquatic habitats seem to be highly vegetated shallow wetlands with gentle slopes. Specific terrestrial habitats are not well known.

Federal Status: State Status: SGCN: Y
Endemic: N Global Rank: G5T5 State Rank: S2S3

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

barbed rattlesnake-root *Prenanthes barbata*

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CHEROKEE COUNTY

PLANTS

In east Texas occurs on calciphilic hardwood terraces above floodplains, and seepage slopes, often in the company of a comparatively rich herbaceous flora; elsewhere found on prairies, barrens, and open woodlands; in calcareous substrates and in sand over clay on the Weches, Fleming, and Lissie formations; flowering August-November

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Carrizo Sands leather-flower *Clematis carrizoensis*

Occurs in the margins of post oak woodlands on deep sands of Carrizo formation (Carr 2015).

Federal Status:	State Status:	SGCN: Y
Endemic: Y	Global Rank: G2	State Rank: S2

clasping twistflower *Streptanthus maculatus ssp. maculatus*

Primarily on seasonally moist barrens on the Weches Formation but has been found elsewhere as well (Carr 2015)

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3T2T3Q	State Rank: S2

goldenwave tickseed *Coreopsis intermedia*

In deep sandy soils of sandhills in openings in or along margins of post oak woodlands and pine-oak forests of east Texas; Perennial; Flowering/Fruiting May-Aug

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Mohlenbrock's sedge *Cyperus grayioides*

Deep sand and sandy loam in dry, almost barren openings in upland longleaf pine savannas, mixed pine-oak forests, and post oak woodlands; Occurs primarily in deep, periodically disturbed sandy soils in open areas maintained by factors such as wind, erosion, or fire. This species does not occur in shaded areas or in areas of high competition with other herbaceous species. Habitats include remnant sand prairies, sandy fields, sand blow outs, sandhill woodlands, pine barrens, and open barrens in which the slope is sufficient to produce sand erosion. May also occur in areas where the soils have been disturbed by logging or road construction; Perennial

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3G4	State Rank: S3S4

Neches River rose-mallow *Hibiscus dasycalyx*

Open marshy habitats in seasonally wet alluvial soils, most often near standing rather than flowing water; flowering June-August

Federal Status: LT	State Status: T	SGCN: Y
Endemic: Y	Global Rank: G1	State Rank: S1

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CHEROKEE COUNTY

PLANTS

panicked indigobush *Amorpha paniculata*

A stout shrub, 3 m (9 ft) tall that grows in acid seep forests, peat bogs, wet floodplain forests, and seasonal wetlands on the edge of Saline Prairies in East Texas. It is distinguished from other *Amorpha* species by its fuzzy leaflets with prominent raised veins underneath, and the flower panicles, which are 8 to 16 inches long and slender, held above the foliage. Perennial; Flowering summer

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Soxman's milkvetch *Astragalus soxmaniorum*

Primarily in deep sandy soils of sandhills, fallow fields, and open scrub oak-pine woodlands; Perennial; Flowering March-June; Fruiting April-June

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

Texas trillium *Trillium texanum*

In or along the margins of hardwood forests on wet acid soils of bottoms and lower slopes, strongly associated with forested seeps and baygalls; flowering March-May

Federal Status:	State Status:	SGCN: Y
Endemic: N	Global Rank: G3	State Rank: S3

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ATTACHMENT D
CONSULTANT QUALIFICATIONS

Clayton A. Collier, REM, PWS

General Manager, Sr. Environmental Scientist

DISCIPLINE: Environmental Science

EDUCATION: Stephen F. Austin State University
Nacogdoches, Texas
B.S. Environmental Science, Geology minor

Stephen F. Austin State University
Nacogdoches, Texas
Graduate Studies
Aquatic Vascular Plants
Water Resource Management
Geographic Information Systems

CERTIFICATIONS AND CONTINUING EDUCATION:

- Registered Environmental Professional (REM) No. 918302383
- Professional Wetland Scientist (PWS) No. 2389
- NEPA and Environmental Review Training (HUD)
- Wetlands Delineation Course (1987 USACE Manual)
- Wetlands Delineation Course (Regional Supplement)
- Wetlands Permitting Course (USACE)
- Wetland Plant Identification
- Rosgen's Level I Applied Fluvial Geomorphology
- Rosgen's Level II River Morphology and Application
- Rosgen's Level III River Assessment and Monitoring
- Applied Groundwater Statistics Course
- Texas Risk Reduction Program Training
- SafeLand USA Certification
- 2012-2013 Leadership Nacogdoches Program
- Certified Small Unmanned Aircraft System (sUAS) Remote Pilot
- Member of the ATCOFA Advisory Council
- Hydrex Mussel Survey Methodology and Identification Training
- Advanced Coastal Wetland Delineation Course

PROFESSIONAL EXPERIENCE:

Over fifteen years have been dedicated to a range of environmental projects for government, commercial, industrial, and private entities. During these years, experience has been gained in a wide variety of projects pertaining to environmental sampling and analysis techniques for soil, gas, and water. Attention has been paid to the development of skills in the areas of wetlands delineation, permitting and mitigation, installation of monitoring systems, environmental site assessments, and geographic information system (GIS) mapping.

SPECIFIC EXPERIENCE:

WATERS OF THE UNITED STATES

Experienced in investigations and delineations concerning waters of the U.S. in accordance with the 1987 *Wetlands Delineation Manual* and 2010 *Regional Supplements*. Expertise in streamlining United States Corps of Engineers (USACE) permitting and performing jurisdictional determinations. Proficient in mitigation ratios as well as to aid in feasibility studies for potential mitigation banks. Management performing



functional analyses of waters of the U.S. for purposes of determining compensatory of projects related to the delineation, permitting and/or mitigation of Section 404 and Section 10 waters of the U.S. includes numerous large tracts proposed for development, multiple proposed mitigation banks, over 300 miles of linear projects (utility lines, roads, etc.) and over 200 multi-acre oil/gas facilities (well pads, comp, stations, frac pits, etc.).

ECOLOGICAL

Skilled in performing habitat surveys for rare, threatened, and endangered species and identifying the potential to affect their critical habitat. Qualified in advancing the project through consultation with the United States Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act.

ENVIRONMENTAL

Qualified in conducting Phase I Environmental Site Assessments (ESA), which are an integral part to many private, commercial, and industrial real estate transactions. Experienced in a variety of environmental sampling and analysis techniques along with the application and utilization of numerous sampling and monitoring devices. Accomplished in the sampling of groundwater monitor wells at solid waste facilities using both manual and low-flow purge techniques. Skilled in soil gas monitoring and sampling by way of the Summa canister method.

GIS MAPPING/DRAFTING

Qualified in GIS mapping and computer drafting with demonstrated proficiency in AutoCAD, AutoSketch, and various ESRI ArcGIS applications including ArcView and ArcPad. Accomplished in global positioning system (GPS) data collection and in the integration of collected data with ESRI Spatial Analyst and 3D Analyst mapping software.

GROUNDWATER

Accomplished in the installation, sampling, monitoring, statistical analysis, and reporting of groundwater monitoring systems.

PROFESSIONAL SOCIETIES:

- Society of Wetland Scientists
- National Registry of Environmental Professionals (NREP)
- Texas Association of Environmental Professionals
- 2012-2015 Nacogdoches County Chamber of Commerce Board of Directors
- 2016-2017 City of Nacogdoches Parks Master Plan Steering Committee

EXPERIENCE ACQUISITION:

Hydrex Environmental
Nacogdoches, Texas
Senior Environmental Scientist

