

**Preliminary Jurisdictional Determination
Of Waters of the U.S.**

**Lindale Economic Development Corporation
Approximately 135 Acres
Northwest Corner of I-20 at Harvey Road
Lindale, Texas**

ACEI Project No. 2007-300

January 18, 2008

Prepared for:

Lindale Economic Development Corporation
201 N. Main Street
Lindale, Texas, 75771

Prepared by:

Adams Engineering
P.O. Box 131599
Tyler, Texas 75713-1599

Introduction

Adams Engineering (ADAMS) is pleased to present this preliminary jurisdictional determination of waters of the U.S. on approximately 135 acres located at the northwest corner of the intersection of Interstate 20 and Harvey Road in Lindale, Texas. ADAMS has evaluated the site in accordance with the procedures outlined in the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual, U.S. Army Corps of Engineers Regulatory Guidance Letter No. 05-05 (December 7, 2005) and the U.S. Army Corps of Engineers and Environmental Protection Agency's joint guidance on Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos V. United States & Carabell v. United States. Waters of the U.S. in the form of perennial stream, intermittent stream, ephemeral stream, scrub-shrub wetlands and open water have been identified and delineated on the property. Figure 1 contains the Jurisdictional Determination Map and depiction of waters of the U.S. on the property.

Baseline Conditions of the Site

The waters of the U.S. found to be present on the site were identified in the field and mapped with a hand-held, mapping-grade Global Position System. The total length of stream present on the property is approximately 5,500 linear feet. The area of wetlands delineated on the property is approximately 7.2 acres. The area of open water delineated on the property is approximately 0.6 acres. The total area of the site considered to be waters of the U.S. is approximately 8.3 acres.

The information collected and depicted on the attached exhibits is sufficient for planning for the avoidance and minimization of impacts to waters of the U.S. and is sufficient for the permitting any impacts resulting from proposed development plans. The data collected from the delineation was compiled into the attached Jurisdictional Determination Map.

The majority of the property is characterized as uplands. However, an unnamed tributary of Prairie Creek flows through the property with associated wetlands and floodplain. Several smaller tributaries to this stream are also present. Wetlands and open water impoundments of these streams are also waters of the U.S. The on-site streams drain to Prairie Creek, a direct tributary to the Neches River (a traditionally navigable waterway). Since the on-site waters drain indirectly to navigable waters, these waters are regulated by the U.S. Army Corps of Engineers under Section 404 of the Clean Water Act.

Jurisdictional Determination of Project Site

ADAMS performed a routine determination of potential wetlands on the property. Observation points were established along transects. At each observation point, wetland parameters were characterized. The dominant plant species, soil characteristics, and hydrology indicators occurring at each observation point were recorded on Data Forms, copies of which are included herein.

Vegetation

Within the radii specified in the Wetland Delineation Manual, the dominant species of vegetation were subjectively determined by estimating those with the largest relative basal area, the greatest height, the greatest percentage of areal cover, and/or the greatest number of stems. The dominant species were recorded on Data Forms along with their indicator status.

The site is generally comprised of a mixture of upland pastureland with streams, open water and scrub-shrub wetlands in the creek bottoms and floodplains. Upland vegetation dominates the open pasture areas of the property. The only areas found to exhibit a dominance of hydrophytic vegetation were within the floodplain of the unnamed tributary of Prairie Creek.

The scrub-shrub wetlands are dominated by smartweed (*Polygonum sp.*), soft rush (*Juncus effusus*), sedges (*Carex spp.*), panic grass (*Panicum sp.*), southern wax myrtle (*Myrica cerifera*), black willow (*Salix nigra*), sweetgum (*Liquidambar styraciflua*), and river birch (*Betula nigra*). The upland fringe around the wetland is dominated by bermudagrass (*Cynodon dactylon*), dewberry (*Rubus sp.*), American holly (*Ilex opaca*), broomsedge (*Andropogon virginicus*), eastern red cedar (*Juniperus virginiana*), and goatweed (*Croton capitatus*).

Soils

Prior to conducting the on-site inspection, a review of the United States Department of Agriculture (USDA) Soil Survey of Smith County, Texas was conducted. According to the soil survey, numerous soil series were mapped on the property. The wetlands were generally found within the Mantachie loam, frequently flooded soil series. An observation point established outside of the wetland boundary was located within the Pickton loamy fine sand, 8-15 percent slopes soil series.

The Mantachie loam, frequently flooded soil series is described as a soil on nearly level flood plains along the meander of streams. The soil is somewhat poorly drained, and is listed on the National Hydric soils list. The taxonomy of this soil is classified as Aeric Fluvaquents. The Pickton loamy fine sand, 8-15 percent slopes soils are described as strongly sloping or moderately steep soils on side slopes above drainageways, which is the character of the subject soil on the property. The soil is well drained and is not listed on the National Hydric Soils list. The Pickton soil taxonomy is described as Grossarenic Paleudalfs.

At each of the established observations points in the field, a soil pit was excavated to evaluate soil characteristics. Each soil pit was excavated using a shovel (sharp shooter), and the pit was excavated with a 1-foot diameter (minimum). The sharp shooter was extended to the blade depth in a full circle to circumscribe the pit perimeter, and the final mass of soil was lifted from the hole. This method produced a pit with an approximate depth of 16 inches. The soils were examined immediately below the A-horizon or 10 inches (whichever was shallower) and the soils were evaluated for the presence of hydric soil indicators. Soil findings were recorded on the Data Form corresponding to the observation point location.

Evidence of hydric soils was identified by the presence of reducing conditions, an aquic soil moisture regime, organic streaking in sandy soils, and sulfidic odors. Soil colors were found to

be 10YR 4/2 with no mottles within the observation point; however, mottles were observed at other areas probed within the wetland.

Hydrology

Hydrology indicators were evaluated at each observation point. Wetlands hydrology was observed throughout the wetlands mapped in the attached Jurisdictional Determination Map. Primary and secondary hydrology indicators were identified including saturation in the upper 12 inches, local soil survey data, oxidized root channels, and the FAC-neutral test.

Summary of Permit Requirements

Since adverse impacts to waters of the U.S. require a permit from the U.S. Army Corps of Engineers, it is advisable to plan for the mitigation of impacts to waters of the U.S. Applicable Corps guidance documents describe mitigation as the sequential process of avoidance, minimization and compensation for impacts. Avoidance is defined as taking all appropriate and practicable measures to avoid those adverse impacts to the aquatic ecosystem that are not necessary. Minimization is defined as taking all appropriate and practicable measures to minimize those adverse impacts to the aquatic ecosystem that cannot reasonably be avoided. Compensation is defined as implementing appropriate and practicable measures to compensate for adverse project impacts to the aquatic ecosystem that cannot reasonably be avoided or further minimized. This step is referred to as compensatory mitigation.

If the development can be planned around the jurisdictional waters, avoidance of impacts can be demonstrated and no permit would be required. However, if impacts are necessary to develop the site, the impacts must be minimized to the extent practical. Any filling of the waters of the U.S. which may occur as a part of site construction will require a permit from the U.S. Army Corps of Engineers ("the Corps"). The time and costs associated with obtaining a permit from the Corps is contingent upon the final site design.

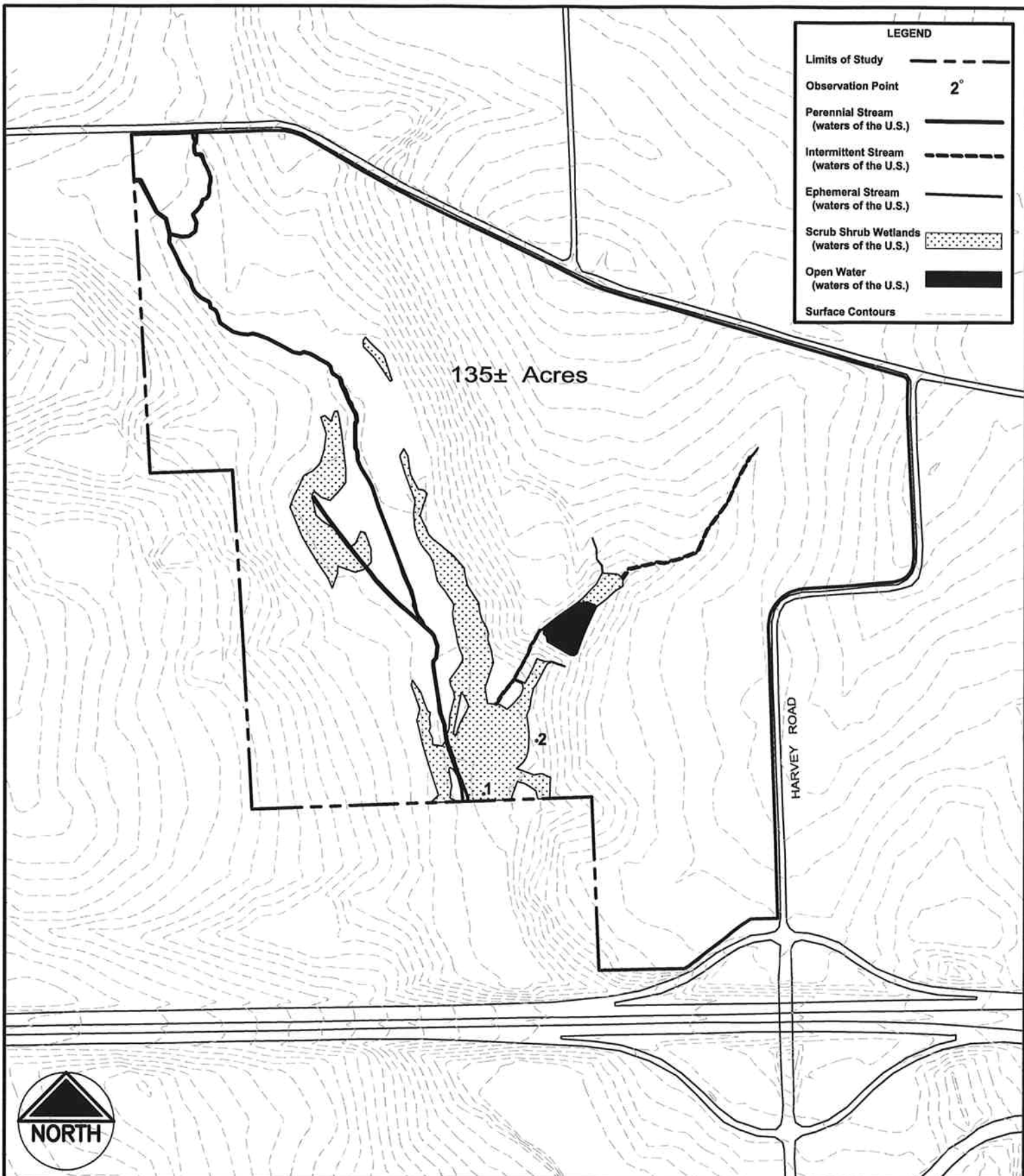
ADAMS can assist the client in identifying suitable alternatives which may avoid a lengthy or difficult permitting situation. If no impacts to waters of the U.S. will occur, then no permit will be required. If impacts to waters of the U.S. cannot be avoided as discussed above, then ADAMS can assist in the preparation of the permit application and mitigation plan documents.

SIGNATURE OF CONSULTANT

Please note that only the U.S. Army Corps of Engineers can approve a final jurisdictional Determination. This preliminary jurisdictional determination has been prepared under the direction and supervision of the consultant, undersigned below. The review and interpretation of information upon which the report is based as well as the on-site reconnaissance and delineation were all portions of the study performed by the undersigned.



Jeremy W. Rowden, PG
Environmental Program Manager



LEGEND	
Limits of Study	-----
Observation Point	2°
Perennial Stream (waters of the U.S.)	—————
Intermittent Stream (waters of the U.S.)	- - - - -
Ephemeral Stream (waters of the U.S.)	———
Scrub Shrub Wetlands (waters of the U.S.)	▨
Open Water (waters of the U.S.)	■
Surface Contours	- - - - -


135± Acres

HARVEY ROAD

1

2



SCALE: 1"= 500'	JURISDICTIONAL DETERMINATION MAP LINDALE ECONOMIC DEVELOPMENT CORPORATION APPX. 135 ACRES, LINDALE, TEXAS	 Adams ENGINEERING <small>6320 Copeland Road • Tyler, Texas 75703 • (903) 324-8400</small>	PROJECT NO. 2007.300
SHEET NO. 1			DATE 1/17/08
			PROJECT TECH JWR



SCALE: 1"= 500'

SHEET NO.

2

**NRCS SOIL SURVEY
MAP**

LINDALE ECONOMIC DEVELOPMENT
CORPORATION
APPX. 135 ACRES, LINDALE, TEXAS



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1/17/08

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JWR

PROJECT TECH
JWR



SCALE: 1"= 500'

SHEET NO.

3

**2006 AERIAL
PHOTOGRAPH**

**LINDALE ECONOMIC DEVELOPMENT
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1/17/08**

**PROJECT MGR.
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**PROJECT TECH
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SCALE: 1"= 500'

**2003 AERIAL
PHOTOGRAPH**



**Adams
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**DATE
1/17/08**

**PROJECT MGR.
JWR**

**PROJECT TECH
JWR**

SHEET NO.

4

**LINDALE ECONOMIC DEVELOPMENT
CORPORATION
APPX. 135 ACRES, LINDALE, TEXAS**



SCALE: 1"= 500'

SHEET NO.

5

**1995 AERIAL
PHOTOGRAPH**

LINDALE ECONOMIC DEVELOPMENT
CORPORATION
APPX. 135 ACRES, LINDALE, TEXAS



Adams
ENGINEERING

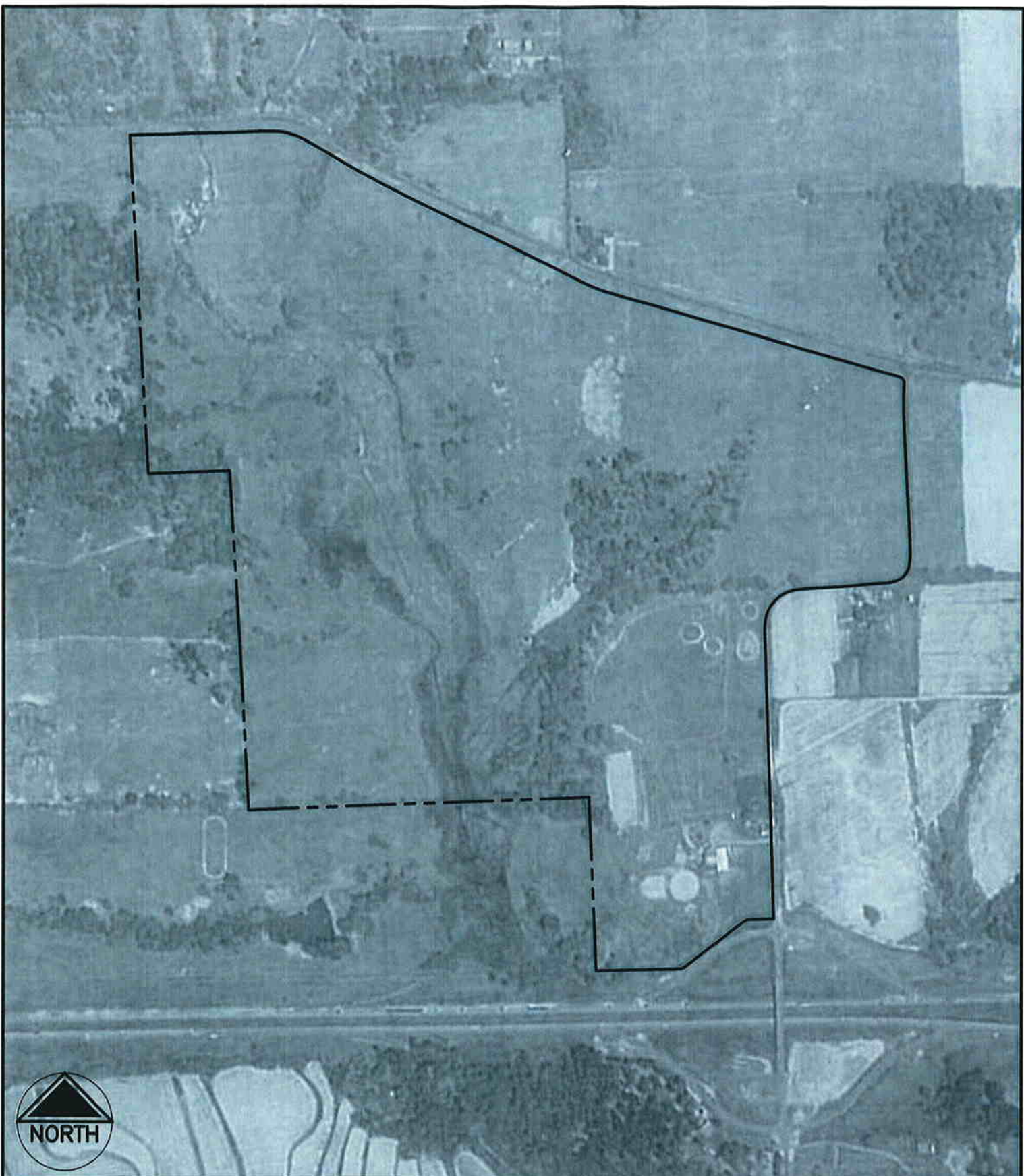
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2007.300

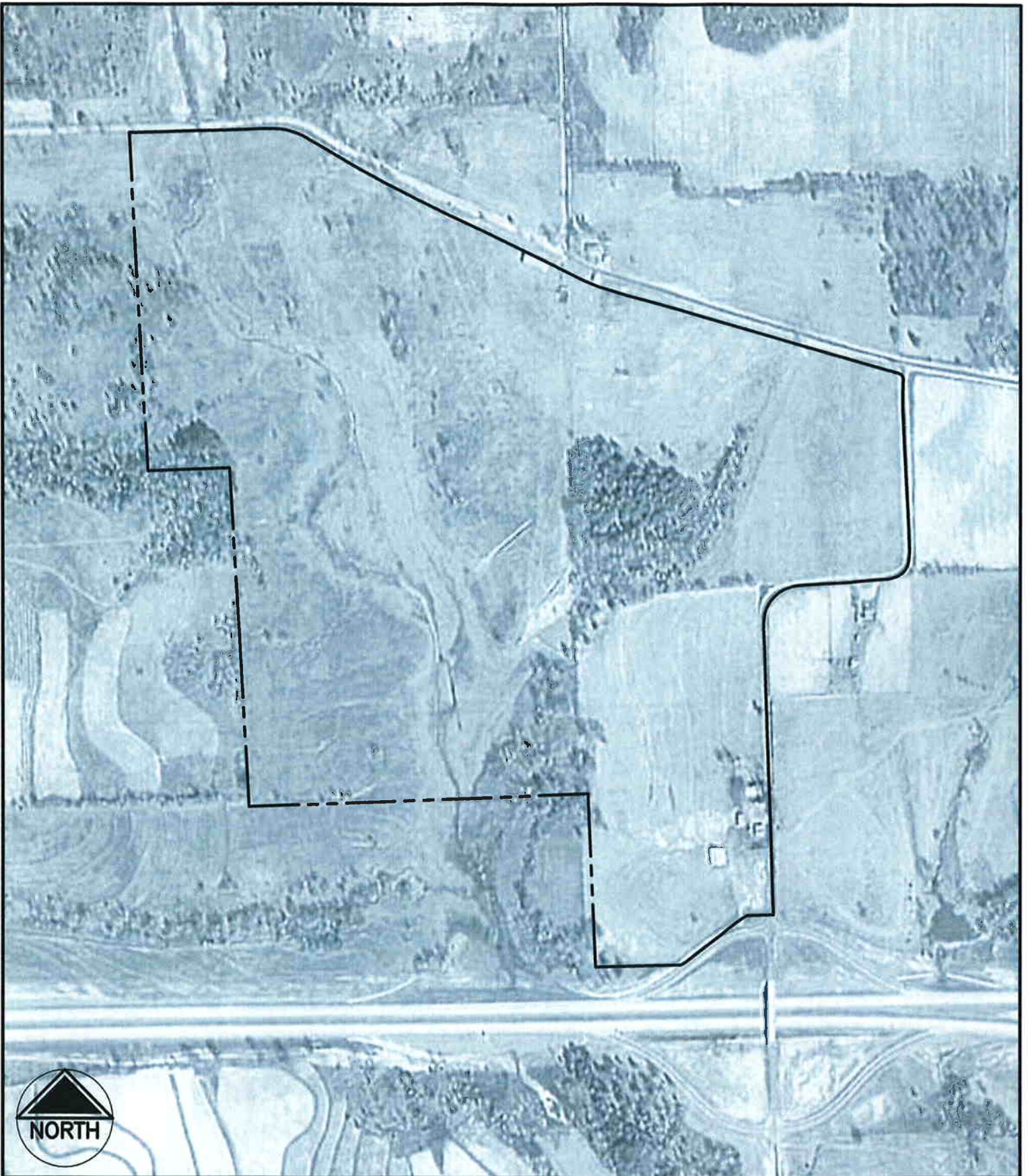
DATE
1/17/08

PROJECT MGR.
JWR

PROJECT TECH
JWR



SCALE: 1"= 500'	1987 AERIAL PHOTOGRAPH	 Adams ENGINEERING 6320 Copeland Road • Tyler, Texas 75703 • (903) 324-8400	PROJECT NO. 2007.300
SHEET NO. 6	LINDALE ECONOMIC DEVELOPMENT CORPORATION APPX. 135 ACRES, LINDALE, TEXAS		DATE 1/17/08
			PROJECT TECH JWR



SCALE: 1"= 500'

SHEET NO.

7

**1967 AERIAL
PHOTOGRAPH**

LINDALE ECONOMIC DEVELOPMENT
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DATE
1/17/08

PROJECT MGR.
JWR

PROJECT TECH
JWR



SCALE: 1"= 500'

SHEET NO.

8

**1958 AERIAL
PHOTOGRAPH**

LINDALE ECONOMIC DEVELOPMENT
CORPORATION
APPX. 135 ACRES, LINDALE, TEXAS



Adams
ENGINEERING

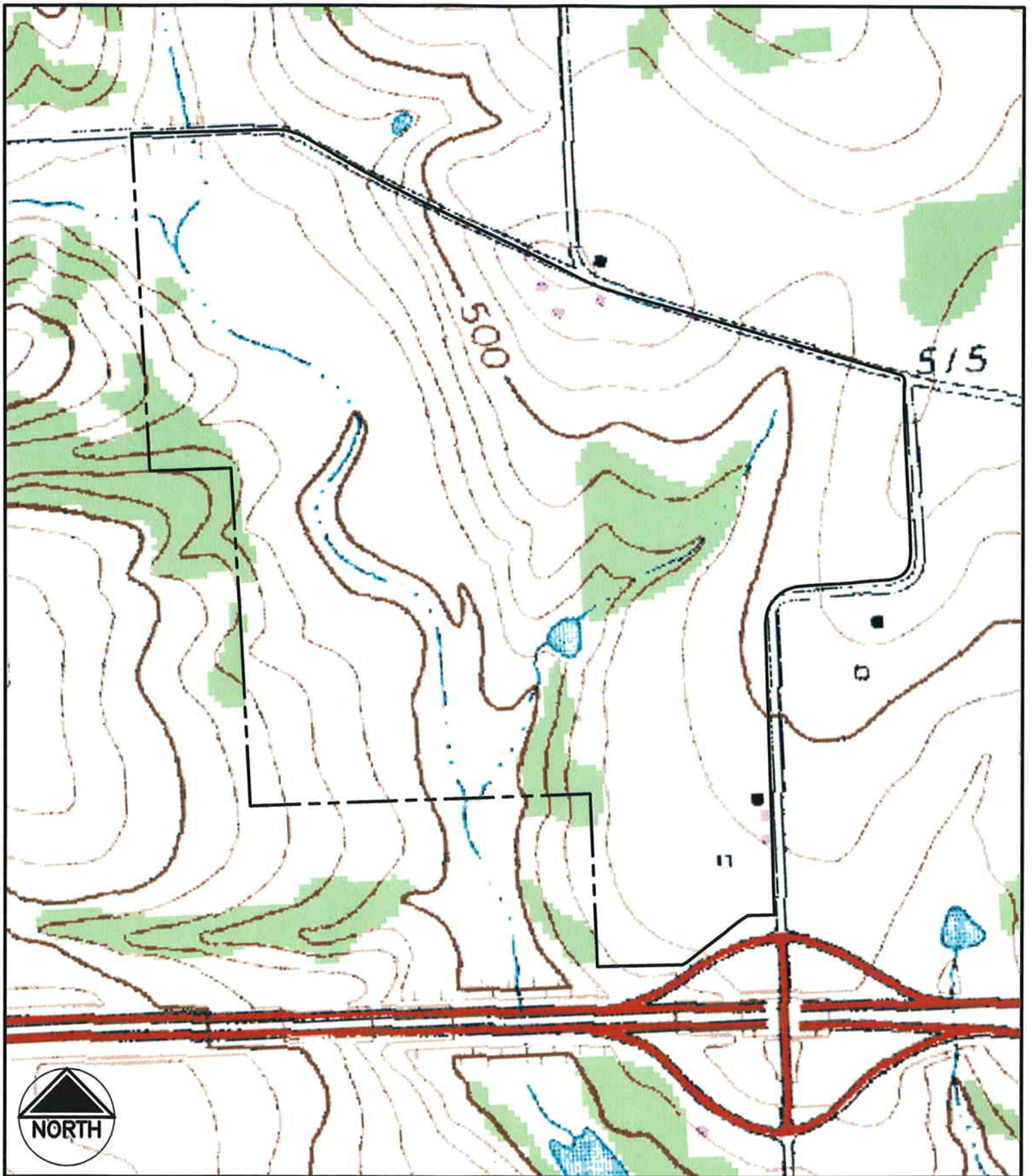
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PROJECT NO.
2007.300

DATE
1/17/08

PROJECT MGR.
JWR

PROJECT TECH
JWR



SCALE: 1" = 500'

SHEET NO.

9

1973 USGS TOPOGRAPHIC
MAP (MT. SYLVAN QUAD)

LINDALE ECONOMIC DEVELOPMENT
CORPORATION
APPX. 135 ACRES, LINDALE, TEXAS



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PROJECT NO.
2007.300

DATE
1/17/08

PROJECT MGR.
JWR

PROJECT TECH
JWR

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>LEDC 135 Acres</u> Applicant/Owner: <u>LEDC</u> Investigator: <u>Jeremy Rowden</u>	Date: <u>1/15/08</u> County: <u>Smith</u> State: <u>Texas</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? <input type="radio"/> Yes <input checked="" type="radio"/> No Is the area a potential Problem Area? <input type="radio"/> Yes <input checked="" type="radio"/> No (If needed, explain on reverse.)	Community ID: <u>1</u> Transect ID: <u>1</u> Plot ID: <u>1</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Juncus effusus</u>	<u>H</u>	<u>OBL</u>	9. _____	_____	_____
2. <u>Carex spp.</u>	<u>H</u>	<u>FACW</u>	10. _____	_____	_____
3. <u>Polygonum sp.</u>	<u>H</u>	<u>OBL</u>	11. _____	_____	_____
4. <u>Panicum sp.</u>	<u>H</u>	<u>FAC</u>	12. _____	_____	_____
5. <u>Myrica carifera</u>	<u>S</u>	<u>FAC</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 100%

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input checked="" type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input checked="" type="checkbox"/> Oxidized Root Channels in Upper 12" <input type="checkbox"/> Water-Stained Leaves <input checked="" type="checkbox"/> Local Soil Survey Data <input checked="" type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: <u>—</u> (in.) Depth to Free Water in Pit: <u>8</u> (in.) Depth to Saturated Soil: <u>0</u> (in.)	Remarks:

SOILS

Map Unit Name (Series and Phase): Mantachic loam, frequently flooded Drainage Class: Somewhat poor
 Taxonomy (Subgroup): Aeric Fluvaquent 5 Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>2</u>	<u>A?</u>	<u>10YR 4/2</u>	_____	_____	<u>loam</u>
<u>12</u>	<u>B?</u>	<u>10YR 5/3</u>	_____	_____	<u>sand</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input checked="" type="checkbox"/> Sulfidic Odor	<input checked="" type="checkbox"/> Organic Streaking in Sandy Soils
<input checked="" type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input checked="" type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks: ? = possibility of multiple A horizons.

WETLAND DETERMINATION

Hydrophytic Vegetation Present? <input checked="" type="radio"/> Yes <input type="radio"/> No (Circle)	(Circle)
Wetland Hydrology Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Hydric Soils Present? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Is this Sampling Point Within a Wetland? <input checked="" type="radio"/> Yes <input type="radio"/> No	
Remarks:	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: <u>LEDC 135 Acres</u> Applicant/Owner: <u>LEDC</u> Investigator: <u>Jeremy Rowden</u>	Date: <u>1/15/08</u> County: <u>Smith</u> State: <u>Texas</u>
Do Normal Circumstances Exist on the site? <input checked="" type="radio"/> Yes <input type="radio"/> No Is the site significantly disturbed (Atypical Situation)? Yes <input type="radio"/> No <input checked="" type="radio"/> Is the area a potential Problem Area? Yes <input type="radio"/> No <input checked="" type="radio"/> (If needed, explain on reverse.)	Community ID: <u>2</u> Transect ID: <u>1</u> Plot ID: <u>2</u>

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. <u>Cynodon dactylon</u>	<u>H</u>	<u>FACU+</u>	9. _____	_____	_____
2. <u>Rubus sp.</u>	<u>V</u>	<u>FAC</u>	10. _____	_____	_____
3. <u>Ilex opaca</u>	<u>T</u>	<u>FACU</u>	11. _____	_____	_____
4. <u>Andropogon virginicus</u>	<u>H</u>	<u>FACU+</u>	12. _____	_____	_____
5. <u>Juniperus virginiana</u>	<u>T</u>	<u>FACU-</u>	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-): 20%

Remarks:

HYDROLOGY

<input type="checkbox"/> Recorded Data (Describe in Remarks): <input type="checkbox"/> Stream, Lake, or Tide Gauge <input type="checkbox"/> Aerial Photographs <input type="checkbox"/> Other <input type="checkbox"/> No Recorded Data Available	Wetland hydrology Indicators: Primary Indicators: <input type="checkbox"/> Inundated <input type="checkbox"/> Saturated in Upper 12 Inches <input type="checkbox"/> Water Marks <input type="checkbox"/> Drift Lines <input type="checkbox"/> Sediment Deposits <input type="checkbox"/> Drainage Patterns in Wetlands Secondary Indicators (2 or more required): <input type="checkbox"/> Oxidized Root Channels in Upper 12" <input type="checkbox"/> Water-Stained Leaves <input type="checkbox"/> Local Soil Survey Data <input type="checkbox"/> FAC-Neutral Test <input type="checkbox"/> Other (Explain in Remarks)
Field Observations: Depth of Surface Water: _____ (in.) Depth to Free Water in Pit: _____ (in.) Depth to Saturated Soil: _____ (in.)	
Remarks: <u>None</u>	

SOILS

Map Unit Name (Series and Phase): Pickton loamy fine sand 8-15% slopes Drainage Class: Well drained
 Taxonomy (Subgroup): Grossarenic Paleudalfs Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc.
<u>12"</u>	<u>A</u>	<u>10YR 4/2</u>	<u>-</u>	<u>-</u>	<u>Sand</u>
<u>16"</u>	<u>TD</u>				

Hydric Soil Indicators:

<input type="checkbox"/> Histosol	<input type="checkbox"/> Concretions
<input type="checkbox"/> Histic Epipedon	<input type="checkbox"/> High Organic Content in Surface Layer Sandy Soils
<input type="checkbox"/> Sulfidic Odor	<input type="checkbox"/> Organic Streaking in Sandy Soils
<input type="checkbox"/> Aquic Moisture Regime	<input type="checkbox"/> Listed on Local Hydric Soils List
<input type="checkbox"/> Reducing Conditions	<input type="checkbox"/> Listed on National Hydric Soils List
<input type="checkbox"/> Gleyed or Low-Chroma Colors	<input type="checkbox"/> Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)	(Circle)
Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)	
Hydric Soils Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)	Is this Sampling Point Within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> (Circle)

Remarks: