



WALLER COUNTY COMMISSIONERS COURT

June 11, 2025

City of Houston

Attn: Jim Szczesniak, Director of Aviation

16930 John F. Kennedy Blvd

Houston, TX 77032

Subject: Acceptance of Offer Letter for 1,431 Acres in Waller County

Director Szczesniak and City of Houston Officials,

Pursuant to your letter dated April 22, 2025, Waller County hereby conditionally accepts the offer from the City of Houston to purchase 1,431 acres of land located within Waller County. This property includes 805 acres of unencumbered land, 620 acres of land encumbered by the US Army Corps of Engineers, and 6 acres of access.

The City of Houston has proposed a total price of NINETEEN MILLION SEVEN HUNDRED FORTY THOUSAND DOLLARS (\$19,740,000) for the sale of the 805 acres land, which Waller County accepts. Additionally, the City proposes compensation for the 620 acres of land to be the assumption of the long-term management responsibilities currently held by the City, which Waller County accepts.

Attached to this letter is the signed Open Space License Agreement for Due Diligence Studies.

Waller County agrees to work with the City of Houston on preparing a formal Purchase and Sale Agreement, to be executed after the feasibility study period has expired.

If you have any comments or concerns regarding this acceptance letter, please contact Robert Pechukas at 936-510-3549 or r.pechukas@wallercounty.us.

Thank you,

Carbett "Trey" J. Duhon II
Waller County Judge



CITY OF HOUSTON

John Whitmire

Mayor



Jim Szczesniak
Director of Aviation

Houston Airports
16930 John F. Kennedy Boulevard
Houston, Texas 77032
fly2houston.com

April 22, 2025

County Judge
Waller County Commissioners Court
836 Austin Street
Suite 203
Hempstead, TX 77445

Reference: 1,431 Acres / Waller County

Dear Sirs:

Pursuant to your letter of intent to purchase, dated March 5, 2025, the City of Houston will consider the sale of the approximately 1,431 acres situated in Waller County off Morton Road. The property size includes approximately 805 acres of unencumbered property, approximately 620 acres encumbered by the Army Corp of Engineers' ("USACE") Permit No. 21948(01) pursuant to the Section 404 of the Clean Water Act (the "Permit") attached hereto, and approximately 6 acres for the access road. The City of Houston, Texas (the "City") will grant your request to purchase the property (together with any improvements thereon, being hereinafter referred to as the "Property").

The City is entitled to just compensation for the Property. The compensation, as established by two independent appraisers, is NINETEEN MILLION SEVEN HUNDRED FORTY THOUSAND DOLLARS (\$19,740,000.00) for the fee simple interest in the Property for the approximately 805 acres. Compensation to the City for the approximately 620 acres is the assumption of the City's long-term management responsibilities as detailed in the Permit. Such fee simple interest shall be subject only to those easements, interests or other encumbrances. The approximately 620 acres shall remain in perpetuity as a federally-protected jurisdictional wetlands mitigation site pursuant to and encumbered by the Permit. Any improvements to the 620 acres must be reviewed and approved by the USACE in advance.

Council Members: Amy Peck Tarsha Jackson Abbie Kamin Carolyn Evans-Shabazz Fred Flickinger Tiffany D. Thomas Mary Nan Huffman
Mario Castillo Joaquin Martinez Edward Pollard Martha Castex-Tatum Julian Ramirez Willie Davis Twila Carter
Letitia Plummer Sallie Alcorn

Controller: Chris Hollins

Waller County Commissioners Court
Waller County Property

April 22, 2025

This offer is contingent on approvals from Federal Aviation Administration (FAA), USACE and City Council, and requires the City to deliver clear title, and regulatory releases, if applicable, for the Property. The City is also required to deliver an instrument setting forth the extent of the City's interest in the Property.

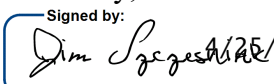
The City requests your prompt consideration of this offer and asks that you respond to the undersigned in writing regarding such offer within sixty (60) days of your receipt of this letter. Please direct your written response to the undersigned at the City of Houston Airport System, 16930 John F. Kennedy Boulevard, Houston, Texas 77032. The City shall not be obligated to pay costs or expenses of any agent or broker who may act or has acted on behalf of the buyer in this transaction.

Should you decide to accept this offer, we will allow up to thirty (30) days for you to conduct applicable feasibility studies. Attached hereto, for your review and acceptance, is a revised Open Space License Agreement for Due Diligence Studies for the entire City-owned site. Upon your final acceptance of the offer, we will request regulatory approval for the sale and transfer of the Permit from the FAA and USACE.

A formal Purchase and Sale Agreement will be prepared after the timing for the feasibility studies have passed. In compliance with City of Houston processes, all purchase and sale agreements are subject to final approval from the Mayor and City Council. The acquisition closing normally takes place approximately sixty (60) days after the Purchase and sale Agreement has been signed by the Seller.

If you have any questions regarding this offer, please contact Ms. Anissa M. Veal at 281.233.1828. Your cooperation in this matter is appreciated.

Sincerely,

Signed by:

219BB453A1504CE
Jim Szczesniak
Director
Houston Airport System

cc: Kelly Woodward 
Francisco Cuellar 
Laura Keese 
Anissa M. Veal 
Robert W. Collins 

Attachments: Agreement for Due Diligence Studies
IAH Mitigation – USACE Approval of Amendment to Permit 04-08-2002
USACE Permit 21948-amendment
Waller County Tract Survey

Certificate Of Completion

Envelope Id: 5E17AE6D-F550-4B2B-99BD-45DCFD3A06E9

Status: Completed

Subject: Complete with Docusign: Waller County Offer letter 4-22-2025.pdf

Source Envelope:

Document Pages: 2

Signatures: 1

Envelope Originator:

Certificate Pages: 5

Initials: 4

Diep Tran

AutoNav: Enabled

16930 JFK

Envelopeld Stamping: Enabled

Houston, TX 77032

Time Zone: (UTC-06:00) Central Time (US & Canada)

diep.tran@houston.tx.gov

IP Address: 72.20.146.43

Record Tracking

Status: Original

Holder: Diep Tran

Location: DocuSign

4/17/2025 3:41:08 PM

diep.tran@houston.tx.gov

Signer Events

Laura Keesee

laura.keesee@houston.tx.gov

Director of Airline Affairs and Real Estate

Security Level: Email, Account Authentication (None)

Signature

Initial

Signature Adoption: Pre-selected Style
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Timestamp

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Viewed: 4/18/2025 5:50:11 PM

Signed: 4/18/2025 5:51:46 PM

Electronic Record and Signature Disclosure:

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Francisco Cuellar

francisco.cuellar@houston.tx.gov

Chief Commercial Officer

Security Level: Email, Account Authentication (None)

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Signature Adoption: Pre-selected Style
Using IP Address: 72.20.146.43

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Signed: 4/21/2025 9:59:28 AM

Electronic Record and Signature Disclosure:

Accepted: 4/21/2025 9:58:09 AM

ID: 8893fd4a-1a71-4f74-80d8-61cc6df62d37

Kelly Woodward

kelly.woodward@houston.tx.gov

Chief Operating Officer

Security Level: Email, Account Authentication (None)

Initial

Signature Adoption: Pre-selected Style
Using IP Address: 72.20.146.43

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Signed: 4/25/2025 9:19:15 AM

Electronic Record and Signature Disclosure:

Accepted: 4/25/2025 9:18:59 AM

ID: 3b4f4b57-fbee-4a6f-831b-27baeec4bb51

Robert Collins

robert.collins@houston.tx.gov

Security Level: Email, Account Authentication (None)

DS

Signature Adoption: Pre-selected Style
Using IP Address: 35.150.63.18
Signed using mobile

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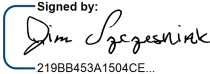
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Accepted: 4/25/2025 9:24:10 AM

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Signer Events	Signature	Timestamp
Jim Szczesniak Jim.Szczesniak@houstontx.gov Airport Director Houston Airport System Security Level: Email, Account Authentication (None)	Signed by:  219BB453A1504CE... Signature Adoption: Pre-selected Style Using IP Address: 174.231.86.106	Sent: 4/25/2025 9:24:39 AM Viewed: 4/25/2025 12:15:51 PM Signed: 4/25/2025 12:35:16 PM
Electronic Record and Signature Disclosure: Not Offered via DocuSign		
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Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Anissa Veal anissa.veal@houstontx.gov Security Level: Email, Account Authentication (None)	COPIED	Sent: 4/25/2025 12:35:17 PM Viewed: 4/25/2025 3:41:17 PM
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Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
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Certified Delivered	Security Checked	4/25/2025 12:15:51 PM
Signing Complete	Security Checked	4/25/2025 12:35:16 PM
Completed	Security Checked	4/25/2025 12:35:17 PM
Payment Events	Status	Timestamps
Electronic Record and Signature Disclosure		

ELECTRONIC RECORD AND SIGNATURE DISCLOSURE

From time to time, Sahara Lee (we, us or Company) may be required by law to provide to you certain written notices or disclosures. Described below are the terms and conditions for providing to you such notices and disclosures electronically through the DocuSign, Inc. (DocuSign) electronic signing system. Please read the information below carefully and thoroughly, and if you can access this information electronically to your satisfaction and agree to these terms and conditions, please confirm your agreement by clicking the 'I agree' button at the bottom of this document.

Getting paper copies

At any time, you may request from us a paper copy of any record provided or made available electronically to you by us. You will have the ability to download and print documents we send to you through the DocuSign system during and immediately after signing session and, if you elect to create a DocuSign signer account, you may access them for a limited period of time (usually 30 days) after such documents are first sent to you. After such time, if you wish for us to send you paper copies of any such documents from our office to you, you will be charged a \$0.00 per-page fee. You may request delivery of such paper copies from us by following the procedure described below.

Withdrawing your consent

If you decide to receive notices and disclosures from us electronically, you may at any time change your mind and tell us that thereafter you want to receive required notices and disclosures only in paper format. How you must inform us of your decision to receive future notices and disclosure in paper format and withdraw your consent to receive notices and disclosures electronically is described below.

Consequences of changing your mind

If you elect to receive required notices and disclosures only in paper format, it will slow the speed at which we can complete certain steps in transactions with you and delivering services to you because we will need first to send the required notices or disclosures to you in paper format, and then wait until we receive back from you your acknowledgment of your receipt of such paper notices or disclosures. To indicate to us that you are changing your mind, you must withdraw your consent using the DocuSign 'Withdraw Consent' form on the signing page of a DocuSign envelope instead of signing it. This will indicate to us that you have withdrawn your consent to receive required notices and disclosures electronically from us and you will no longer be able to use the DocuSign system to receive required notices and consents electronically from us or to sign electronically documents from us.

All notices and disclosures will be sent to you electronically

Unless you tell us otherwise in accordance with the procedures described herein, we will provide electronically to you through the DocuSign system all required notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to you during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any notice or disclosure, we prefer to provide all of the required notices and disclosures to you by the same method and to the same address that you have given us. Thus, you can receive all the disclosures and notices electronically or in paper format through the paper mail delivery system. If you do not agree with this process, please let us know as described below. Please also see the paragraph immediately above that describes the consequences of your electing not to receive delivery of the notices and disclosures

electronically from us.

How to contact Sahara Lee:

You may contact us to let us know of your changes as to how we may contact you electronically, to request paper copies of certain information from us, and to withdraw your prior consent to receive notices and disclosures electronically as follows:

To contact us by email send messages to: Sahara.lee@houstontx.gov

To advise Sahara Lee of your new e-mail address

To let us know of a change in your e-mail address where we should send notices and disclosures electronically to you, you must send an email message to us at Sahara.lee@houstontx.gov and in the body of such request you must state: your previous e-mail address, your new e-mail address. We do not require any other information from you to change your email address..

In addition, you must notify DocuSign, Inc. to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in the DocuSign system.

To request paper copies from Sahara Lee

To request delivery from us of paper copies of the notices and disclosures previously provided by us to you electronically, you must send us an e-mail to Sahara.lee@houstontx.gov and in the body of such request you must state your e-mail address, full name, US Postal address, and telephone number. We will bill you for any fees at that time, if any.

To withdraw your consent with Sahara Lee

To inform us that you no longer want to receive future notices and disclosures in electronic format you may:

- i. decline to sign a document from within your DocuSign session, and on the subsequent page, select the check-box indicating you wish to withdraw your consent, or you may;
- ii. send us an e-mail to Sahara.lee@houstontx.gov and in the body of such request you must state your e-mail, full name, US Postal Address, and telephone number. We do not need any other information from you to withdraw consent.. The consequences of your withdrawing consent for online documents will be that transactions may take a longer time to process..

Required hardware and software

Operating Systems:	Windows® 2000, Windows® XP, Windows Vista®; Mac OS® X
Browsers:	Final release versions of Internet Explorer® 6.0 or above (Windows only); Mozilla Firefox 2.0 or above (Windows and Mac); Safari™ 3.0 or above (Mac only)
PDF Reader:	Acrobat® or similar software may be required to view and print PDF files
Screen Resolution:	800 x 600 minimum
Enabled Security Settings:	Allow per session cookies

** These minimum requirements are subject to change. If these requirements change, you will be asked to re-accept the disclosure. Pre-release (e.g. beta) versions of operating systems and browsers are not supported.

Acknowledging your access and consent to receive materials electronically

To confirm to us that you can access this information electronically, which will be similar to other electronic notices and disclosures that we will provide to you, please verify that you were able to read this electronic disclosure and that you also were able to print on paper or electronically save this page for your future reference and access or that you were able to e-mail this disclosure and consent to an address where you will be able to print on paper or save it for your future reference and access. Further, if you consent to receiving notices and disclosures exclusively in electronic format on the terms and conditions described above, please let us know by clicking the 'I agree' button below.

By checking the 'I agree' box, I confirm that:

- I can access and read this Electronic CONSENT TO ELECTRONIC RECEIPT OF ELECTRONIC RECORD AND SIGNATURE DISCLOSURES document; and
- I can print on paper the disclosure or save or send the disclosure to a place where I can print it, for future reference and access; and
- Until or unless I notify Sahara Lee as described above, I consent to receive from exclusively through electronic means all notices, disclosures, authorizations, acknowledgements, and other documents that are required to be provided or made available to me by Sahara Lee during the course of my relationship with you.

DEPARTMENT OF THE ARMY PERMIT

Permittee Department of Aviation, Houston Airport System

Permit No. 21948

Issuing Office Galveston District

NOTE: The term "you" and its derivatives, as used in this permit, means the permittee or any future transferee. The term "this office" refers to the appropriate district or division office of the Corps of Engineers having jurisdiction over the permitted activity or the appropriate official of that office acting under the authority of the commanding officer.

You are authorized to perform work in accordance with the terms and conditions specified below.

Project Description: To construct improved aviation facilities within George Bush Intercontinental Airport, requiring the placement of fill material into approximately 13 acres of adjacent wetlands. This project includes the construction of a new 8,500-foot by 150-foot runway (with associated taxiways), expansion of an existing runway to 10,000 feet by 150 feet (with associated taxiways), construction of an air cargo facility and taxiway, extension of an existing taxiway, construction of a consolidated rental car facility, relocation of segments of Garners Bayou, and excavation of stormwater detention ponds associated with these activities. The project also includes associated roadway construction, utilities installation, and drainage improvements. In addition, the permittee is required to perform mitigation, for aquatic impacts, at two locations, the first location being the Westside Airport property located between Katy and Brookshire, approximately 35 miles southwest of the project site, in Waller County, Texas and the second mitigation site being the Bahr Woods Mitigation Area, between the West Fork of the San Jacinto River and Woodson's Gully, approximately 2 miles north of the project site, in Montgomery County, Texas. The project will be conducted in accordance with the attached plans in thirty-two sheets.

Project Location: Within George Bush Intercontinental Airport, immediately south of FM 1960 and east of Aldine - Westfield Road, in Harris County, Texas.

Permit Conditions:

General Conditions:

1. The time limit for completing the work authorized ends on 31 December 2006. If you find that you need more time to complete the authorized activity, submit your request for a time extension to this office for consideration at least one month before the above date is reached.
2. You must maintain the activity authorized by this permit in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party in compliance with General Condition 4 below. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.
3. If you discover any previously unknown historic or archeological remains while accomplishing the activity authorized by this permit, you must immediately notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

4. If you sell the property associated with this permit, you must obtain the signature of the new owner in the space provided and forward a copy of the permit to this office to validate the transfer of this authorization.
5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to this permit. For your convenience, a copy of the certification is attached if it contains such conditions.
6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of your permit.

Special Conditions:

1. Pursuant to the Texas Historical Commission's (THC) letter dated 28 December 2000, the permittee will coordinate and receive clearance from the THC, to conduct the proposed mitigation activities at the Bahr Woods site, as required by Section 106 of the National Historic Preservation Act, as amended; and the Texas State Antiquities Code.
2. The permittee will coordinate with and receive approval from the Corps, Galveston District (Corps), who will coordinate with Federal and State resource agencies, regarding the final mitigation plan.
3. The permittee will protect the 600-acre Waller County mitigation site for all perpetuity. The permittee will not sell or transfer the property, nor allow the property to be developed in any fashion, including placement of fill material into or draining of the wetlands that currently exist or exist at any point in the future on the property, without the approval of the Corps. All passive management activities on the site must have Corps approval prior to their implementation.
4. All construction of mitigation, including planting, must be completed within 24 months after the start of project construction within jurisdictional areas. Monitoring and maintenance will proceed according to the mitigation plan. The permittee will notify the Corps, in writing, within 30 days of completion of the mitigation construction. If the mitigation construction can not be completed within the specified time frame, the permittee will contact the Corps, in writing, within the 24-month period, to discuss alternative mitigation proposals.
5. If mitigation is determined to be unsuccessful, by the Corps, at the end of the monitoring period, the permittee will be required to take necessary corrective measures, as approved by the Corps, to ensure success.

Further Information:

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to:
 - ☐ Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403).
 - ☒ Section 404 of the Clean Water Act (33 U.S.C. 1344).
 - ☐ Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (33 U.S.C. 1413).
2. Limits of this authorization.
 - a. This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law.
 - b. This permit does not grant any property rights or exclusive privileges.
 - c. This permit does not authorize any injury to the property or rights of others.
 - d. This permit does not authorize interference with any existing or proposed Federal project.
3. Limits of Federal Liability. In issuing this permit, the Federal Government does not assume any liability for the following:
 - a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
 - b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (See 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision.

Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1 establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

Your signature below, as permittee, indicates that you accept and agree to comply with the terms and conditions of this permit.


(PERMITTEE)

2-9-01
(DATE)

DEPARTMENT OF AVIATION, HOUSTON AIRPORT SYSTEM

This permit becomes effective when the Federal official, designated to act for the Secretary of the Army, has signed below.


(DISTRICT ENGINEER)

09 FEB 2001

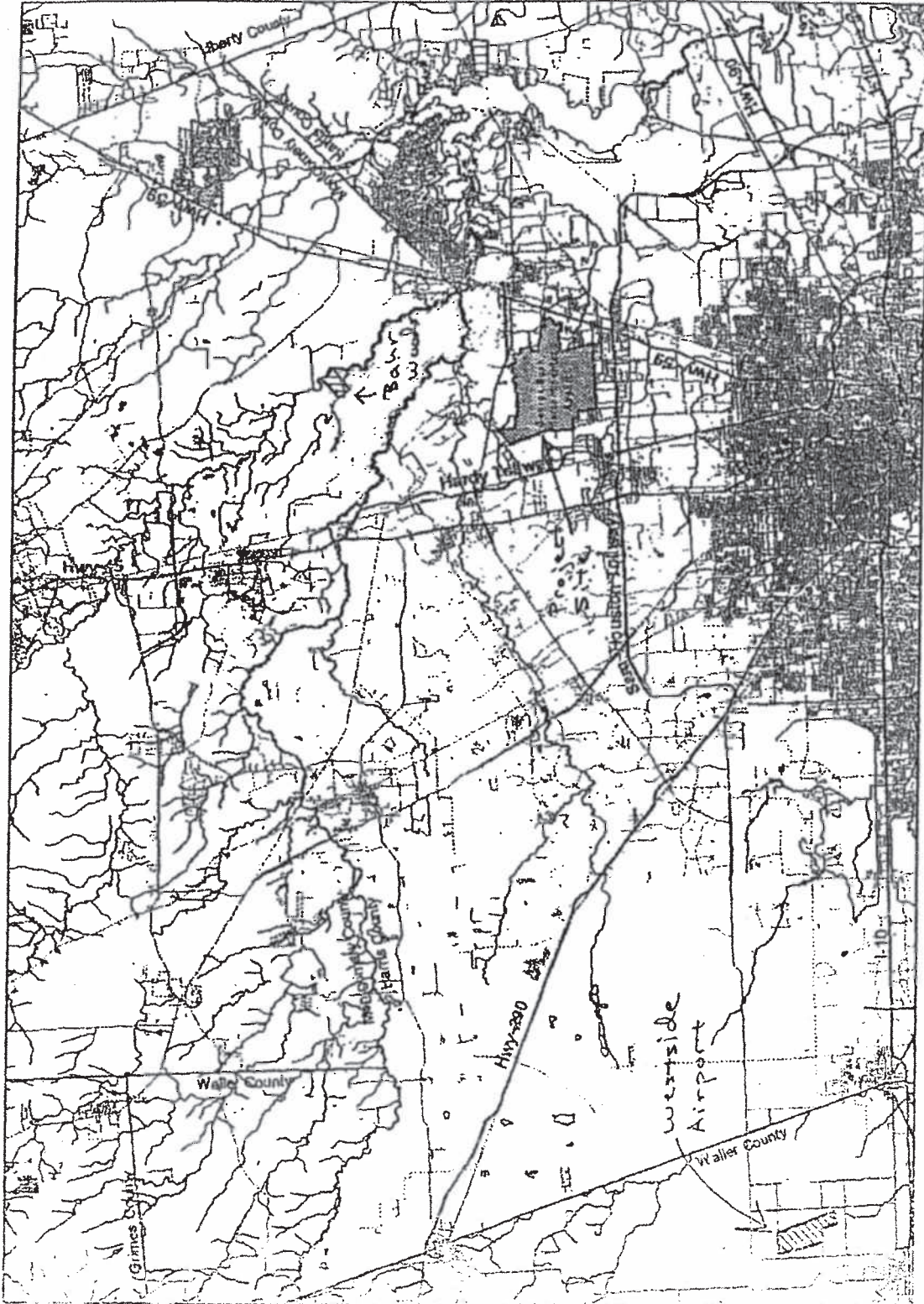
(DATE)

DOLAN DUNN, CHIEF
REGULATORY BRANCH
FOR COLONEL NICHOLAS J. BUECHLER

When the structures or work authorized by this permit are still in existence at the time the property is transferred, the terms and conditions of this permit will continue to be binding on the new owner(s) of the property. To validate the transfer of this permit and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

(TRANSFEEE)

(DATE)



PERMITTED PLANS



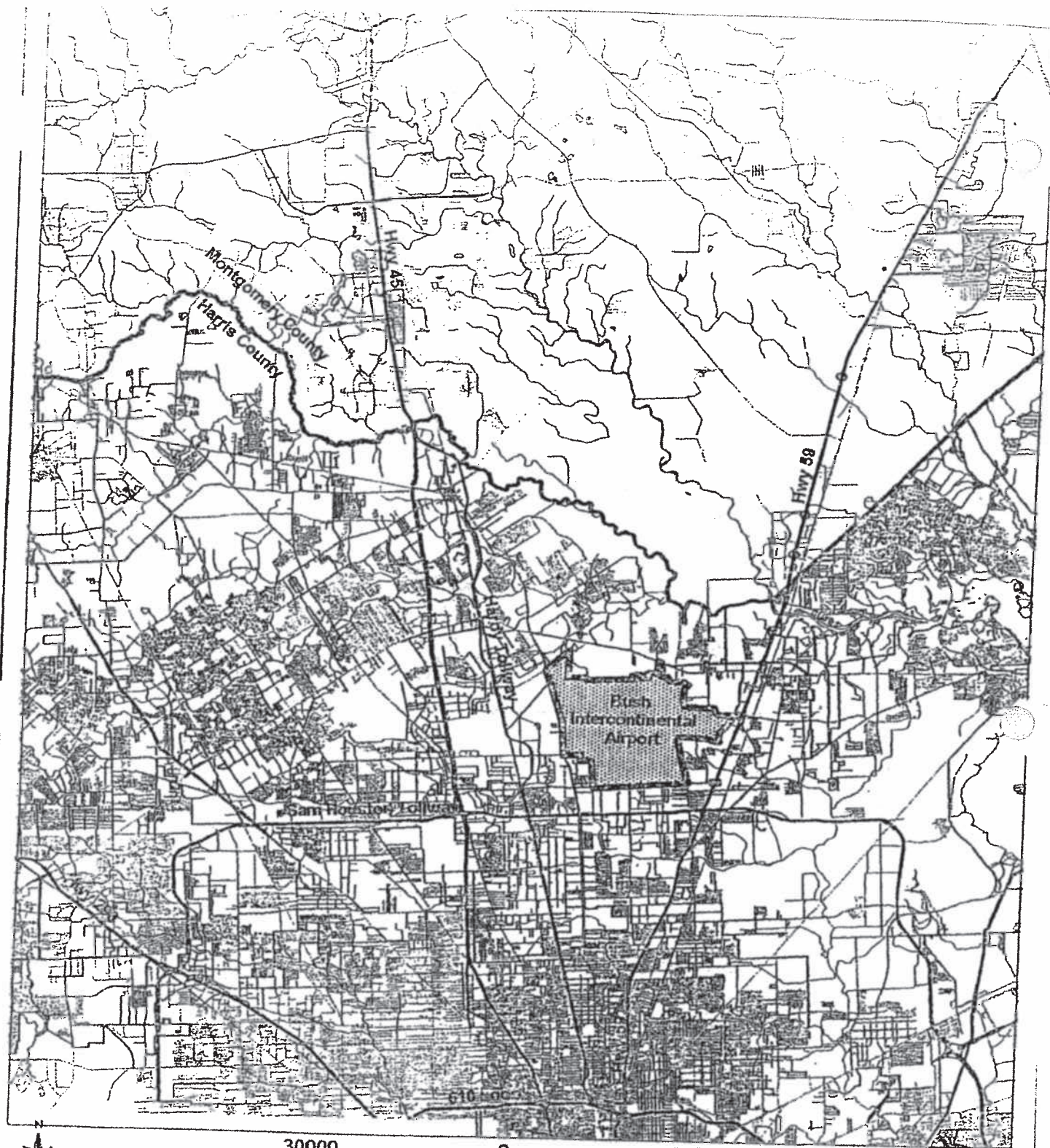
Design and Plans for the
Construction of the
Westside Airport

Figure 1. September 1999 (Draft)

Aviation
Airport System
Houston
Texas

Map
Vicinity

Dept. of
Transportation
Houston
Texas



USGS Quads: Maedan + Humble, TX.

Dept. of Aviation,
Houston Airport Sys.
Sheet 2 of 32



Ecology and Environment, Inc.
4801 Woodway, Suite 280W
Houston, Texas 77056

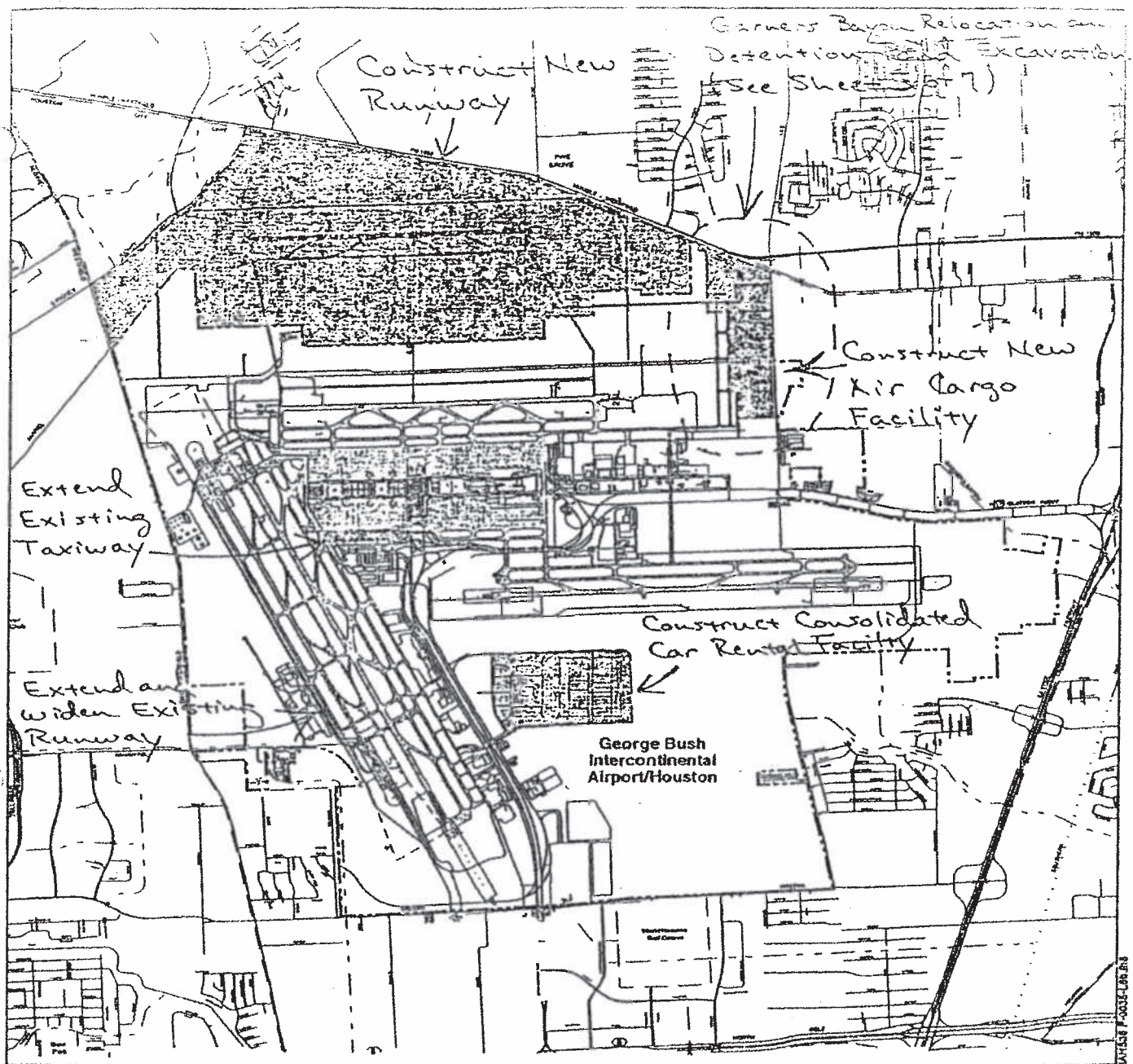
Site Location Map

Bush Intercontinental Airport
Houston, Harris County, Texas

Proj. Mgr. : B. Fairchild
Date : January 2000

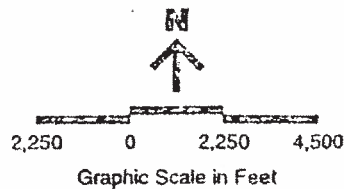
site location map, 1/00

PERMITTED PLANS



LEGEND

- Existing Airport boundary
- Future Airport boundary
- Existing pavement
- Existing pavement to be removed
- Taxiway SD bridge, ramp widening, and air cargo facilities
- Land acquisition for air cargo facilities
- Consolidated rental car facilities
- International Services Expansion Program
- New Runway 8L-26R
- Land acquisition for new Runway 8L-26R
- Runway 15R-33L extension and widening



Dept of Aviation,
Houston Airport Sys.
Sheet 3 of 32

PERMITTED PLANS

ALTERNATIVE B/C.4:
EXTEND AND WIDEN RUNWAY 15R-33L AND
CONSTRUCT NEW RUNWAY 8L-26R

EIS for Runway 8L-26R and
Associated Near-Term Master Plan Projects
George Bush Intercontinental Airport/Houston

November 1999

Dept. of Aviation
Houston Airport Sys.
Sheet H-432

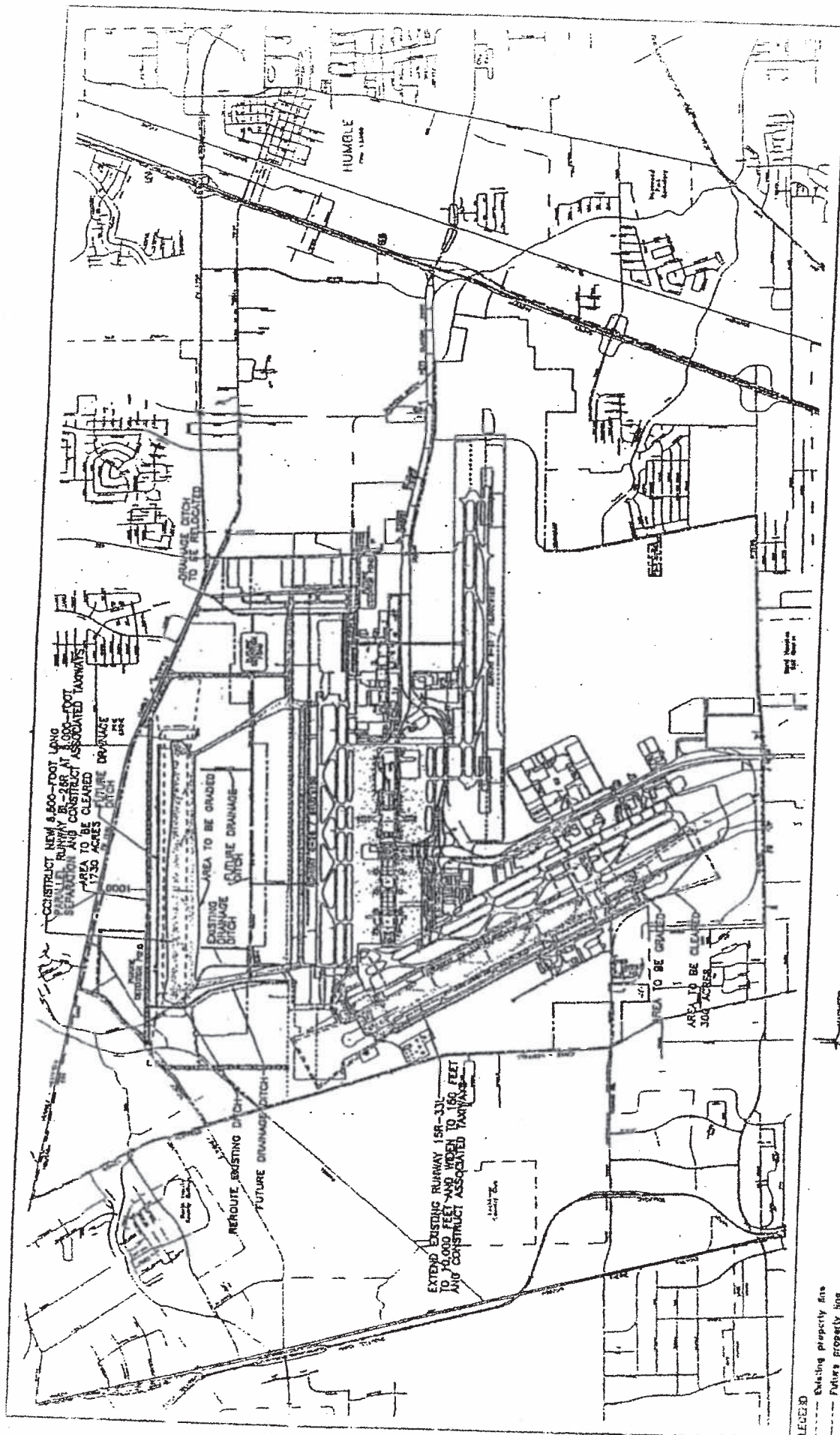
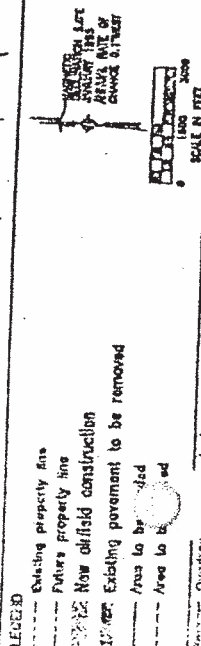
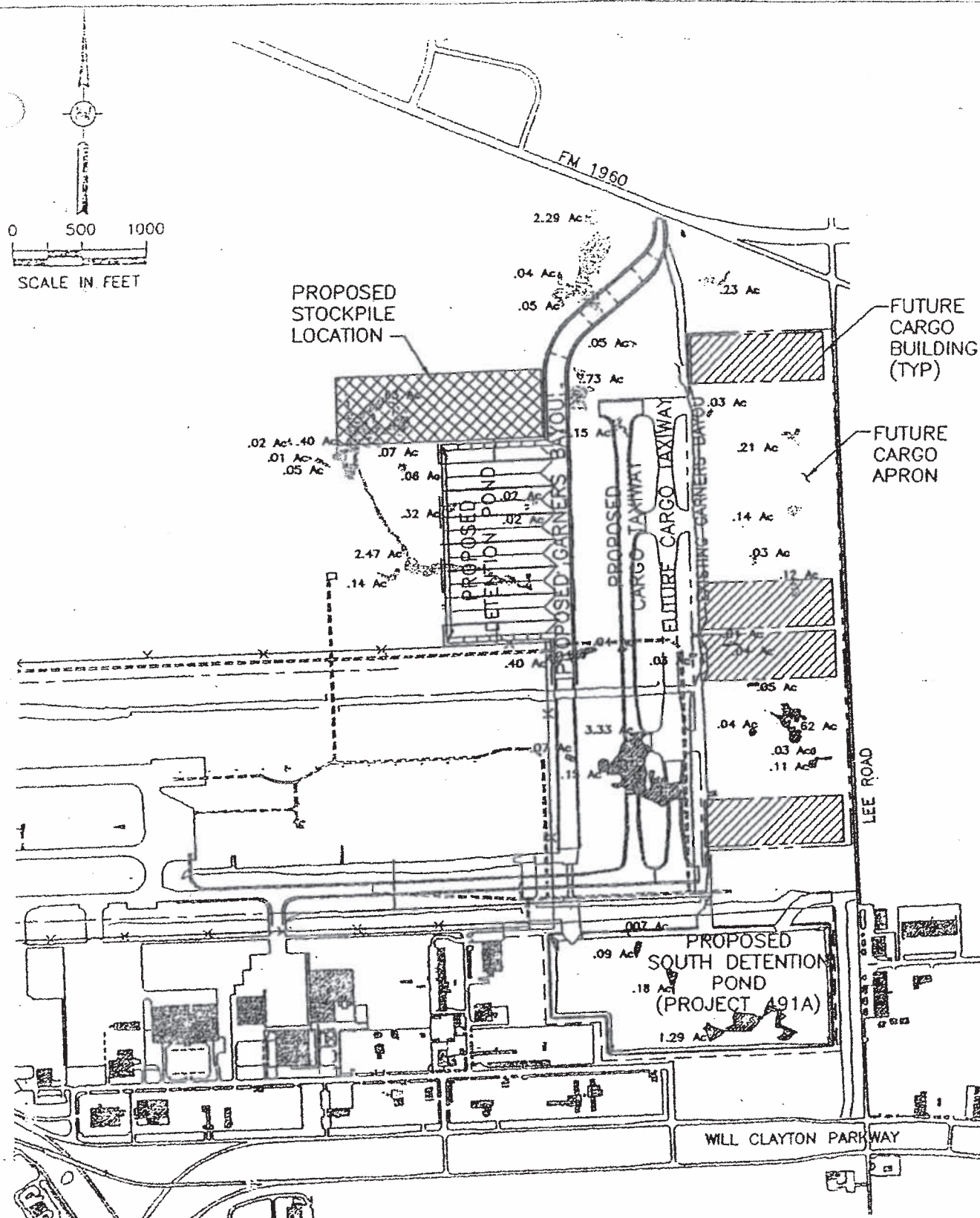


Figure
ALTERNATIVE B.C.4: EXTEND AND WIDEN RUNWAY 15R-33L AND
CONSTRUCT PARALLEL RUNWAY 8L-26R AT 8,000-FOOT SEPARATION
Grading, Clearing, Drainage, and
Environmental Impact Statement





GEORGE BUSH INTERCONTINENTAL AIRPORT
HOUSTON, TEXAS

[illegible]

500-4473

WESTSIDE AIRPORT PROPERTY MITIGATION SITE

BACKGROUND

The Westside Airport property is located in Waller County, Texas, between Katy and Brookshire, approximately 35 miles southwest of IAH. The property is approximately 1480 acres in size and is mostly fallow, but a small portion of the property is used for agriculture. Past uses of the property include cattle ranching and rice fanning. The property was purchased by the City of Houston in the mid-1980s and was originally intended to be the site of a general aviation airport. Because of the potential unsuitability of the property for use as an airport, HAS is proposing to use the property to compensate for wetland impacts resulting from implementation of the IAH development program. HAS has chosen this site for compensatory mitigation because of the current ownership status and the excess acreage which could be utilized for potential future development impacts.

The Westside Airport Property lies within the Katy Prairie, which is part of the Coastal Prairie region. The Katy Prairie was originally a vast area of mid- to tall-grass prairies interspersed with herbaceous wetlands and forests, which provided excellent habitat for a large number and variety of resident and migratory fauna along the Central Flyway. As a result of intensive land development, including overgrazing, rice farming, alteration of drainage regimes, urban development, and suppression of naturally occurring fires, only small remnants of extensive prairie and wetland habitats still exist.

MITIGATION PLAN

Wetland mitigation at the Westside Airport Property, for LAH development impacts, will consist primarily of restoration and creation of non-forested prairie wetlands and supporting prairie upland habitat. The mitigation project is being proposed on the northern half of the property consisting of approximately 600 acres. Past agricultural activities have filled wetlands and created extensive, artificial drainageways throughout the site. The soils present on the site include Katy loam and Axis series soils. The U.S. Department of Agriculture lists Axis series soils hydric.

The Westside Airport Property can be divided into several management/watershed units for development of wetland mitigation projects, including restoration of upland prairie habitats. Wetlands were identified based on an onsite delineation, interpretation of topographic surveys prepared utilizing aerial laser technology, previous delineations conducted at the site by the USACE, aerial photograph interpretation, and

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identification of hydric soils from the Waller County Soil Survey and additional studies conducted by the Natural Resources Conservation Service (formerly Soil Conservation Service).

HAS proposes to provide compensatory mitigation by restoring/creating, enhancing, and/or preserving wetlands at the Westside site. The final mitigation plan will create/restore up to 299 acres of herbaceous wetlands and enhance 44.03 acres of existing wetlands which would be greatly in excess of USACE requirements to mitigate herbaceous wetland impacts at IAH at the proposed ratios. Additionally, wetlands outside of enhanced/created areas will be preserved under the proposed conservation easement.

The Westside mitigation project consists of:

- Enhancement of 44.03 acres of emergent wetland;
- Creation/restoration of 299 acres of emergent wetland; and

Enhancement and creation/restoration of wetlands will be accomplished by constructing berms approximately 2 feet high and up to 16 feet wide in areas downslope of existing wetlands of at the downslope end of watersheds identified on site. Side slopes will be created on a 2:1 slope to prevent erosion of the slopes and allow for maintenance as needed. The top width will be up to 8 feet to allow for safe operation of construction equipment and future maintenance as needed. Berm construction will be accomplished through two techniques:

1. Grading of the areas upslope of the berm will be conducted to remove existing fallow vegetation species and expose areas of historical hydric soils. It is anticipated that approximately 4 inches of soil will be removed from the surface. Grading of these areas will allow for importation of soils from IAH, which contain rhizomes and wetland plant species seeds.
2. As necessary, a berm-creating machine will be utilized in areas where sufficient soil cannot be obtained for berm creation through grading.
3. Following placement of the soils in the general location of the proposed berms, the soil will be compacted and graded to the design dimensions and re-seeded with native prairie grasses to prevent erosion.

Watersheds were developed from topographic data obtained through LIDAR methods, with an absolute accuracy of 15 centimeters (cm) and a relative accuracy of 5 cm. Digital elevation models generated from the topographic data were input into a GIS program (ARCVIEW) and analyzed to determine onsite slopes and direction of sheetflow. Based on flow paths, minor watersheds were developed to identify potential locations of berms.

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In the event that excess soils are obtained during grading activities, these soils will be stockpiled onsite until an appropriate disposal area can be located. Potential disposal areas onsite include spreading over surrounding upland areas and/or placement within existing ditches to enhance movement of water through the site. Offsite disposal may consist of donation or sale of the soils as fill for other construction projects occurring in the area.

In addition to berm construction, a water control structure will be installed at a determined outlet to allow for management of water levels. It is anticipated that the water level at the outlet of the water control structure will be maintained at 0.75 feet above the existing ground elevation, however the water control structure used will allow for increasing the water elevation at 3 inch increments. The saturated areas were determined based on contiguous areas to the inundated areas which have an elevation less than or equal to 0.5 feet above the proposed water elevation.

Following grading of the enhancement/creation areas to create berms and obtain desired elevations, hydric soils that contain hydrophytic plant species seed stock and roots will be imported from wetlands impacted at IAH. The soil imported from IAH will be spread over the proposed wetland areas approximately 1-2 inches in thickness. The soils excavated from IAH contain target species such as squarestem spikerush (Eleocharis quadrangulata), buttonweed (Diodia virginiana), Arrowhead (Sagittaria spp.), Swamp smartweed (Polygonum hydropiperoides), false fiddleleaf (Hydrolea ovata), seedbox (Ludwigia linearis), maiden cane (Panicum hemitomon), saltmarsh aster (Aster subulatus), buttonbush (Cephalanthus occidentalis), soft rush (Juncus effusus) among wetland species. These soils provide a seed stock for re-vegetation of the wetlands, hasten the establishment of a functional wetland, and increase the success rate of re-vegetation. Seeds and rhizomes contained within the imported soils would not be dependent upon water immediately upon placement as would transplanted wetland species or seedlings purchased and planted at intervals within the wetland areas.

Wetland hydrology would be maintained by precipitation falling directly on the site and sheetflow draining into the bermed areas from the surrounding uplands. In order for the mitigation goal to be successful, this analysis has been conducted to determine the amount of rainfall and runoff that would be required to create wetland hydrology. Analysis of this wetland mitigation plan was conducted against 50% of the maximum annual daily rainfall event. This calculation was based on a SCS curve runoff model for the type of existing habitat at the Westside property.

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Soil textures at the Westside site are fine sandy loams on the surface, with high silt/clay content, and clay loams to clays in the subsoil. Throughout the site there is a clay lens at approximately 28 - 30 inches below the surface that creates a high water table during the Winter and early spring months. The low permeability of these soils should assure adequate surface ponding and runoff from upland areas. The general topography of the site slopes from the northwest to the southeast. Overflow from impoundments further upslope will aid in feeding downslope impoundments. Excess water from the mitigation site would eventually follow its natural course offsite through drainage ditches that ultimately feed the headwaters of Buffalo Bayou.

Preservation of existing wetlands will be utilized to compensate for some of the impacts at IAH. Wetland areas to be preserved include those outside of bermed areas that will not be enhanced through placement of berms.

By utilizing the above techniques, it is anticipated that a sufficient wetland/upland ratio will be obtained allowing sufficient hydrology to support created/enhanced wetlands. HAS proposes to conduct habitat enhancement of upland buffer areas to include grubbing of woody herbaceous species, Chinese tallow control, and planting of native prairie grasses to decrease invader species from entering the wetland areas during establishment of wetland species and enhance runoff from upland areas. Planting of native prairie grasses would occur by tilling existing upland soils and disking in native grass seed or hay. Approximately 600 acres will be utilized for the proposed wetland mitigation project, to include upland buffer areas.

Additionally, HAS will evaluate the installation of water wells as a contingency measure for the success of the wetland mitigation project. Water wells can be placed at strategic locations to provide the ability to pump water to created wetlands. Existing drainage improvements on the site would be restored to direct water to the appropriate locations. This technique would be used a last resort to help propagate wetland species. This would not be conducted on a continual basis, but only as need to help initialize wetland development or supplement nature during periods of severe drought.

MITIGATION MONITORING/MAINTENANCE PLAN

- The newly created/enhanced wetlands will be planted using seed stock excavated from IAH which contain species as discussed previously.
- If after one year from soil importation the site does not have at least 50% plant coverage of the target wetland species, areas not having 50% coverage shall be replanted using commercially available wetland species such as softstem rush, pickerel weed, arrowhead, soft rush, and spider lily. These species will be planted at a rate of 550 plants per acre.
- If after two years following initial soil importation the site does not have at least 70% plant coverage of the target species, areas not having 70% coverage shall be replanted following specifications as discussed above.

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- Percent plant coverage shall be monitored within the mitigation area at regular intervals. A progress report, including photo-documentation will be submitted to the USACE at 2 months, 6 months, 1 year, 2 year, and 3 year intervals following the initial soil importation effort.
- Maintenance activities anticipated at the mitigation site include, but are not limited to, mowing of upland and wetland areas (during dry periods) to control invasive species, water control structure inspection and maintenance, fertilization of upland areas, erosion control, and overall land use management

SUCCESS CRITERIA

The mitigation area will be monitored semi-annually for three years by Houston Airport System. A yearly monitoring report will be sent to the USACE to document the progress of the mitigation site. Final success criteria will include observations of percent vegetation coverage, target native plant species diversity and composition, evidence of natural reproduction, cover or dominance of target wetland species, and successful creation of hydrologic regimes to ensure mitigation success by natural means.

At the end of the third-year, the mitigation site will be judged successful if the mitigation areas each have 70% coverage by the target species. If this is not achieved, the areas not meeting the success criteria will be replanted using commercial species as specified above. Following achievement of the success criteria, an as-built drawing will be submitted to the USACE along with the final report.

At the end of the monitoring period, long-term management of the Westside mitigation area will be turned over to a conservation organization, such as the Katy Prairie Conservancy (KPC). The Houston Airport System will make a one time monetary contribution to a stewardship fund of the organization. This contribution will be dedicated to the long-term management of the mitigation area in perpetuity.

Final engineering design of the proposed Westside property mitigation plan will include:

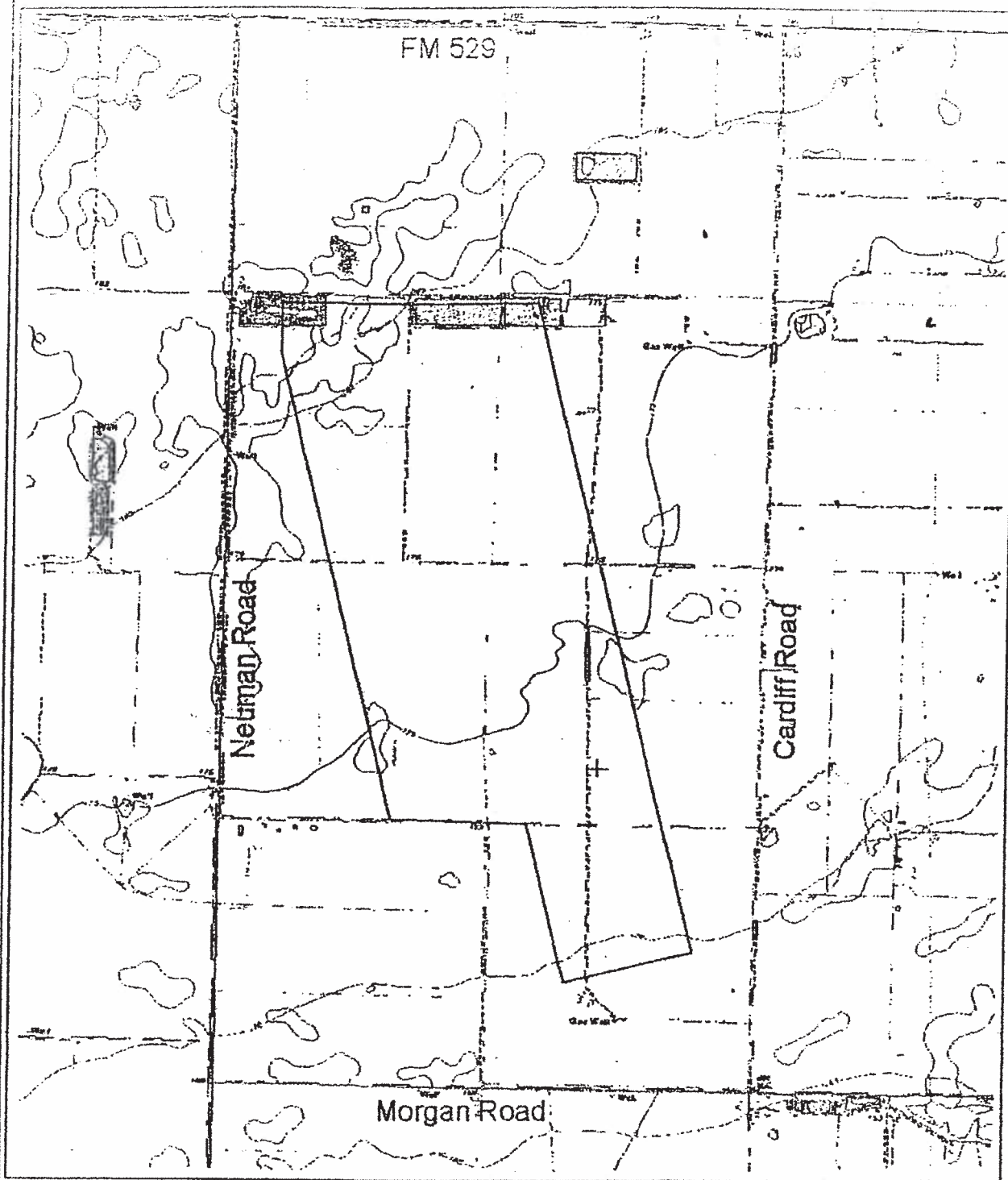
- Schedules and procedures for excavation and stockpiling of hydrophytic plant seed stock from the IAH property. Seed stock will either be stockpiled on site at the mitigation location (within upland areas) or outside development activities at IAH. Final location of stockpiling will be determined based on seed stock condition and weather conditions.
- Schedules and procedures for mitigation site preparation to include equipment to be used, site access control, exotic vegetation control, soil disposal methods, as appropriate.

Final engineering design will take place following approval of the proposed mitigation plan.

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21948 (Rev)



Legend

- ▲ Airport Property Boundary
- ▲ Wetlands From NWI Map

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	Houston, Texas International Airport in the University		
	Vicinity Map: Westside Airport Property		
5001	300	200	100

Sources: Brooks' the USFS Quad
National Wetlands Inventory Map (NWI)



Legend

Existing Wetlands

Management Units

Land Elevation
(feet)

130

170

0 300 600 900 1200 1500 Feet



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Houston, Harris County, Texas

Figure
3 Existing Wetlands

DATE: 8-11-2000

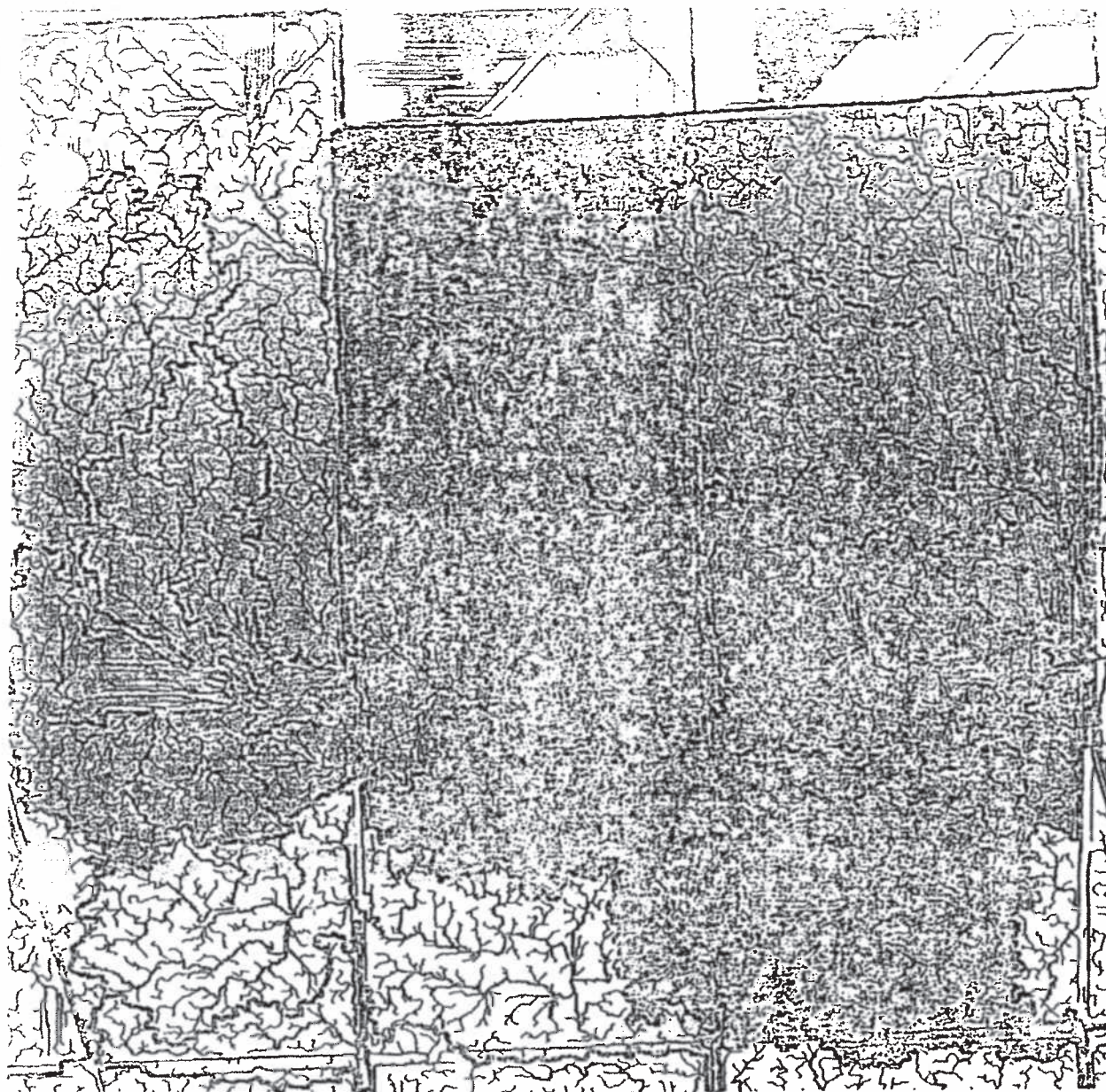
PROJECT MANAGER: B. FAIRCLOD

APPROVED BY: B. FAIRCLOD

GENERATED BY: JENNIFER PAGEON

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PERMITTED PLANS



500 0 500 1000 Feet



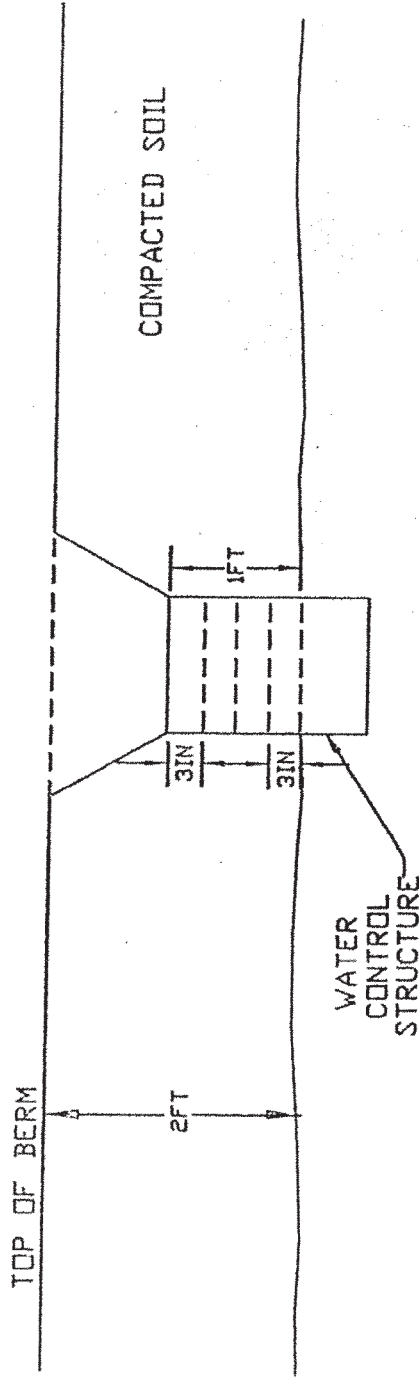
Figure 5

Westside Watershed Locations

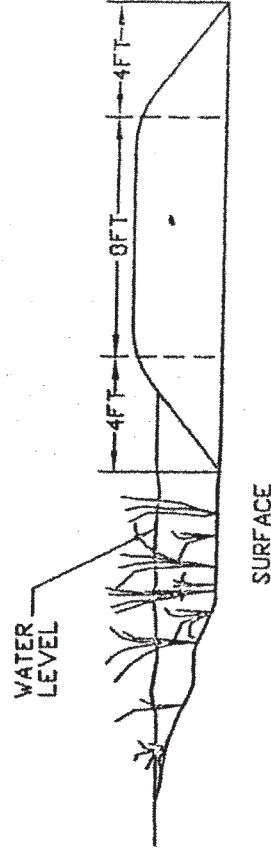
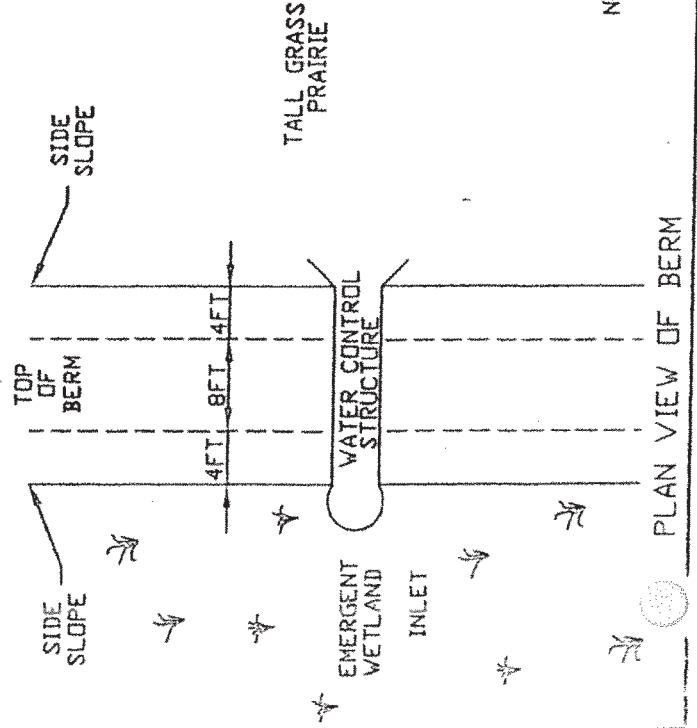
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PROFILE VIEW OF BERM CONSTRUCTION



CROSS SECTION OF BERM

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4801 Woodway, Suite 280W
Houston, Texas 77056

HOUSTON AIRPORT SYSTEM
WESTSIDE MITIGATION PLAN

DESIGNED BY: B.K.F.

CHECKED BY: B.K.F.

DRAWN BY: J.L. SCALE: N.T.S.

DATE: AUGUST 7, 1991

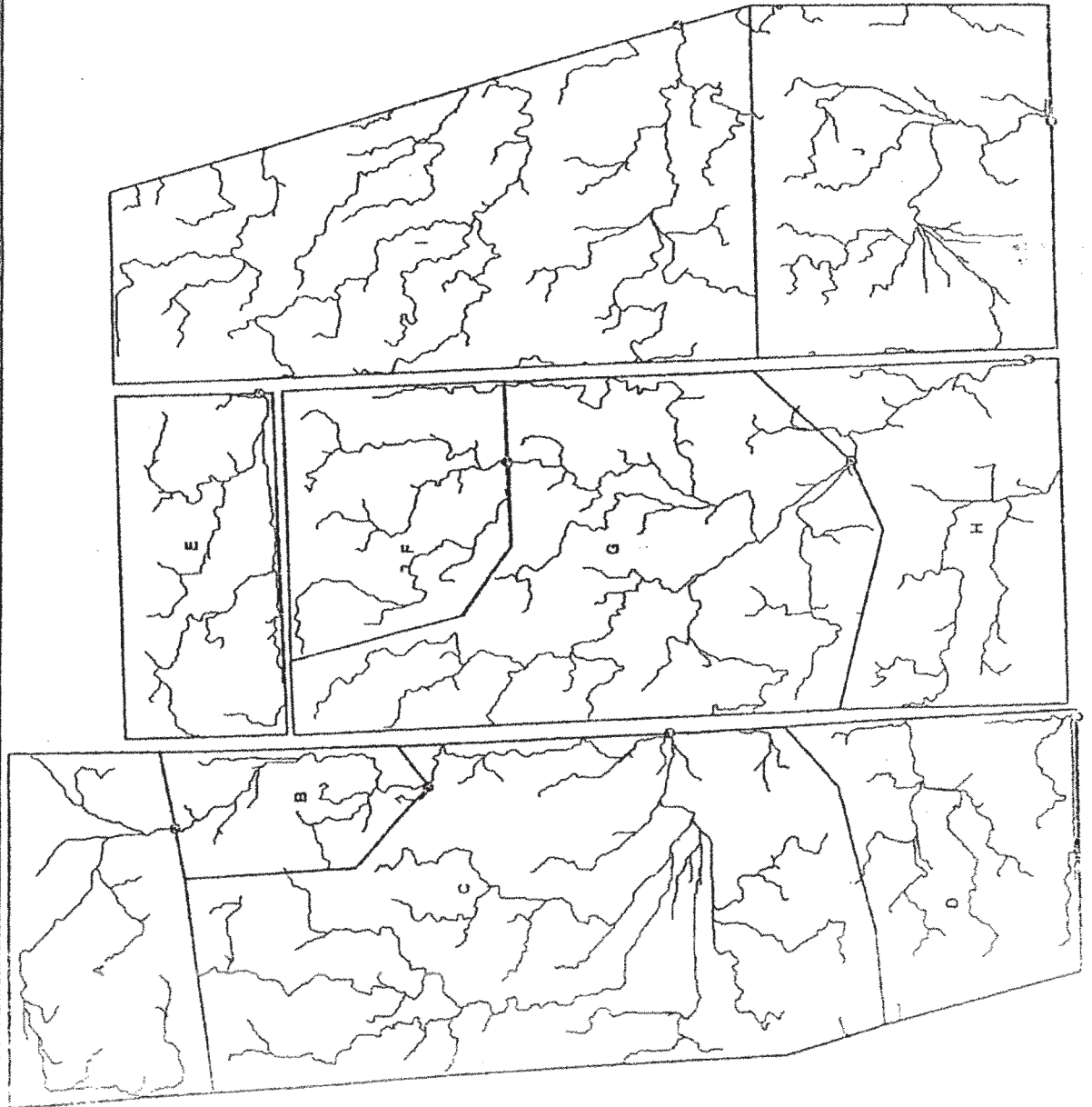
NOTE: AS BUILT PLAN WILL BE
SUBMITTED WITH THE FINAL
REPORT.

PLAN VIEW OF BERM

FIGURE 6

RESTRICTED PLANS

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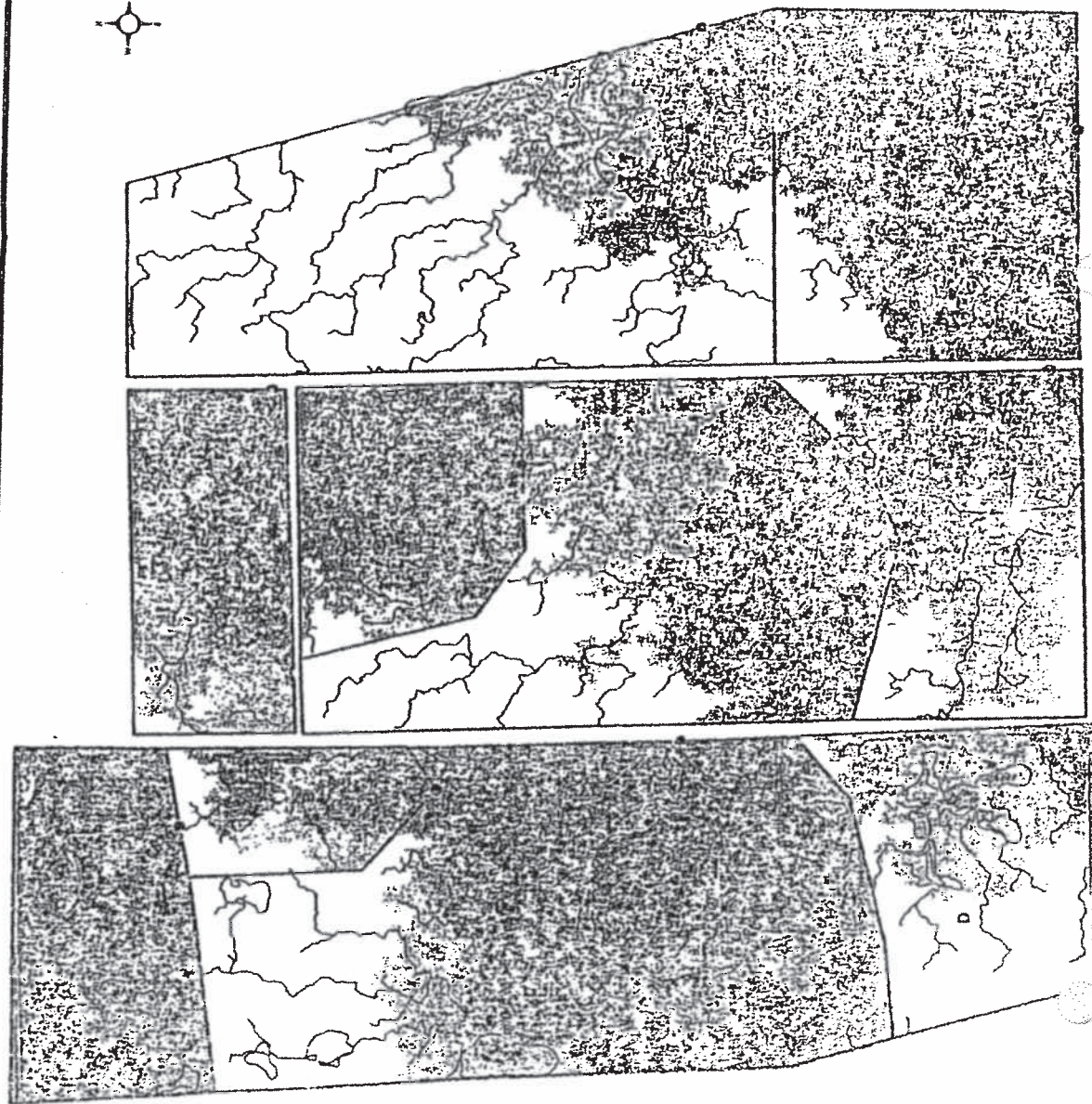
Legend	
①	Outlet Locations
~	Born Locations
~	Primary Flow Paths
□	Management Units

0 300 600 900 1200 1500 Feet

ecology and environment, inc. 11111 Highway 101, Suite 101 Houston, Texas 77057	
Bush IAH Expansion Mitigation Plan Houston, Harris County, Texas	
Page 8	Born and Outlet Locations
7	
DATE: 8-11-2000	
PROJECT MANAGER: B. FAIRCLOD	
APPROVED BY: B. FAIRCLOD	
GENERATED BY: JENNIFER PIGEON	

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Legend	
	Largest Existing Contiguous Sinks (<0)
	Largest New Contiguous Sinks (0-0.75)
	Largest New Contiguous Saturated Areas (0.75-1.25)
	Outlet Locations
	Berm Locations
	Primary Flow Paths
	Existing Wetlands
	Management Units

Note: Existing contiguous sinks determined by ground surface elevation at outlet.



Acreage				
	Existing Wetlands	Existing Sinks	New Sinks	Outlet Areas
A	6.22	7.34	22.73	1.41
B	0.00	1.80	1.80	6.80
C	17.78	11.90	47.85	20.11
D	3.28	0.60	1.53	12.21
E	0.00	0.78	14.38	11.84
F	3.28	6.53	15.12	11.34
G	9.00	2.19	32.95	13.82
H	0.81	0.85	3.78	22.29
I	8.85	0.63	8.40	15.57
J	7.28	5.28	30.38	8.77
				56.78

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Houston, Texas

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Houston, Harris County, Texas

Figure 8 Wetland Enhancement and Creation

DATE: 8-11-2000

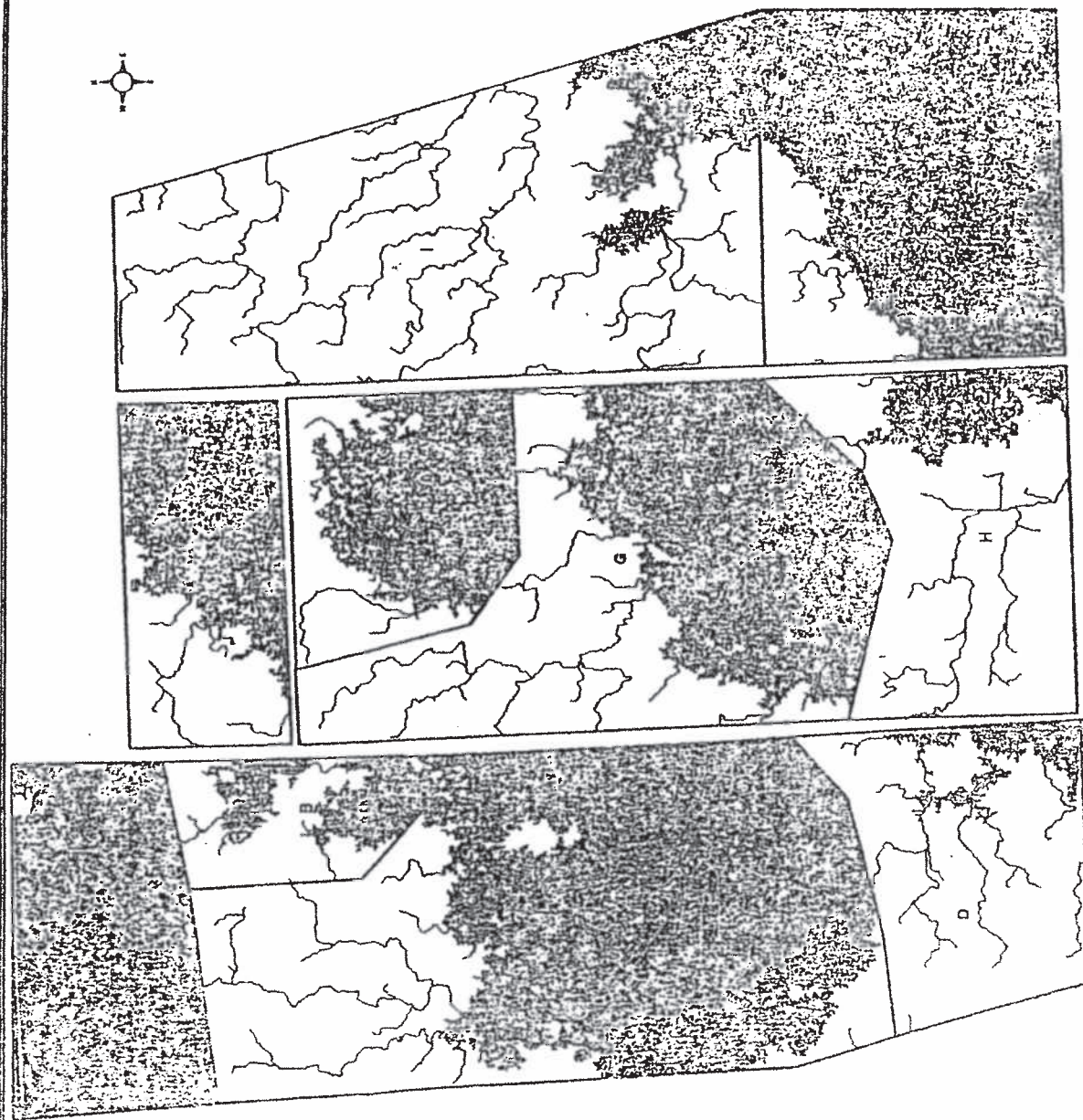
PROJECT MANAGER: B. FAIRCHILD

APPROVED BY: B. FAIRCHILD

GENERATED BY: JENNYFER PIGEON

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Legend	
	Largest Existing Contiguous Sinks (≤0)
	Largest New Contiguous Sinks (0-0.75)
	Primary Flow Paths
	Management Units

	Existing Sinks		New Sinks		Management Units
	Area (sq. ft.)	Volume (cu. ft.)	Area (sq. ft.)	Volume (cu. ft.)	
A	345,378	139,899.65	137,900	80,704.20	1,050,142
B	69,425	13,111.70	14,795	8,405.05	87,4703
C	81,700	15,199.41	26,632.50	139,755.27	45,103,82
D	34,750	7,977.57	10,127.5	40,262.49	150,7730
E	32,725	5,070.13	83,397.5	22,8613.00	130,114
F	23,225	6,784.10	6,162.5	26,057.91	131,1882
G	95,525	23,341.41	151,300	76,823.23	333,3031
H	38,875	10,625.38	20,175	62,798.39	179,4652
I	36,150	8,708.15	40,223	23,251.90	43,27060
J	20,100	7,665.08	190,275	111,4130.86	25,6697

0 300 600 900 1200 1500 Feet

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Environmental and Planning Services
Houston, Texas

Bush IAH Expansion Mitigation Plan
Houston, Harris County, Texas

Figure 10
Vetted Management Areas

DATE: 8-11-2000
PROJECT MANAGER: B. FARCHILD
APPROVED BY: B. FARCHILD
GENERATED BY: JENNIFER PIGEON

BAHR WOODS MITIGATION AREA

PERMITTED PLANS

BACKGROUND

The Bahr Woods Mitigation Area is located in Montgomery County, Texas and is bounded on the east by the West Fork of the San Jacinto River and on the west by Woodsons Gully. The site is located approximately two miles north of IAH and consists of a 6,600-acre tract of undeveloped land. Mr. Charles A Bahr proposes to develop a mitigation area to service mitigation projects in Montgomery County and northern Harris County, Texas.

Through analysis of aerial photographs and following a site visit, this site consists of primarily high quality, forested habitat. NWI mapping indicates that large areas of forested wetlands, emergent wetlands, forested uplands, and some open water habitats exist on the property. Many of the wetland and open water areas are associated with historical channel courses of the San Jacinto River, Woodsons Gully, and Spring Creek. Soil mapping shows many large areas of hydric soils present on the site. The topography of the site consists of many depressional steps sloping down towards the San Jacinto River and Cypress Creek.

The owners/representatives of the 6,600 acre parcel have plans to develop wetland mitigation projects at the site, within the 100-year floodplain and floodways of Spring Creek and the San Jacinto River, to meet the needs of large wetland mitigation efforts in the Houston Area. The location and quality of habitat on the property would provide the opportunity for off-site/in-kind mitigation of IAH wetland impacts. The existing vegetative, hydrologic, and hydric soil conditions are conducive to the enhancement and preservation of existing wetlands and associated uplands and the creation of new wetlands within the expansive 100-year floodplain.

MITIGATION PLAN

HAS proposes to mitigate for the palustrine forested wetland and palustrine shrub/scrub wetland impacts, proposed as part of the IAH development activities, at this mitigation location. Included as Appendix E is the final mitigation plan for development of the mitigation site. The proposed mitigation project consists of approximately 915 acres of wetland and upland areas. The tract includes the enhancement of existing wetlands, creation of new wetlands, and preservation of high quality wetlands and associated upland habitat. No wetland impacts are anticipated as part of the mitigation proposal.

HAS proposes to provide the following as mitigation for forested and shrub/scrub wetland impacts:

- Wetland creation 20.7 acres
- Wetland restoration 44.2 acres
- Wetland enhancement 47.1 acres
- Wetland preservation 60.3 acres
- Upland buffer preservation 743.4 acres

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Based on the proposed ratios for each category, the wetland creation, restoration, enhancement, and preservation will give a total mitigation credit of 60.21 acres. This total does not include credits for upland buffers.

Prior to submittal and as part of the final engineering design mitigation plan, the following activities will occur at the Bahr Woods Mitigation Area:

- Field verification by the USACE of existing wetlands;
- Design of grading plans and construction drawings;
- Creation of a non-profit corporation for management of the mitigation area; and
- Placement of a conservation easement on the proposed mitigation area.

Following implementation of the proposed Bahr Woods Mitigation Area, an as-built drawing will be submitted to the USACE along with a report following successful development of the mitigation site.

INTRODUCTION

The City of Houston/Houston Airport System proposes to mitigate unavoidable wetland impacts from the proposed expansion of George Bush Intercontinental Airport by purchasing mitigation credits in the Bahr Woods Mitigation Area located in Montgomery County, Texas. The mitigation area is bounded on the east by the West Fork San Jacinto River and on the west by Woodsons Gully.

Land use practices on the proposed mitigation area include pine timbering, limited cattle grazing, and deer hunting leases. No hardwoods have been harvested from the property. Pine harvesting has been selective with no more than 1/2 of the pine being taken at any given harvest. The area has been altered by logging activities in the past and several vegetation communities currently exist. A description of the current condition of the proposed mitigation area follows.

The proposed mitigation plan calls for restoration of wetland hydrology to previously drained areas, enlargement of existing wetlands, creation of new wetlands, and preservation of existing high quality habitat. The mitigation area will consist of forested wetlands, forested uplands, and wetland prairie. This document presents a plan for the development and implementation of the mitigation in the Bahr Woods Mitigation Area.

EXISTING CONDITIONS

Methods

Background information was collected for the property from the following resources: United States Geological Survey (USGS) DOQQ color infrared photography (1995); aerial photography (April, 1999), USGS 7.5 minute quadrangle, Maedan, Texas; U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) maps; and the Natural Resource Conservation

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Service (NRCS) Soil Survey for Montgomery County, Texas (1972). The methodology used for the survey follows the 1987 Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) (Environmental Laboratory, 1987) for routine large areas. However, this report is not a delineation of jurisdictional wetlands. Four transects were investigated approximately 800 feet apart and approximately 6,200 feet in length. Plant community types were investigated and delineated along each transect. The Trimble GeoExplorer 11 Global Positioning System (GPS) was used to take a point at each community type transition along transect lines. Wetland areas found on the NWI maps were verified along transects and any additional areas were noted.

Dominant trees, shrub-scrub, and herbaceous species, canopy cover, soils, and wetland characteristics were investigated for each vegetation community type encountered. Four canopy classes have been defined to describe these areas: open - 0-20%, sparse - 21-35%, medium - 36-50%, dense - 51-70%, and closed - 71 - 100%. The vegetation community types were mapped using a geographic information system (GIS).

RESULTS

Soils

According to the NRCS Soil Survey for Montgomery County, Texas (1972), the soil association found on the study area is the Albany-Tuckerman association. This association is found on broad stream terraces, poorly drained flats, and poorly drained, sandy ridges. This association covers about 7 percent of the county and is used primarily for pine timber.

Soils found in the project area include Albany fine sand; Chipley fine sand; Crevasse sand; Crowley fine sandy loam; Fuquay loamy fine sand terrace; Garner clay; Tuckerman loam, heavy substratum; and Tuscumbia clay, frequently flooded. According to the Montgomery County, Texas, Hydric Soils List, three of these soils are hydric or contain hydric inclusions. Tuckerman loam, heavy substratum and Tuscumbia clay frequently flooded are both hydric soils. Crowley fine sandy loam has hydric inclusions in depressional areas. Soil types will be verified when detailed wetland delineations are performed in support of specific permit applications proposing to use the mitigation area.

Hydrology

The hydrology of the mitigation area is dominated by the West Fork San Jacinto River and Woodsons Gully. Approximately 355.2 acres of the mitigation area is within the 100 year flood plain for the West Fork San Jacinto River. Approximately 117.7 acres of the mitigation area is within the floodway of the West Fork San Jacinto River and Woodsons Gully. The project site is fairly flat with drainage on the site being generally from the northwest to the southeast. Much of the wetland hydrology has been altered as a result of silviculture activities.

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Vegetation Communities

A total of nine (9) vegetation communities were identified within the proposed mitigation area. These include Pine-Hardwood Forest, Palustrine Forested Wetland, Cypress Dominated Wetland, Palustrine Emergent Wetland, Palustrine Scrub-Shrub Wetland, Pine-Oak Palmetto Flat, Hardwood Yaupon Thicket, Yaupon-Palmetto Thicket, and Transition area at the river. Plant identification was aided by taxonomic keys (Correll and Johnson, 1979; Godfrey and Wooten, 1979; Gould, 1975; Harlow and Harrar, 1968).

Pine-Hardwood Forest (PHF) (290.70 acres)

The Pine-Hardwood Forest is an upland highly disturbed due to logging activities. The canopy cover ranges from open to medium with dominant species consisting of loblolly pine and various hardwood species. The understory varies according to the amount of logging activity in the area. Areas with an open canopy frequently have an herbaceous understory. Areas with a sparse canopy cover generally have a mixture of predominantly scrub/shrub understory with little herbaceous species. Those areas with a canopy cover ranging from sparse to medium normally have only a scrub/shrub understory composed of one or two species. Approximately 10% of this area consists of wetlands created from logging activities and road building.

Dominant tree species include loblolly pine (Pinus taeda), southern red oak (Quercus falcata), water oak (Q. nigra), willow oak (Q. phellos), and sweetgum (Liquidambar styraciflua). Shrubs in the area include yaupon holly (Ilex vomitoria), possum-haw holly (I. decidua), American hornbeam (Carpinus caroliniana), parsley hawthorn (Crataegus marshallii), Chinese tallow saplings (Sapium sebiferum), and dwarf palmetto (Sabal minor). The herbaceous understory consists of camphorweed (Pluchea camphorata), beaked rush (Rhynchospora sp.), Carex sp., Juncus sp., yankee weed (Eupatorium capillifolium), mist-flower (Eupatorium coelestinum), Lamiaceae, muscadine grape (Vitis rotundifolia), and sarsaparilla vine (Brunnichia ovata).

Deciduous Forested Bottomland (DFB) (75.85 acres)

The Palustrine Forested Wetland is associated with broad-leaved deciduous trees with a canopy cover which is medium to closed with dominant species consisting of hardwoods. The understory varies from little or no herbaceous cover to heavy vine/shrub understory.

Dominant tree species include red maple (Acer rubrum), red bay (Persea borbonia), willow oak, water oak, sweetgum, and American hornbeam. Shrubs in the area include possum-haw holly, yaupon holly, American beauty-berry (Callicarpa americana), Chinese tallow tree saplings, and dwarf palmetto (Sabal minor). The herbaceous understory is a minor component of this habitat and includes smartweed (Polygonum hydropiperoides), trumpet-creeper (Campsis radicans), American buckwheat vine (Brunnichia ovata), and sarsaparilla vine (Smilax pumila).

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Cypress Dominated Wetland (CDMD (23.04 acres)

The cypress dominated wetland is associated with broad-leaved deciduous trees with canopy cover that is medium to closed with an herbaceous understory. Dominant tree species include bald cypress (Taxodium distichum), water elm, water oak, sweetgum, and sycamore (Platanus occidentalis). The understory includes bald cypress saplings, yaupon holly, cypress pneumatophores, and herbaceous species including smartweed, alligatorweed, and Indian heliotrope (Heliotropium indicum).

Palustrine Emergent Wetland (PE3D (4.23 acres)

The Palustrine Emergent Wetland has an open canopy and is surrounded by loblolly pine. The dominant shrubs found within the wetland are rattlebush (Sesbania drummondii) and buttonbush (Cephalanthus occidentalis). Herbaceous emergent species are dominant throughout the area and include camphorweed, smartweed, and Juncus sp.

Palustrine Scrub-Shrub Wetland (PSS)D (2.18 acres)

The Palustrine Scrub-Shrub Wetland is associated with broad-leaved deciduous trees with a canopy cover which is approximately 60% with a thick understory of palmetto. Depressional areas found within this area support emergent herbaceous species.

Dominant trees include sweetgum, water oak, winged elm (Ulmus alata), and ash (Fraxinus pennsylvanica). Scrub-shrubs in the area include Chinese tallow tree saplings, dwarf palmetto, buttonbush, and American beauty-berry. Vines in the area include trumpet creeper and various Smilax sp. Depressional areas and bermed areas adjacent to the road support emergent vegetation including alligator weed (Alternanthera philoxeroides), smartweed, lizard's tail (Saururus cernuus), and beaked rushes.

Pine-Oak Palmetto Flat (POPE) (43.97 acres)

The Pine-Oak Palmetto Flat has a closed canopy composed of primarily pine and oak species with an understory composed of dwarf palmetto. Dominant trees include loblolly pine, slippery elm, water oak, willow oak, and sweetgum. This community type is void of herbaceous species, has a well-defined boundary.

Hardwood-Yaupon Thicket (HYT) (22.23 acres)

The Hardwood-Yaupon Thicket has a sparse canopy cover (30%) comprised of large hardwoods with a dense, lower canopy cover of 90% yaupon holly. Dominant trees in this area include Carya sp., southern red oak, and black walnut (Juglans nigra). Herbaceous species and vines include giant cane (Arundinaria gigantea), Smilax sp., and Japanese climbing fern (Lygodium japonicum). Low lying areas within the thicket appear to be wet and contain species such as alligator weed and smartweed.

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Yaupon-Palmetto Thicket CUT (12.9 acres)

This Yaupon-Palmetto Thicket is densely vegetated with 90- 100% canopy cover. The dominant trees include sweetgum and water elm. The understory is very thick with yaupon holly, dwarf palmetto, Smilax sp., and rattan vine (Berchemia scandens). Herbaceous species are scarce with the exception of Lamiaceae.

Transition area at river (TAR) (21.47 acres)

A transitional area occurs at the northeastern boundary of the property parallel to the river. Various grasses, vines, and trees occur in this area with primarily herbaceous cover. The dominant tree is loblolly pine. A number of vines occur such as Smilax and Rubus. Sandbars of the San Jacinto River abut this area.

PROPOSED ENHANCEMENTS

The proposed mitigation area will offer four (4) different mitigation features:

1. Restoration of wetland hydrology to previously drained areas
2. Enlargement of existing wetlands
3. Creation of new wetlands
4. Preservation of existing high quality habitat.

Restoration of Wetland Hydrology

The wetland hydrology in the four wetland vegetation communities has been altered as a result of silviculture activities on the property. Drainage improvements have been made in the past to facilitate tree growth and harvesting. Previously constructed drainage channels will be closed and the historic hydrology of the various wetlands restored. It is estimated that approximately 44.2 acres of drained wetlands can be restored.

Prior to initiation of the restoration activities, all marketable timber will be harvested from the area. No cutting of hardwoods will occur.

Enlargement of Existing Wetlands

Concurrent with the restoration of historic hydrologic patterns, enhancements will be implemented on 47.1 acres which will enlarge the areas which will be ponded and seasonally flooded. This will be accomplished with the strategic placement of berms. Due to the relatively flat nature of the site, the placement of low, wide berms at appropriate locations within the mitigation area will allow water to be ponded over larger areas. Water control structures will be placed in the berms, as necessary, to facilitate "fine tuning" of the enhanced wetlands. A water control structure height of 1.0 feet was assumed in calculating the anticipated areas of inundation.

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No active introduction of wetland plant species is proposed in these areas. Once the enhanced wetland hydrology is in place, natural recruitment from the adjoining wetland communities should rapidly occur.

Prior to initiation of the enlargement activities, all marketable timber will be harvested from the area. No cutting of hardwoods will occur.

Creation of New Wetlands

The more heavily timbered and pine-dominated portion of the property lends itself to wetland creation. The intent of the wetland creation (20.7 acres) will be to develop a meaningful wet meadow that will compliment the extensive system of forested uplands and forested wetlands which surround the wetland creation site. The area contains some of the flatter and drier portions of the site. Wetland hydrology will be introduced using low, wide berms placed across the gradient such as those proposed for the enlargement of the existing wetlands.

Initially, all timber will be cleared from the proposed wetland creation site with the exception of hardwoods. Secondly, the stumps will be removed and the site graded to prepare it for planting. Depending upon the contours present after clearing, the site may be contoured to facilitate ponding or seasonal flooding. The earthen berm will be created by pushing up fill from the inside of the berm. This will also create a deeper open water area just inside the berm. The prepared site will then be planted with wetland species typical of other wetland prairies located elsewhere on the Bahr property. Species anticipated for planting include alligator weed, lizard's tail, beaked rush, Carex sp., Juncus sp., Eleocharis sp., maiden-cane (Panicum hemitomon), Cyperus sp, smartweed, broad-leaf arrow-head (Sagittaria latifolia), broad-leaf cattail (Typha latifolia), and Xyris sp.

Preservation of Existing High Quality Habitat

Approximately 743.4 acres of forested non-wetland habitat will be preserved on the remainder of the mitigation area. This habitat serves as a valuable buffer for the wetland habitats within the mitigation area. Included in the forested buffer is the eastern portion of the site which is in the floodway of the West Fork San Jacinto River. The floodway has not been timbered in the past and contains a diverse native habitat. This area is representative of the habitat which most likely existed along the river prior to development of the region. It is proposed that this 743.4 acres of the mitigation area be used for "preservation" credits and that no alterations be made to the existing habitat.

LONG-TERM MANAGEMENT OF THE MITIGATION AREA

Management Entity

A Management Corporation (Corporation) will be formed to develop, operate and manage the mitigation area. It is proposed that the corporation will own the mitigation properties and manage them over time. The intent is for this mitigation area to be the beginning of a much larger mitigation complex.

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21743 (K.W.)

The Corporation will have the staff, equipment and resources necessary to implement this mitigation plan and to maintain the property in perpetuity.

Long-Term Protection of the Mitigation Area

Once this mitigation unit is developed and permitted, the Corporation will execute a conservation easement for that unit. The easement will be written so that it can be amended and expanded to include future units as they are added.

Management Plan

The Corporation will develop a specific long-term management plan for the mitigation area prior to the approval of the first mitigation unit. It is anticipated that this management plan will be developed in coordination with the USACE and the resource agencies. At a minimum, the plan will include such features as:

Eradication and Control of Chinese Tallow - While the proposed mitigation site is not infested with Chinese tallow as are other properties in the Harris/Montgomery County region, scattered growths are present. An active program for the eradication and control of Chinese tallow will be incorporated into the management plan.

Fencing of the Site - Cattle grazing will continue on adjacent properties. The mitigation site will be fenced to prevent cattle access to the property unless desired. The fencing will also secure the site from the general public that may try to access the site from the adjoining sites or along the San Jacinto River.

Cattle Grazing - Some level of grazing may still be used as a vegetation management mechanism. While there is no intent to actively graze cattle on the site, the option should be kept in the management plan as a tool to be used if necessary.

Hunting Leases - Deer hunting will continue as a necessary wildlife management tool. However, the leasing program currently in place will be replaced by a more controlled and actively managed program. A program for hunting and controlling the wild hog populations within the mitigation site will also be implemented.

Varmit Control - An active trapping program will be initiated to control beaver and nutria which can cause significant damage if left unchecked. Currently, nutria are not a problem and appear to be present in very small numbers, if at all. However, an increasing beaver population has been observed and immediate action will be necessary to control the population.

Timber Harvesting - Commercial timbering of the mitigation site will cease upon execution of the conservation easement. However, the ability to timber and brush the property will be left in the management plan as a management tool. Any harvesting programs implemented will be based on the experience and success of Mr. Bahr's past harvesting programs and will be submitted to the USACE and resource agencies for review and comment prior to implementation.

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Mineral Management - The Management Corporation will own and protect the surface of the site. However, the mineral interests are held by a separate entity. Pursuant to the Texas Parks & Wildlife "Staff Guidelines for Mineral Recovery Operations on Department Lands", a mineral management plan will be developed to ensure that mineral recovery and associated activities on the mitigation site will be compatible with the intended purposes for which the mitigation site is acquired and managed.

MONITORING AND REPORTING

The following parameters will be used for monitoring created wetlands:

A transplant survival survey of the planted mitigation area must be performed within 60 calendar days following the initial planting effort. If at least 50% survival of transplants is not achieved within 60 calendar days of planting, a second planting effort will be completed within 60 calendar days of completing the initial survival survey. If optimal seasonal requirements for re-planting targeted species is not suitable when replanting would be required, the Corps of Galveston District (Corps) must approve a re-planting schedule.

Written reports detailing plant survival must be submitted to the Corps within 30 calendar days of completing the initial survival survey and any subsequent replanting effort.

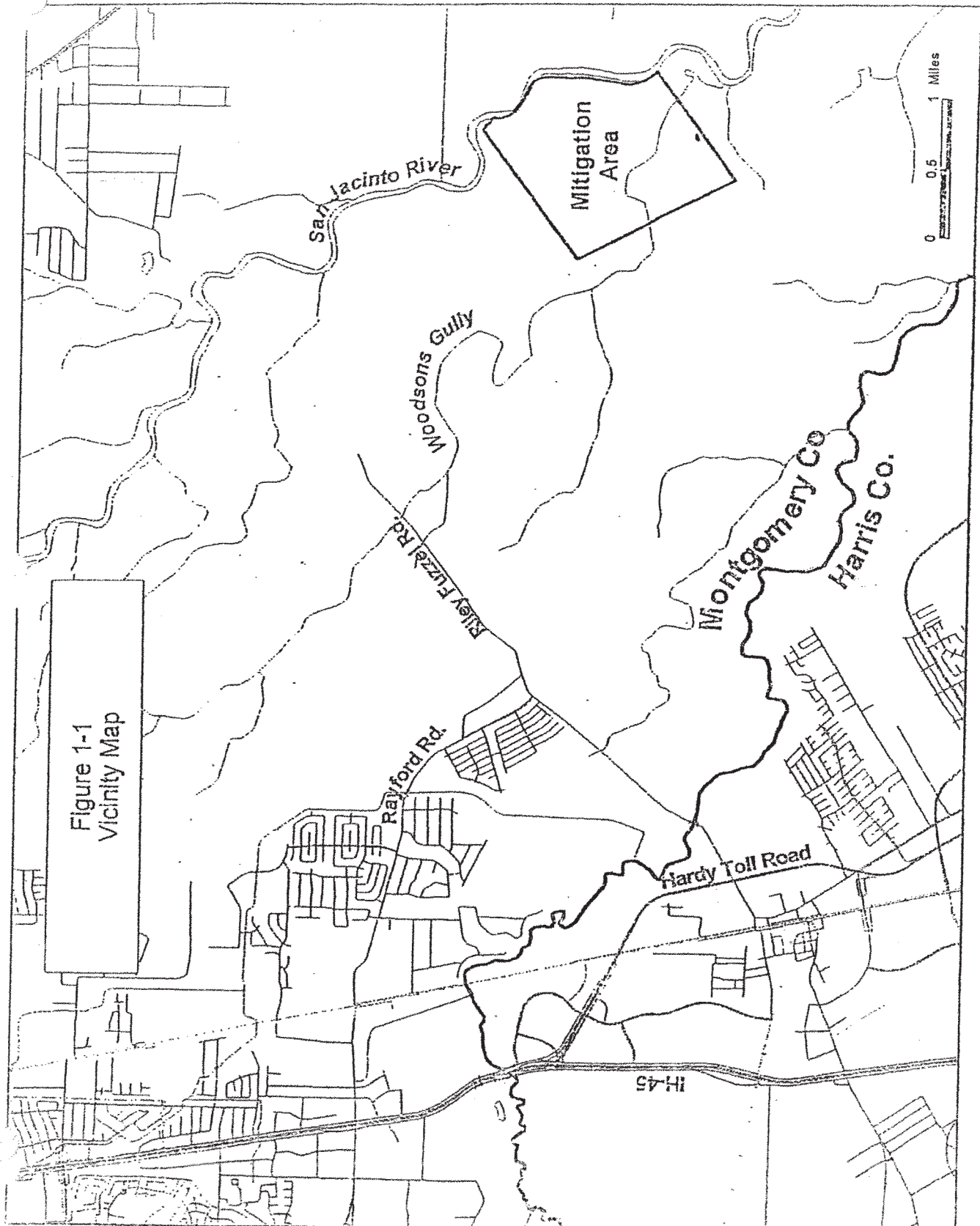
If after one year from the initial planting effort (or subsequent planting efforts) the site does not have at least 35% aerial coverage of targeted vegetation, those areas that are not vegetated will be replanted using the original planting specifications.

If after three years from the initial planting effort (or subsequent planting efforts) the site does not have at least 70% aerial coverage of targeted vegetation, those areas that are not vegetated will be replanted using the original planting specifications.

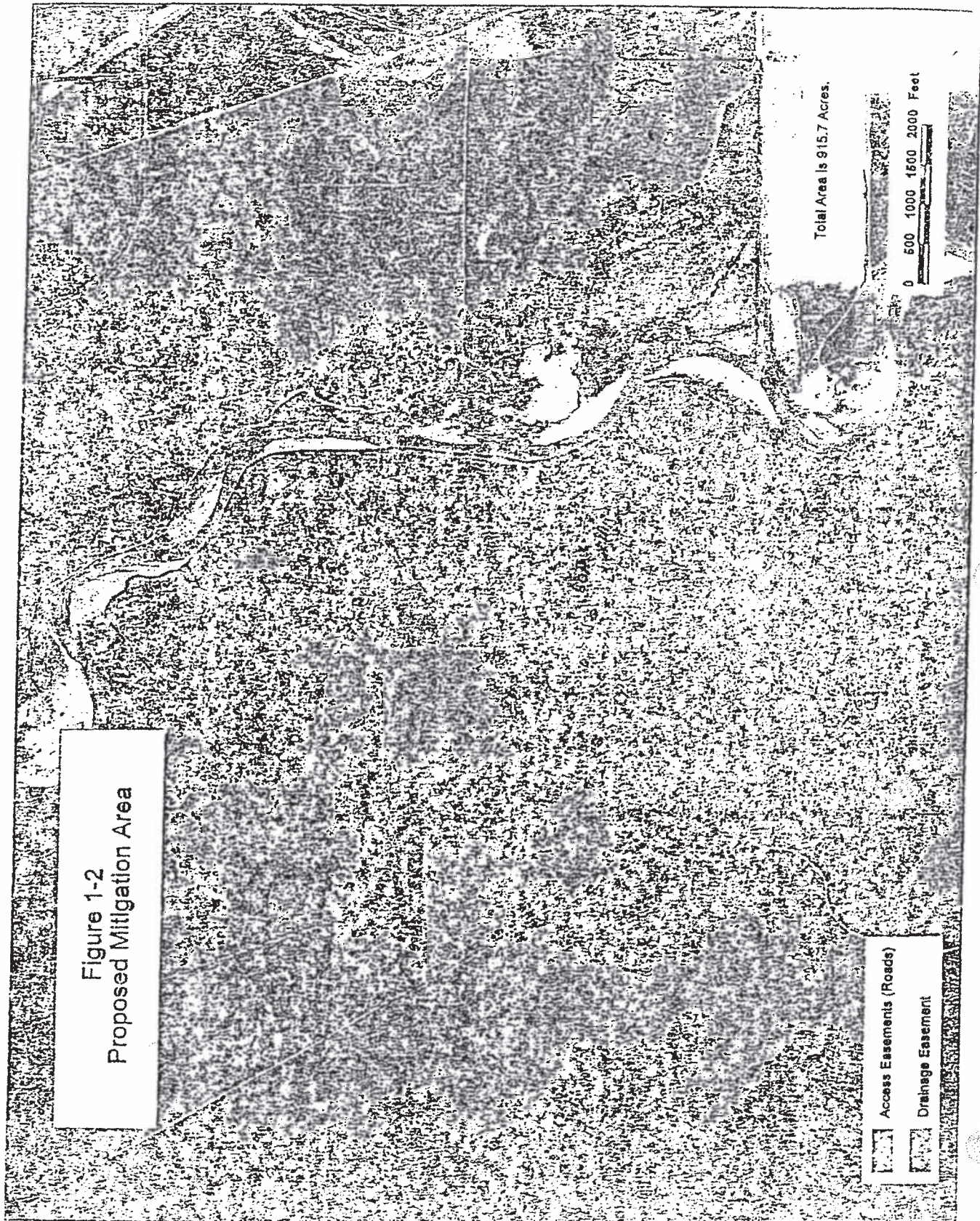
In addition to the initial survey report, progress reports will be submitted to the Corps Galveston District at 6 months, 1 year, 2 year, and 3-year intervals following the initial transplanting effort or subsequent replanting efforts. Photos of the mitigation site should be included.

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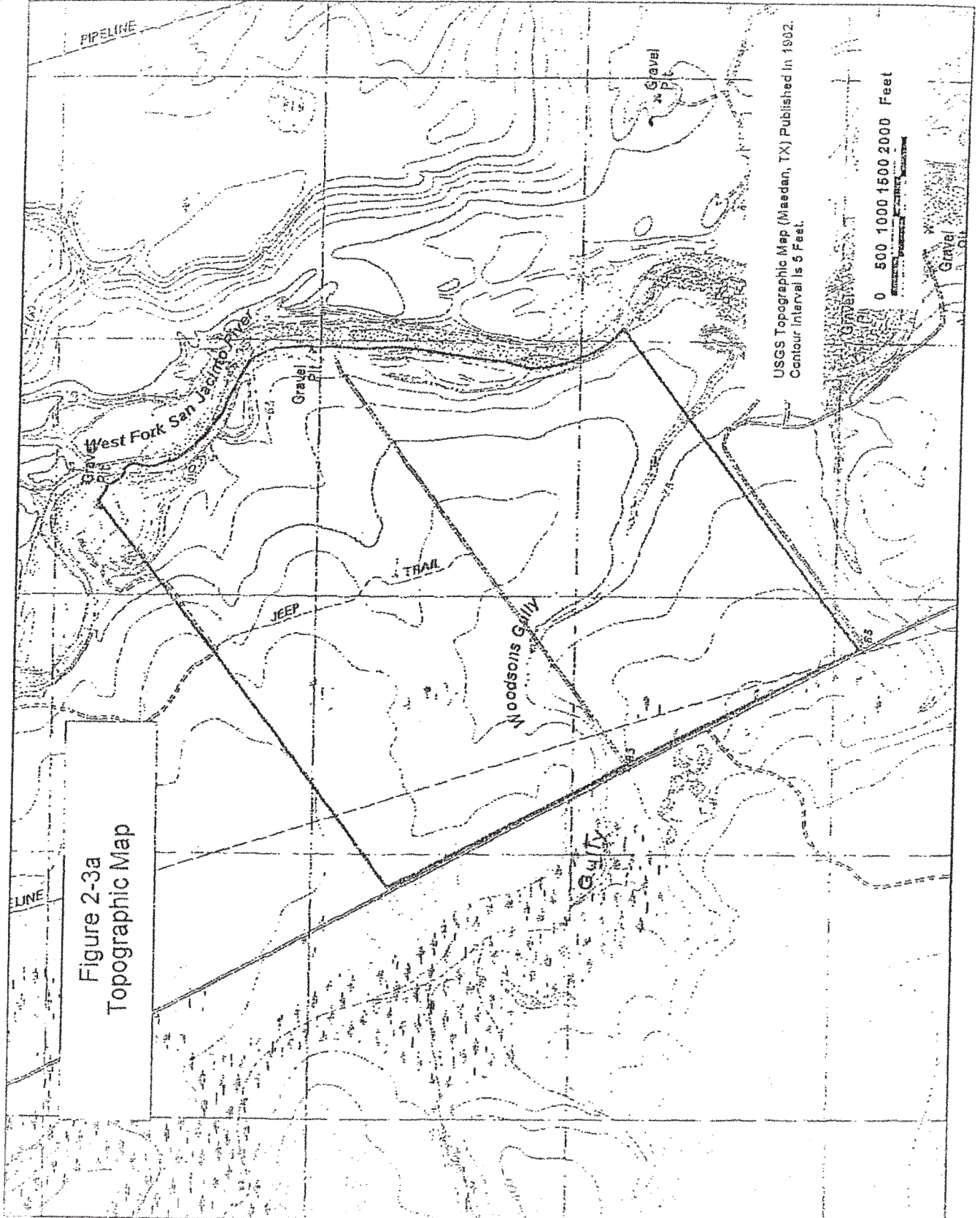


Figure 2-4
Vegetation Communities
(Northern Half Only)

Vegetation Survey Was Conducted
By SWCA Field Crew In October, 1988.

0 500 1000 1500 2000 Feet

PHF - Pine Hardwood Forest	290.7 Acres
DFB - Deciduous Forested Bottomland	75.85 Acres
PEW - Palustrine Emergent Wetland	4.23 Acres
CDW - Cypress Dominated Wetland	23.04 Acres
PSSW - Pelustrine Scrub Shrub Wetland	2.18 Acres
HYT - Hardwood Yaupon Thicket	22.23 Acres
YPT - Yaupon Palmello Thicket	12.9 Acres
POPf - Pine Oak Palmello Flat	43.97 Acres
TAR - Transition Area	21.47 Acres

APPENDIX B

Figures

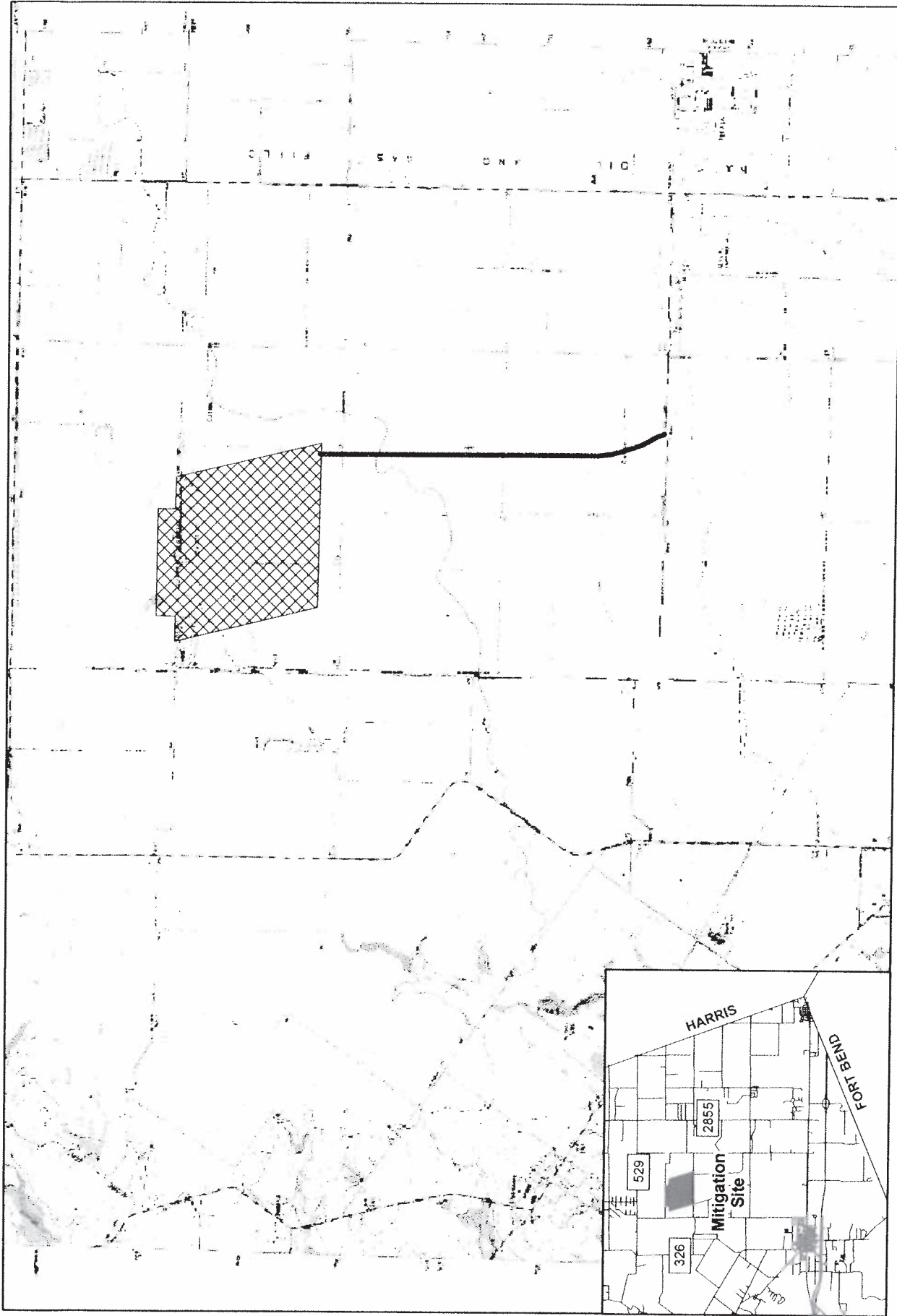
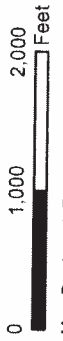


Figure 1
Westside Mitigation Site
Location Map
 Waller County, Texas

HNTB

Background: USGS 7.5' Topographic Map
 (Brookshire Quad)



Map Produced: December, 2007
 Project # 38344

 **Mitigation Site**
 **Access Road**



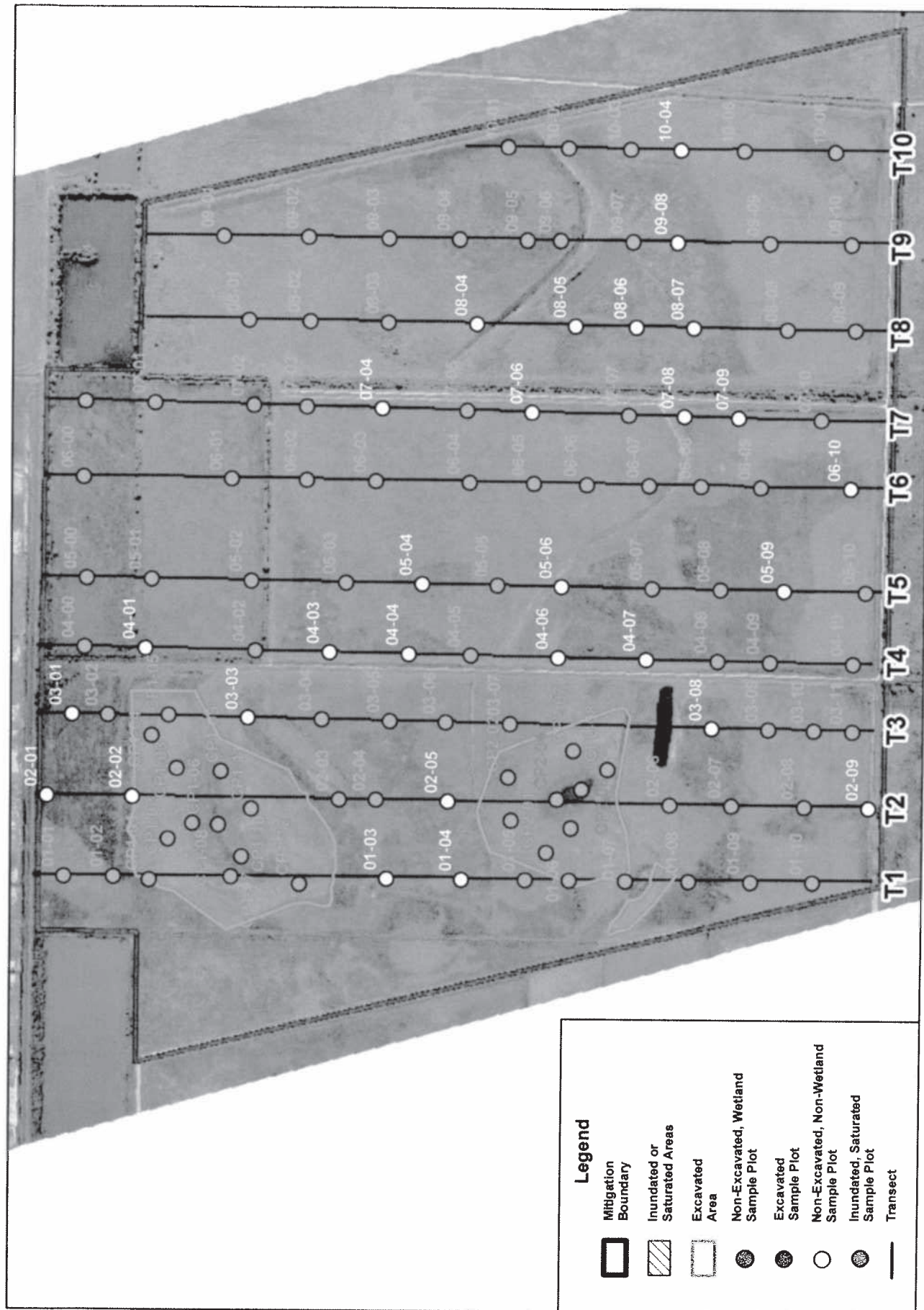


Figure 2
Westside Mitigation Site
Site Layout Map
 Waller County, Texas

HNTB

Background: Color Infrared Aerial (2007)



Map Produced: December, 2007
 Project # 38344

N



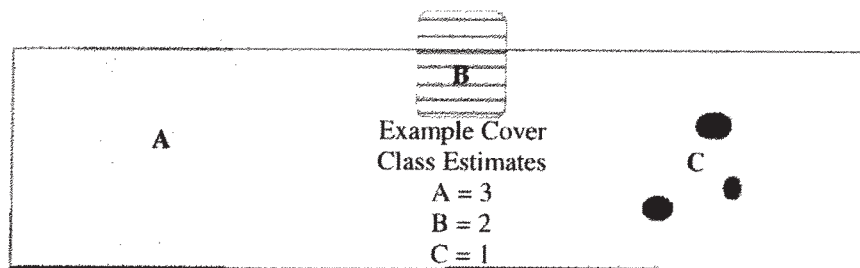
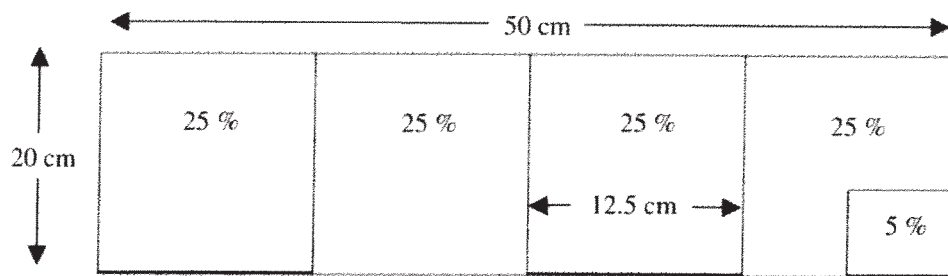


Figure 3. Daubenmire Cover Frame Method (top) and an example of its use (bottom).

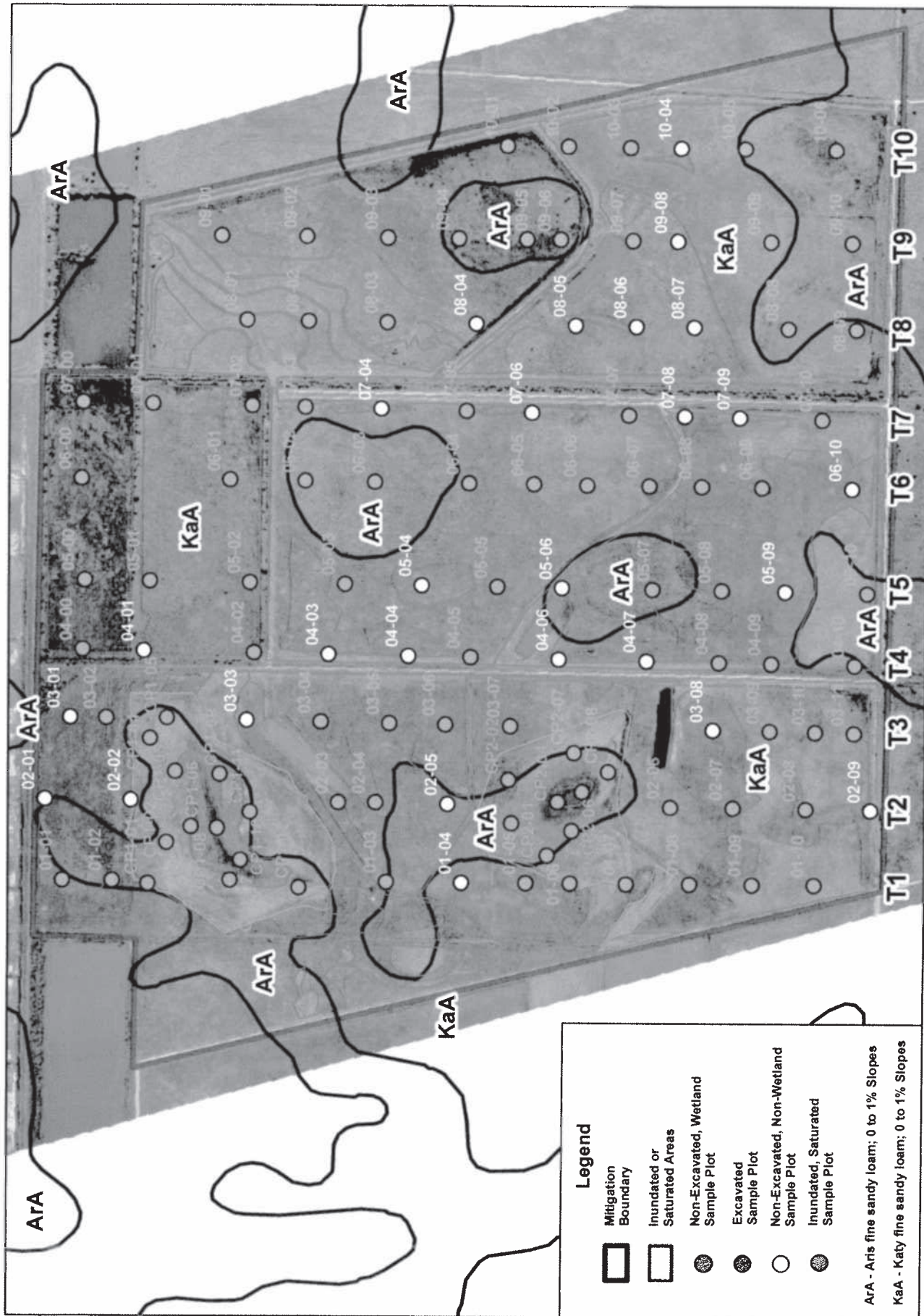


Figure 4
Westside Mitigation Site
2007 NRCS Soils Map
Waller County, Texas

HNTB



REPLY TO
ATTENTION OF.

DEPARTMENT OF THE ARMY
GALVESTON DISTRICT, CORPS OF ENGINEERS
P.O. BOX 1229
GALVESTON, TEXAS 77553-1229

April 8, 2002

Evaluation Section

SUBJECT: Permit No. 21948(01)

Kent R. McLemore, Ph.D., AICP
Department of Aviation
Houston Airport System
P.O. Box 60106
Houston, Texas 77205-0106

Dear Dr. McLemore:

Your October 31, 2001, request to amend Department of the Army Permit No. 21948 to revise your previously authorized Bahr Woods mitigation plan is approved pursuant to Section 404 of the Clean Water Act. The revised mitigation plan authorizes the preservation of 915 acres of undeveloped forested property, approximately 119 acres of which are wetlands. No changes to the existing conditions of this area are authorized. The Bahr Woods Mitigation Area is located between the West Fork of the San Jacinto River and Woodson's Gully, approximately 2 miles north of the George Bush Intercontinental Airport, in Montgomery County, Texas.

The original permit, issued on February 9, 2001, authorized the fill of approximately 13 acres of jurisdictional wetlands for the construction of improved facilities within the George Bush Intercontinental Airport. The permit also authorized the performance of mitigation at two locations. The first mitigation site is located on the Westside Airport property between Katy and Brookshire, approximately 35 miles southwest of the project site, in Waller County, Texas. The second mitigation site is the Bahr Woods Mitigation Area.

All work is to be performed in accordance with the enclosed amended plans in 18 sheets and the original permit conditions (with the exception of the revised Bahr Woods mitigation plan), including the permit expiration date of December 31, 2006, which remain in full force and effect. Also, please be advised that the enclosed amended Bahr Woods mitigation plan, Sheet 18 of 18, dated March 28, 2002, will now supercede Sheet 18 of 32 through Sheet 32 of 32 of your previously authorized project plans. Please note the Notification of Administrative Appeal Options regarding this authorization as enclosed. This authorization is based on a preliminary jurisdictional determination.

Please notify the District Engineer, in writing, upon completion of the authorized work. A pre-addressed postcard has been enclosed for your convenience.

FOR THE DISTRICT ENGINEER:

A handwritten signature in black ink that reads "Bruce H. Bennett". The signature is written in a cursive style with a large, stylized "B" and "H".

Bruce H. Bennett
Leader, North Evaluation Unit

Enclosures

Copies Furnished:

Eighth Coast Guard District, New Orleans, LA

NOAA/NOS, Coast & Geodetic Survey, Silver Spring, MD

U.S. Fish and Wildlife Service, Houston, TX

Texas General Land Office, Austin, TX

Texas General Land Office, La Porte, TX

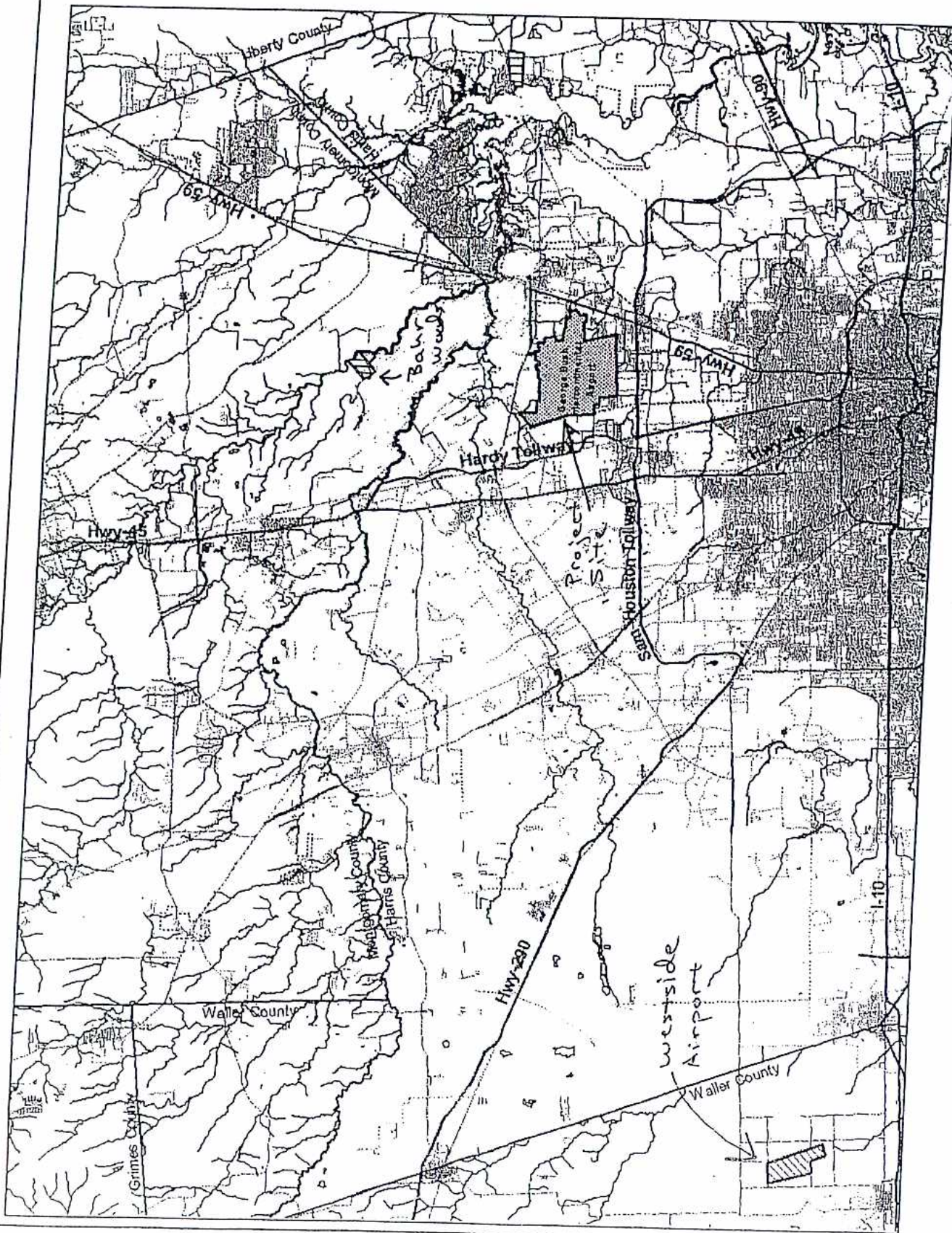
Northern Area Office, Galveston, TX



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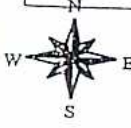
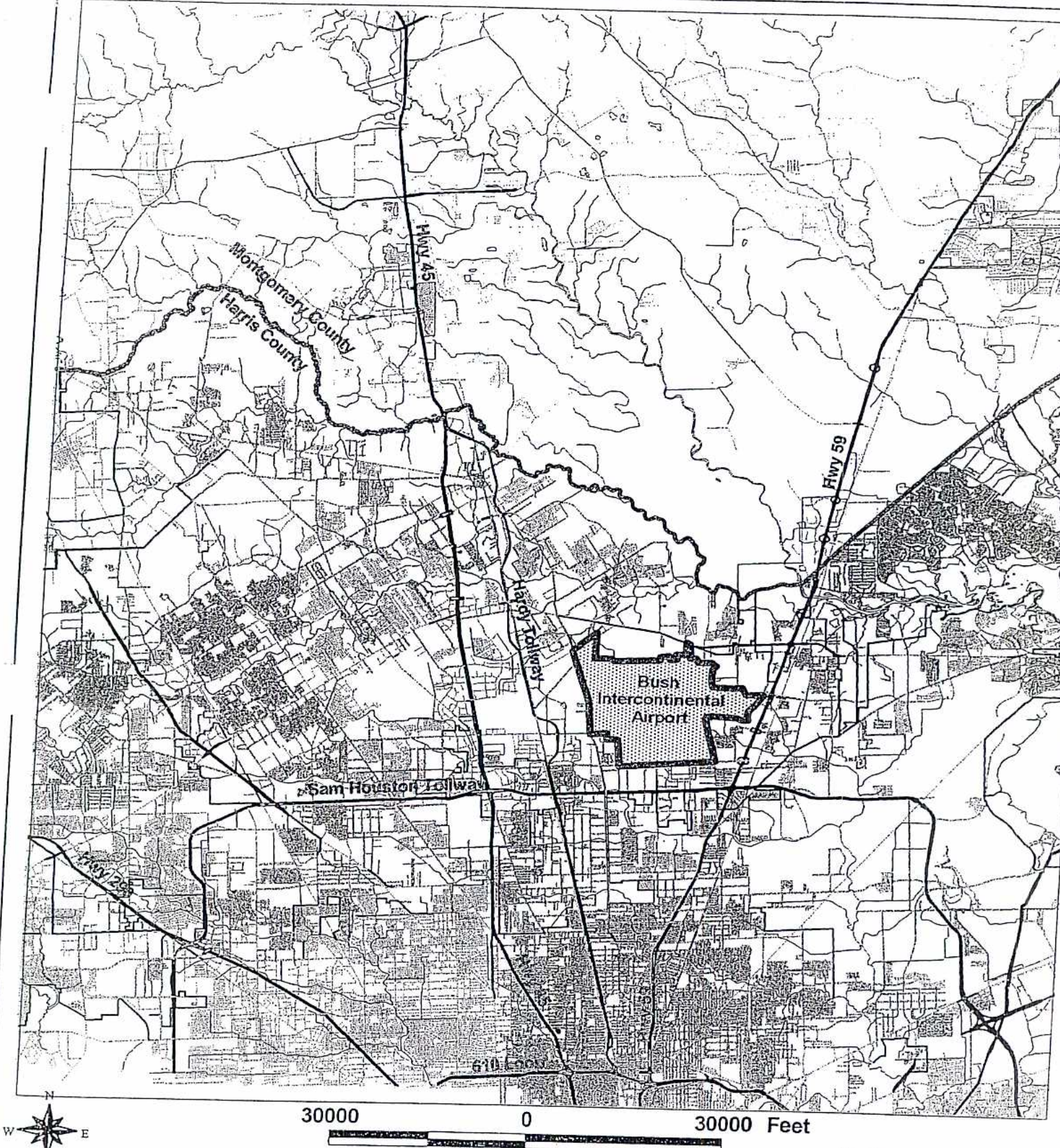
DESIGNED BY: [illegible]
DRAWN BY: [illegible]
CHECKED BY: [illegible]
APPROVED BY: [illegible]

Figure 1 September 1999 Draft



Vicinity Map

Dept. of Aviation



USGS Quads: Maedan + Humble, TX.

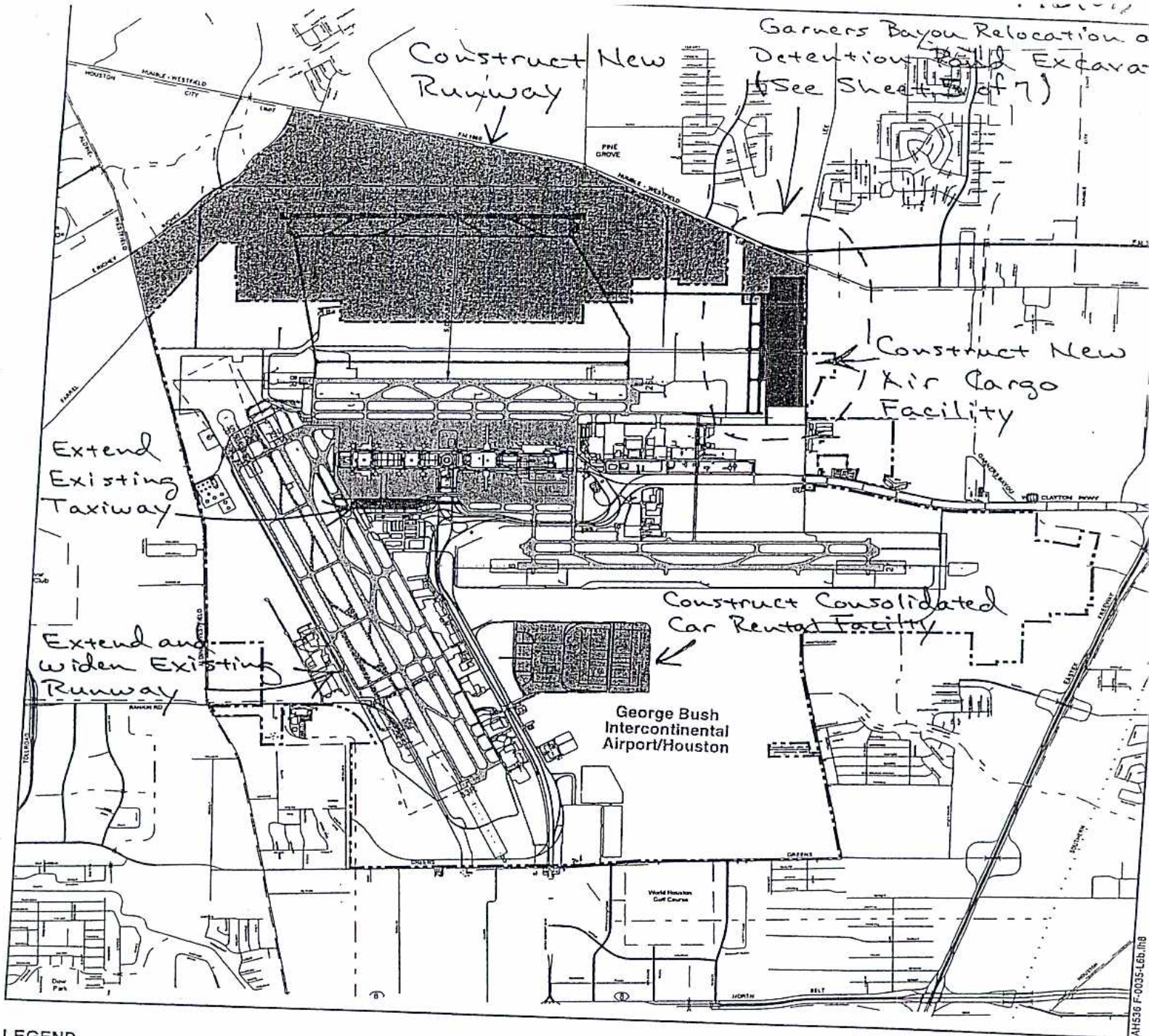
Dept. of Aviation,
Houston Airport Sys.
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Ecology and Environment, Inc.
4801 Woodway, Suite 280W
Houston, Texas 77056

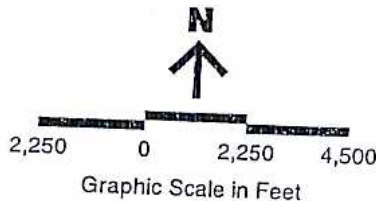
Site Location Map
Bush Intercontinental Airport
Houston, Harris County, Texas

Proj. Mgr. : B. Fairchild
Date : January 2000



LEGEND

- Existing Airport boundary
- Future Airport boundary
- Existing pavement
- Existing pavement to be removed
- Taxiway SD bridge, ramp widening, and air cargo facilities
- Land acquisition for air cargo facilities
- Consolidated rental car facilities
- International Services Expansion Program
- New Runway 8L-26R
- Land acquisition for new Runway 8L-26R
- Runway 15R-33L extension and widening



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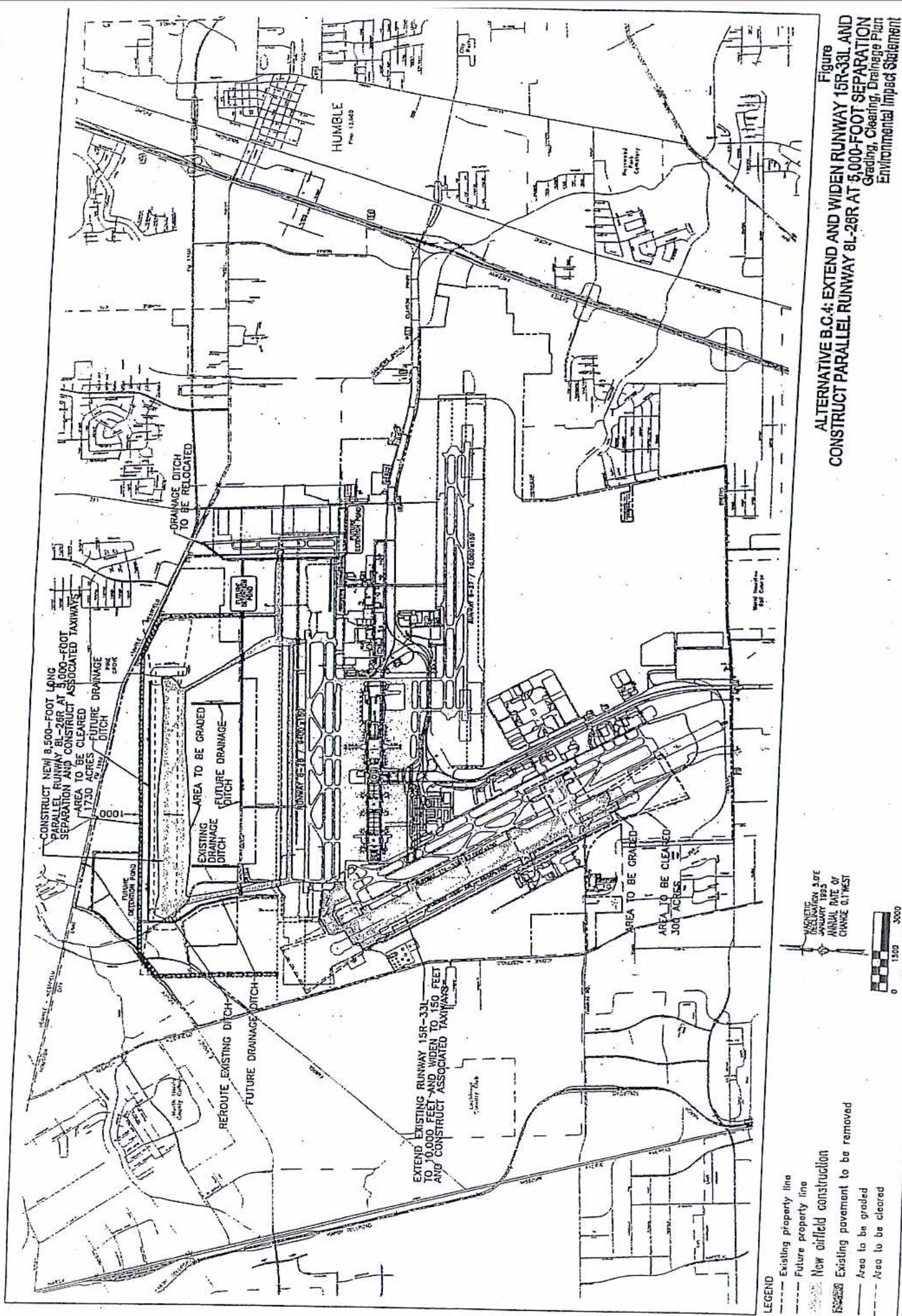
PERMITTED PLANS

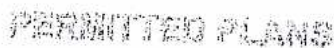
ALTERNATIVE B/C.4:
EXTEND AND WIDEN RUNWAY 15R-33L AND
CONSTRUCT NEW RUNWAY 8L-26R

EIS for Runway 8L-26R and
Associated Near-Term Master Plan Projects
George Bush Intercontinental Airport/Houston

November 1999

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Houston Airport Sys.
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**PROPOSED CARGO FACILITY
AND TAXIWAY "NB" EXTENSION**

WETLAND LOCATION MAP

JOB No.: 460013.00

JULY 1998

Dept. of Aviation, Houston Airport

WESTSIDE AIRPORT PROPERTY MITIGATION SITE

BACKGROUND

The Westside Airport property is located in Waller County, Texas, between Katy and Brookshire, approximately 35 miles southwest of IAH. The property is approximately 1480 acres in size and is mostly fallow, but a small portion of the property is used for agriculture. Past uses of the property include cattle ranching and rice fanning. The property was purchased by the City of Houston in the mid-1980s and was originally intended to be the site of a general aviation airport. Because of the potential unsuitability of the property for use as an airport, HAS is proposing to use the property to compensate for wetland impacts resulting from implementation of the IAH development program. HAS has chosen this site for compensatory mitigation because of the current ownership status and the excess acreage which could be utilized for potential future development impacts.

The Westside Airport Property lies within the Katy Prairie, which is part of the Coastal Prairie region. The Katy Prairie was originally a vast area of mid- to tall-grass prairies interspersed with herbaceous wetlands and forests, which provided excellent habitat for a large number and variety of resident and migratory fauna along the Central Flyway. As a result of intensive land development, including overgrazing, rice farming, alteration of drainage regimes, urban development, and suppression of naturally occurring fires, only small remnants of extensive prairie and wetland habitats still exist.

MITIGATION PLAN

Wetland mitigation at the Westside Airport Property, for LAH development impacts, will consist primarily of restoration and creation of non-forested prairie wetlands and supporting prairie upland habitat. The mitigation project is being proposed on the northern half of the property consisting of approximately 600 acres. Past agricultural activities have filled wetlands and created extensive, artificial drainageways throughout the site. The soils present on the site include Katy loam and Axis series soils. The U.S. Department of Agriculture lists Axis series soils hydric.

The Westside Airport Property can be divided into several management/watershed units for development of wetland mitigation projects, including restoration of upland prairie habitats. Wetlands were identified based on an onsite delineation, interpretation of topographic surveys prepared utilizing aerial laser technology, previous delineations conducted at the site by the USACE, aerial photograph interpretation, and

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identification of hydric soils from the Waller County Soil Survey and additional studies conducted by the Natural Resources Conservation Service (formerly Soil Conservation Service).

HAS proposes to provide compensatory mitigation by restoring/creating, enhancing, and/or preserving wetlands at the Westside site. The final mitigation plan will create/restore up to 299 acres of herbaceous wetlands and enhance 44.03 acres of existing wetlands which would be greatly in excess of USACE requirements to mitigate herbaceous wetland impacts at IAH at the proposed ratios. Additionally, wetlands outside of enhanced/created areas will be preserved under the proposed conservation easement.

The Westside mitigation project consists of:

- Enhancement of 44.03 acres of emergent wetland;
- Creation/restoration of 299 acres of emergent wetland; and

Enhancement and creation/restoration of wetlands will be accomplished by constructing berms approximately 2 feet high and up to 16 feet wide in areas downslope of existing wetlands of at the downslope end of watersheds identified on site. Side slopes will be created on a 2:1 slope to prevent erosion of the slopes and allow for maintenance as needed. The top width will be up to 8 feet to allow for safe operation of construction equipment and future maintenance as needed. Berm construction will be accomplished through two techniques:

1. Grading of the areas upslope of the berm will be conducted to remove existing fallow vegetation species and expose areas of historical hydric soils. It is anticipated that approximately 4 inches of soil will be removed from the surface. Grading of these areas will allow for importation of soils from IAH, which contain rhizomes and wetland plant species seeds.
2. As necessary, a berm-creating machine will be utilized in areas where sufficient soil cannot be obtained for berm creation through grading.
3. Following placement of the soils in the general location of the proposed berms, the soil will be compacted and graded to the design dimensions and re-seeded with native prairie grasses to prevent erosion.

Watersheds were developed from topographic data obtained through LIDAR methods, with an absolute accuracy of 15 centimeters (cm) and a relative accuracy of 5 cm. Digital elevation models generated from the topographic data were input into a GIS program (ARCVIEW) and analyzed to determine onsite slopes and direction of sheetflow. Based on flow paths, minor watersheds were developed to identify potential locations of berms.

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In the event that excess soils are obtained during grading activities, these soils will be stockpiled onsite until an appropriate disposal area can be located. Potential disposal areas onsite include spreading over surrounding upland areas and/or placement within existing ditches to enhance movement of water through the site. Offsite disposal may consist of donation or sale of the soils as fill for other construction projects occurring in the area.

In addition to berm construction, a water control structure will be installed at a determined outlet to allow for management of water levels. It is anticipated that the water level at the outlet of the water control structure will be maintained at 0.75 feet above the existing ground elevation, however the water control structure used will allow for increasing the water elevation at 3 inch increments. The saturated areas were determined based on contiguous areas to the inundated areas which have an elevation less than or equal to 0.5 feet above the proposed water elevation.

Following grading of the enhancement/creation areas to create berms and obtain desired elevations, hydric soils that contain hydrophytic plant species seed stock and roots will be imported from wetlands impacted at IAH. The soil imported from IAH will be spread over the proposed wetland areas approximately 1-2 inches in thickness. The soils excavated from IAH contain target species such as squarestem spikerush (Eleocharis quadrangulata), buttonweed (Diodia virginiana), Arrowhead (Sagittaria spp.), Swamp smartweed (Polygonum hydropiperoides), false fiddleleaf (Hydrolea ovata), seedbox (Ludwigia linearis), maiden cane (Panicum hemitomon), saltmarsh aster (Aster subulatus), buttonbush (Cephalanthus occidentalis), soft rush (Juncus effusus) among wetland species. These soils provide a seed stock for re-vegetation of the wetlands, hasten the establishment of a functional wetland, and increase the success rate of re-vegetation. Seeds and rhizomes contained within the imported soils would not be dependent upon water immediately upon placement as would transplanted wetland species or seedlings purchased and planted at intervals within the wetland areas.

Wetland hydrology would be maintained by precipitation falling directly on the site and sheetflow draining into the bermed areas from the surrounding uplands. In order for the mitigation goal to be successful, this analysis has been conducted to determine the amount of rainfall and runoff that would be required to create wetland hydrology. Analysis of this wetland mitigation plan was conducted against 50% of the maximum annual daily rainfall event. This calculation was based on a SCS curve runoff model for the type of existing habitat at the Westside property.

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Soil textures at the Westside site are fine sandy loams on the surface, with high silt/clay content, and clay loams to clays in the subsoil. Throughout the site there is a clay lens at approximately 28 - 30 inches below the surface that creates a high water table during the Winter and early spring months. The low permeability of these soils should assure adequate surface ponding and runoff from upland areas. The general topography of the site slopes from the northwest to the southeast. Overflow from impoundments further upslope will aid in feeding downslope impoundments. Excess water from the mitigation site would eventually follow its natural course offsite through drainage ditches that ultimately feed the headwaters of Buffalo Bayou.

Preservation of existing wetlands will be utilized to compensate for some of the impacts at IAH. Wetland areas to be preserved include those outside of bermed areas that will not be enhanced through placement of berms.

By utilizing the above techniques, it is anticipated that a sufficient wetland/upland ratio will be obtained allowing sufficient hydrology to support created/enhanced wetlands. HAS proposes to conduct habitat enhancement of upland buffer areas to include grubbing of woody herbaceous species, Chinese tallow control, and planting of native prairie grasses to decrease invader species from entering the wetland areas during establishment of wetland species and enhance runoff from upland areas. Planting of native prairie grasses would occur by tilling existing upland soils and discing in native grass seed or hay. Approximately 600 acres will be utilized for the proposed wetland mitigation project, to include upland buffer areas.

Additionally, HAS will evaluate the installation of water wells as a contingency measure for the success of the wetland mitigation project. Water wells can be placed at strategic locations to provide the ability to pump water to created wetlands. Existing drainage improvements on the site would be restored to direct water to the appropriate locations. This technique would be used a last resort to help propagate wetland species. This would not be conducted on a continual basis, but only as need to help initialize wetland development or supplement nature during periods of severe drought.

MITIGATION MONITORING/MAINTENANCE PLAN

- The newly created/enhanced wetlands will be planted using seed stock excavated from IAH which contain species as discussed previously.
- If after one year from soil importation the site does not have at least 50% plant coverage of the target wetland species, areas not having 50% coverage shall be replanted using commercially available wetland species such as softstem, rush, pickerel weed, arrowhead, soft rush, and spider lily. These species will be planted at a rate of 550 plants per acre.
- If after two years following initial soil importation the site does not have at least 70% plant coverage of the target species, areas not having 70% coverage shall be replanted following specifications as discussed above.

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- Percent plant coverage shall be monitored within the mitigation area at regular intervals. A progress report, including photo-documentation will be submitted to the USACE at 2 months, 6 months, 1 year, 2 year, and 3 year intervals following the initial soil importation effort.
- Maintenance activities anticipated at the mitigation site include, but are not limited to, mowing of upland and wetland areas (during dry periods) to control invasive species, water control structure inspection and maintenance, fertilization of upland areas, erosion control, and overall land use management

SUCCESS CRITERIA

The mitigation area will be monitored semi-annually for three years by Houston Airport System. A yearly monitoring report will be sent to the USACE to document the progress of the mitigation site. Final success criteria will include observations of percent vegetation coverage, target native plant species diversity and composition, evidence of natural reproduction, cover or dominance of target wetland species, and successful creation of hydrologic regimes to ensure mitigation success by natural means.

At the end of the third-year, the mitigation site will be judged successful if the mitigation areas each have 70% coverage by the target species. If this is not achieved, the areas not meeting the success criteria will be replanted using commercial species as specified above. Following achievement of the success criteria, an as-built drawing will be submitted to the USACE along with the final report.

At the end of the monitoring period, long-term management of the Westside mitigation area will be turned over to a conservation organization, such as the Katy Prairie Conservancy (KPC). The Houston Airport System will make a one time monetary contribution to a stewardship fund of the organization. This contribution will be dedicated to the long-term management of the mitigation area in perpetuity.

Final engineering design of the proposed Westside property mitigation plan will include:

- Schedules and procedures for excavation and stockpiling of hydrophytic plant seed stock from the IAH property. Seed stock will either be stockpiled on site at the mitigation location (within upland areas) or outside development activities at IAH. Final location of stockpiling will be determined based on seed stock condition and weather conditions.
- Schedules and procedures for mitigation site preparation to include equipment to be used, site access control, exotic vegetation control, soil disposal methods, as appropriate.

Final engineering design will take place following approval of the proposed mitigation plan.

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21948(01)

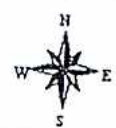
FM 529

Neuman Road

Cardiff Road

Morgan Road

0 400 800 1200 Feet



Legend

- ✧ Airport Property Boundary
- /// Wetlands From NWI Map

PROTECTED PLAINS

Sources : Brookshire USGS Quad
National Wetlands Inventory Map (NWI)

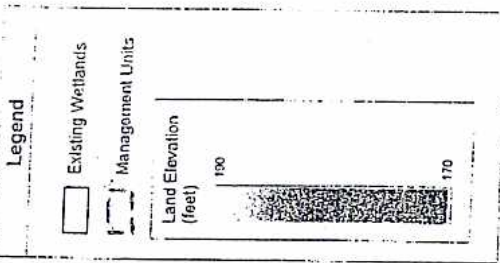
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Houston, Texas
Instructional Specialist in the Environment

Vicinity Map: Westside Airport Property

SEPTEMBER 1999 Draft



Ecology and Environment, Inc.
Environmental Specialists in the Environment
Houston, Texas

Bush IAH Expansion Mitigation Plan
Houston, Harris County, Texas

Figure
3

Existing Wetlands

DATE: 8-11-2000

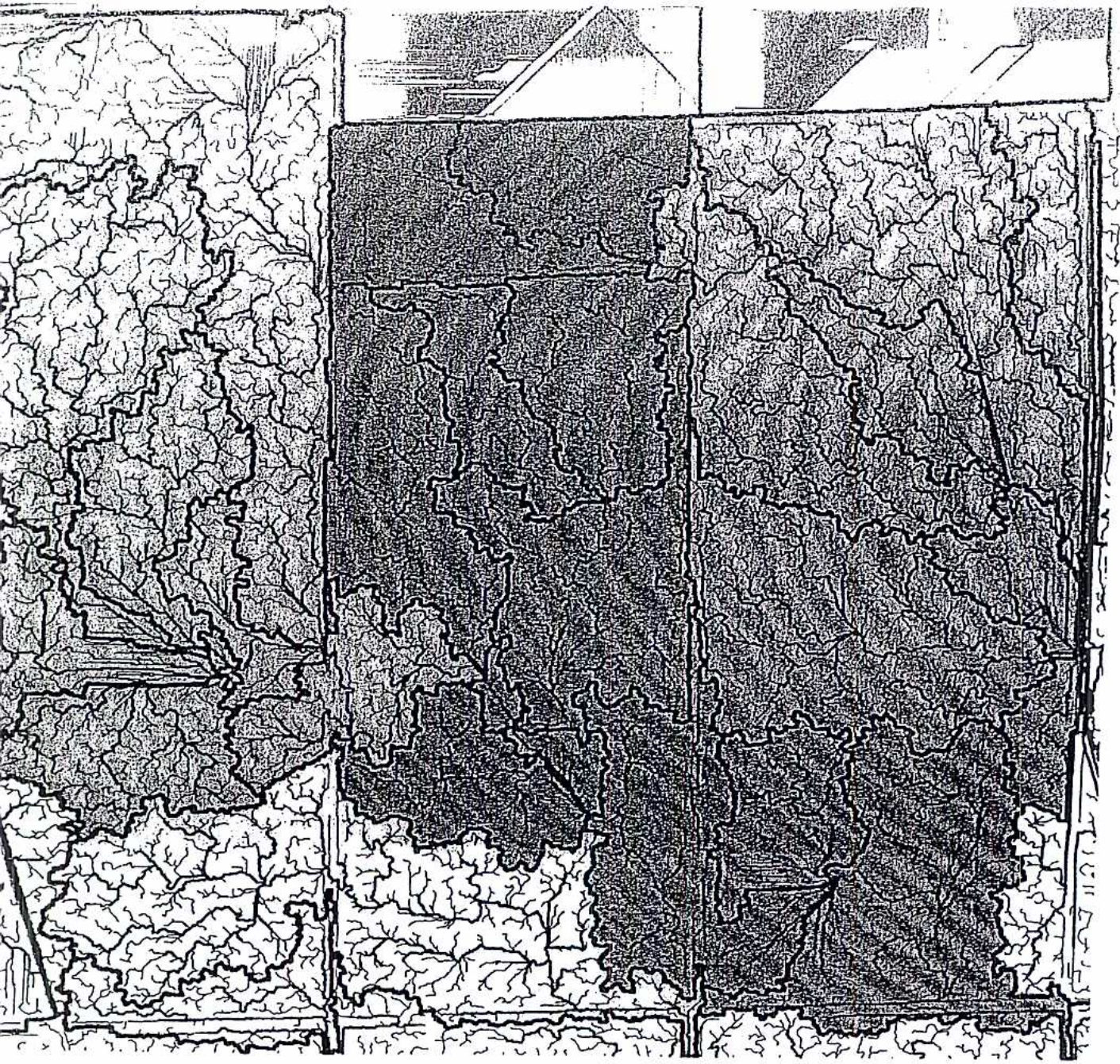
PROJECT MANAGER: B. FAIRCHILD

APPROVED BY: B. FAIRCHILD

GENERATED BY: JENNIFER PIGEON

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500 0 500 1000 Feet



Figure 5

Westside Watershed Locations

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