Alternative Environmentally Sensitive Area (AESA) Plan

Hobson Lane Tract

Approximately 18.5 Acres

Denton, Denton County, Texas
August 30, 2024

Project Owner:
Grand Homes Development, LLC

Prepared By:
Kimley»Horn

Dallas, Texas

Kimley»Horn

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Alternative Environmentally Sensitive Area (AESA) Plan
Hobson Lane Tract
Denton, Denton County, Texas

1.0 – Introduction and Authority/Purpose and Need for Action

Kimley-Horn and Associates Inc. (Kimley-Horn) has prepared the following Alternative Environmentally Sensitive Area (AESA) Plan. This AESA report is being submitted to the City of Denton under the Denton Development Code (DDC) to request approval for impacts to Environmentally Sensitive Areas (ESA). This AESA Plan proposes mitigation measures for the impacts required to construct a private Residential Housing Development for Grand Homes Development, LLC. As part of this development, right-of-way will be dedicated to the City of Denton for Hobson Lane. Hobson Lane is a secondary arterial on the city's Mobility Plan.

Pursuant to DDC, the disturbance of Undeveloped Floodplain is a permitted activity for the placement of the single-family residential development and for construction of roadways identified on the Mobility Plan if the disturbed area is restored to minimize erosion and promote the recovery of the ESA. The mitigation activities offered as a part of this AESA would achieve this goal.

1.1 – Description of Overall Development

The proposed Hobson Lane Tract project is approximately 18.5-acres in size generally located north of Hobson Lane and east of Fort Worth drive (US 377) in the City of Denton, Denton County, Texas (Figure 1).

The proposed project is a single-family residential housing development that overlaps an area of Undeveloped Floodplain ESA (ESA24-0010). Construction activity will consist of housing lots, stormwater infrastructure and associated riprap, roads, sanitary sewer lines, water lines, and green spaces for ESA mitigation. The current zoning for this tract is Residential (R6) which allows for the proposed development (Z24-0003).

1.2 – Existing Site Description

The project area consists of a maintained upland field. Kimley-Horn Environmental staff conducted a site visit to the project area on February 21, 2024, to assess the presence of ESA habitat on site.

Undeveloped Floodplain ESA was generally mapped following the FEMA Zone A: Unstudied 100-Year Floodplain. The assessed ESA area located on an upper reach of the Hickory Creek – Little Elm Reservoir watershed (USGS Hydrologic Unit Code (HUC) 1203010308), was not observed to surround a channel and appeared to be dominated by lawn grass (*Zoysia sp.*).

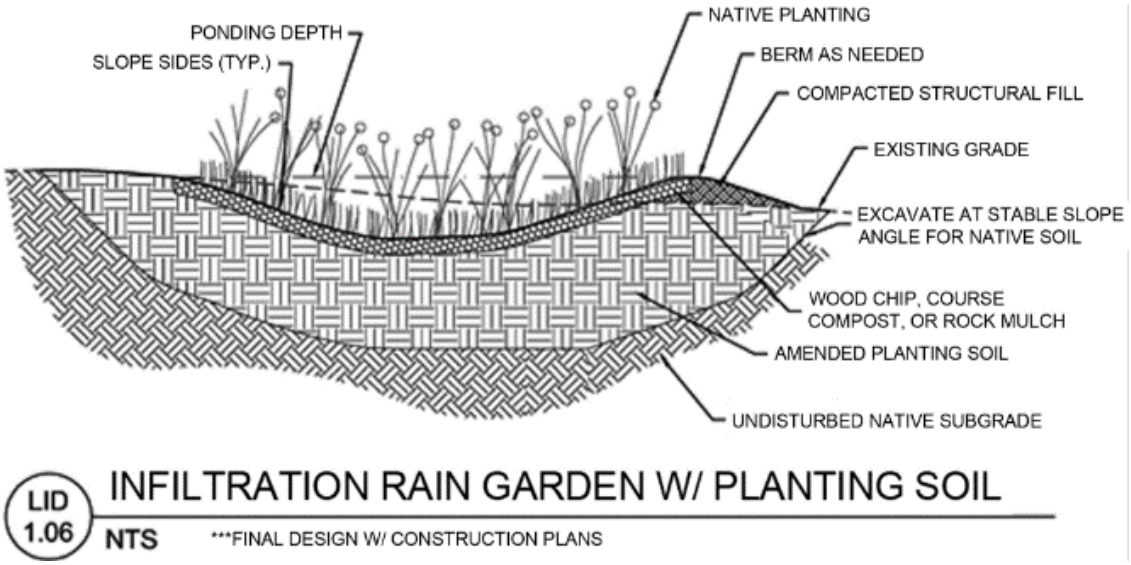
During site reconnaissance, two swales were observed within the project area, one being within the Undeveloped Floodplain ESA (Figure 3). Water appeared to travel south via overland flow until intersecting the observed swale in the southeastern portion of the site within the floodplain area. The overall basin contributing to the upper point of the FEMA Zone A Floodplain is 0.1957 square miles. The approved CLOMR (CL24-0001) resets the starting FEMA floodplain to the downstream side of Hobson Lane. Additionally, there are ten (10) trees located within the ESA, consisting of post oaks along the eastern boundary and a single pecan located in the open. The pecan will be removed for construction of the drainage improvements, but all post oaks within the ESA will be preserved.

1.3 – Purpose of AESA

The purpose of the AESA Report is to propose mitigation for the impacts to the Undeveloped Floodplain ESA caused by the construction of the residential development. Impacts to the ESA include earthwork, utility, and paving construction improvements. Because the ESA is currently utilized for l hay production, mitigation measures will propose measures in line with the objectives of the Denton Development Code and utilize plant material more appropriate for this region.

The mitigation activities will include creation of a rain garden and two designated green spaces planted with native trees, shrubs, grasses and forbs. The rain garden, located outside the original floodplain limits, will be constructed to increase permeable surface, retain and treat stormwater, and absorb pollutants from the surrounding area *(see detail below for the rain garden)*. The location of the rain garden was selected for its ability to intercept natural runoff prior to capture in an underground drainage system. The green spaces will be planted with native woody species such as cedar elm, pecan, and Mexican plum and seeded with native grasses and forbs to provide improved habitat for pollinators, birds, and other small wildlife species. As mentioned above, existing post oaks located within the ESA will be preserved. The restoration plan will be provided to the City of Denton for formal notification and review of the proposed restoration activity.

Additional project information is available from City of Denton Case Number ESA24-0010, Z24-0003, DSA24-0007, CL24-0001, , PP24-0003.



2.0 – Affected Environment and Summary of Impacts

In order to construct the single-family residential area, mass vegetative clearing across the majority of the site is proposed. Within the Undeveloped Floodplain ESA specifically, one access road, approximately four housing lots, and a stormwater drainage structure and outfall will be constructed and will be considered permanent impacts to the ESA. Two green spaces, both visible and accessible from Hobson Lane, will be established within the ESA. These green spaces will be planted with native vegetation as shown on the attached Landscape Plan (Appendix B).

Impacts are anticipated to the entire 1.46 acres of Undeveloped Floodplain ESA (Figure 4). This area consists of 0.41 acres that will be within the proposed ROW of Hobson Lane which is a secondary arterial on the city's mobility plan and 1.05 acres from the construction for a single-family development. 1.46 acres will be permanently removed, and 0.80 acres will be improved and restored following the initial clearing.

Based on the tree inventory completed prior to the preparation of this plan, tree species within the impact area included pecan (*Carya illinoinensis)* and post oak (*Quercus stellata*), labeled on the tree preservation plan (Appendix B). These trees are typical of the Eastern Cross Timbers historical ecoregion and can serve as habitat for native pollinators, birds, and wildlife species. Tree distribution on site appeared to be sparse, and no contiguous forested areas were observed. The lone pecan will be removed for drainage improvements, and all post oaks are to be preserved. The trees to be preserved are described in Table 1 below.

Table 1. Summary of individual trees tagged within the Undeveloped Floodplain ESA area.

Tag#	DBH (caliper inches)	Common Name	Scientific Name	Condition	Protection Status
7685	19.5	Pecan	*Carya illinoinensis*	Healthy	Removed
7770	11.0	Post oak	*Quercus stellata*	Healthy	Protected
7771	19.3	Post oak	*Quercus stellata*	Healthy	Protected
7772	23.8	Post oak	*Quercus stellata*	Healthy	Protected
7773	19.2	Post oak	*Quercus stellata*	Healthy	Protected
7774	16.7	Post oak	*Quercus stellata*	Healthy	Protected
7775	9.4	Post oak	*Quercus stellata*	Healthy	Protected
7776	9.1	Post oak	*Quercus stellata*	Healthy	Protected
7777	10.1	Post oak	*Quercus stellata*	Declining	Protected
7778	16.6	Post oak	*Quercus stellata*	Healthy	Protected
7779	16.8	Post oak	*Quercus stellata*	Hazard	Protected
7780	15.3	Post oak	*Quercus stellata*	Healthy	Protected
7781	19.5	Post oak	*Quercus stellata*	Healthy	Protected
Total	**206.3**				

3.0 – Mitigation Activities

Following the impacts within the green spaces the areas will be revegetated with native grasses and native woody seedlings, based on the plan described below.

3.1 – Proposed Revegetation

Native Sun Turf Mix including grass species such as little bluestem (*Chizachyrium scoparium*), buffalograss (*Bouteloua dactyloides*), indiangrass (*Sorghastrum nutans*), and sideoats grama (*Bouteloua curtipendula*) and forbs such as black-eyed susan (*Rudbeckia hirta*), indian blanket (*Gaillardia pulchella*), bluebonnet (*Lupinus texensis*), and purple coneflower (*Echinacea purpurea*) will be seeded within planting Zone 1 to provide a protective ground cover and restore the area to resemble a pocket prairie space within the Eastern Cross Timbers region, where the site is located. This designated planting area is called out as Zone 1 on the landscape plan (Appendix B).

Approximately 0.80 acres of the Undeveloped Floodplain will be restored as designated green spaces (Figure 5). Another 0.12 acres near Hobson Lane and the access road will be planted with Bermuda grass. These areas are called out as Zone 3 on the landscape plan (Appendix B).

The seed mixes will be sown via drill-seeding following final grading. In the interim, temporary non-invasive vegetative cover approved by City Staff will be established by hydro-mulching or installing erosion control blankets. This area will be irrigated. An initial site visit by Kimley-Horn environmental staff will be performed following the completion of the seeding and prior to the first annual monitoring event. Kimley-Horn staff will perform additional site visits as necessary during the first annual monitoring period.

3.2 – Proposed Rain Garden

The proposed rain garden will be approximately ±0.15 acres of coverage. The rain garden will have a depth of approximately 12-24 inches. This equates to a total volume of about 6,534 to 13,068 cubic feet. The area within and surrounding the designated rain garden area will be seeded with Wetland Fringe Mix, which includes tall goldenrod (*Solidago altissima*), Illinois bundleflower (*Desmanthus illinoensis*), clasping coneflower (*Dracopis amplexicaulis*), and other moisture-tolerant forb species. Designated planting areas are visible in zone 2 on the landscape plan (Appendix B).

4.0 – Maintenance Plan

The maintenance plan for the Rain Garden that will be provided to the future HOA will be as follows:

- The rain garden shall maximize the use of natural runoff. It will need to be watered periodically during the dry season to maintain the life of the plants within the rain garden.
- Inspect the site following rainfall events. Add and or replace vegetation in any eroded areas as needed.
- Prune and weed to maintain appearance monthly.
- Replace mulch as needed each spring and fall.
- Inspect the rain garden for dead or dying vegetation annually. Replace vegetation as needed.

The maintenance plan for the overall ESA that will be provided to the future HOA will be as follows:

- Inspect for invasive species and remove them.
- Assess habitat health and check for signs of erosion or damage.
- Remove debris from the area.

The HOA will contract with landscape and/or arboricultural companies to maintain all the open spaces in the development, including this ESA and rain garden maintenance plan. The HOA will base their fees from the residents based on cost of the landscape companies and will therefore fund any necessary maintenance.

5.0 – Compliance with Authorities

The City of Denton is the authority over compliance with this AESA mitigation plan. Once the AESA mitigation activities have been completed, the City of Denton will be notified that the restoration activities have been completed.

6.0 – Annual Reporting

The applicant will prepare an annual report each year for three consecutive years, beginning 12 months following the implementation of the mitigation activities, for the purposes of describing the cumulative mitigation work that has been performed during the reporting period, and to report on the current survivability of the planting, and presence of trash within the adjacent stream channel. The site visit will be at the end of the growing season, approximately in October, each year and the report will be submitted to the City of Denton on November 15th of each year.

The first two annual reports will contain action items that may include: the implementation of additional erosion control, re-planting the seed mixtures as needed, removing weeds within the planted areas, fence repairs or removal of construction debris within the ESA, Rain Garden and adjacent swale.

Upon completion of the three-year monitoring and reporting period, the City of Denton Environmental Services will inspect the plantings in both the seeded area and the Rain Garden to determine if at least 85% of the plantings are healthy and have a reasonable chance of sustained cover or survival. If this

criterion is met, the City will issue final acceptance of the project. However, if more than 15% of either area is found to be diseased or lacking potential for sustained growth, the applicant will be notified to reseed those problematic areas using an appropriate seed mix based on current field assessments. If the applicant fails to take remedial steps to bring the property into compliance, the City may pursue legal remedies to enforce this provision. Annual reports detailing the condition of the plantings must also be submitted to the City for review.

If changes need to be made to the mitigation plan during the three-year monitoring period, the City of Denton will be notified prior to making the plan modifications.

7.0 – Criteria for Approval

The following outlines the criterial for approval of an AESA Plan and the project aspects that meet each criterion.

1. **Mitigation goals are obtained by creating, expanding and/or improve non-impacted areas.**

   The proposed AESA proposed to mitigate the impacts to the Undeveloped Floodplain ESA from the construction of a residential development by drill-seeding two green spaces with Native Sun Turf Mix to both provide protective ground cover and a functional pocket prairie ecosystem. While the construction activity will result in impacts to the existing ESA, the new green spaces will be seeded to create a native vegetative community that will better serve pollinators, birds, and small mammals. The rain-garden, established outside of the Undeveloped Floodplain ESA, will serve as increased permeable surface to better handle stormwater flows in the area and as a means to naturally retain and treat stormwater. Biodiversity and habitat diversity will be increased through the planting of native vegetation where it did not previously exist.

2. **Mitigation goals are obtained by preserving environmentally sensitive areas above the minimum requirements. Installation of green infrastructure, which creates natural areas in the urban, suburban or industrial landscape so that some critical environmental functions can be replaced.**

   Once revegetated, the native grasses planted within the green spaces will provide vegetative cover and forage for native insects, birds, and small mammals, and promote the native herbaceous community within the ESA. The rain garden and stormwater structures will prevent negative impacts from increased flows through the ESA.

3. **Areas offered as mitigation are linked to existing or planned open space or conserved areas to provide an overall open space system.**

   The Undeveloped Floodplain ESA is adjacent to unassessed Riparian Buffer ESA and Floodplain ESA. The enhancement of the habitat and the treatment of water by the rain garden within the Undeveloped Floodplain ESA onsite will serve to protect the waterway downstream.

4. **Development is arranged for maximizing access and utilization of the ESA by citizens.**

   Site layout provides two green spaces approximately 0.80 ace total, that will provide several right-of-way viewpoints to the ESA. Vegetative restoration will allow native species to access habitat that previously did not serve them.

5. **Areas offered as mitigation are placed either in a lot or lots that incorporate a permanent conservation easement, restrictive covenants, or such other legal mechanism to allow for the long-term conservation of said areas. Such legal mechanism shall limit any future land disturbing activity or construction within the ESA and shall run with the land and be binding upon all successors and assigns of the current owner.**

   The preserved and restored ESA area will be placed in a homeowner's association lot for long term conservation. HOA representatives will be responsible for any upkeep to the AESA area outside of yearly monitoring.

6. **The AESA plan shall demonstrate that the developer's alternative proposal results in a high-quality development meeting the intent of the standards in the DDC.**

   The AESA has been designed to minimize the impacts to ESA necessary to meet the residential development design standards for the overall development and proposes to mitigate for the impacts by revegetating portions of the constructed areas and creating a rain garden, creating higher-quality habitat and a higher-functioning floodplain. As such the proposed development meets the criteria for approval for an AESA.

7.0 – Summary

The impacts proposed to the Undeveloped Floodplain ESA is 1.46 acres consisting of 1.05 acres from the construction of infrastructure for single-family residential development including driveways, stormwater drainage lines, water and sanitary sewer utilities and 0.41 acres from the development of Hobson Lane a secondary arterial on the city's mobility plan. The mitigation for the impacts to the Undeveloped Floodplain ESA will consist of drill-seeding the green spaces within the ESA impacted by the construction with native seed mixtures to provide protective ground cover and increase biodiversity. The native grasses planted within the green space will provide vegetative cover and forage for local wildlife and promote the historical native herbaceous community within the ESA

Figures

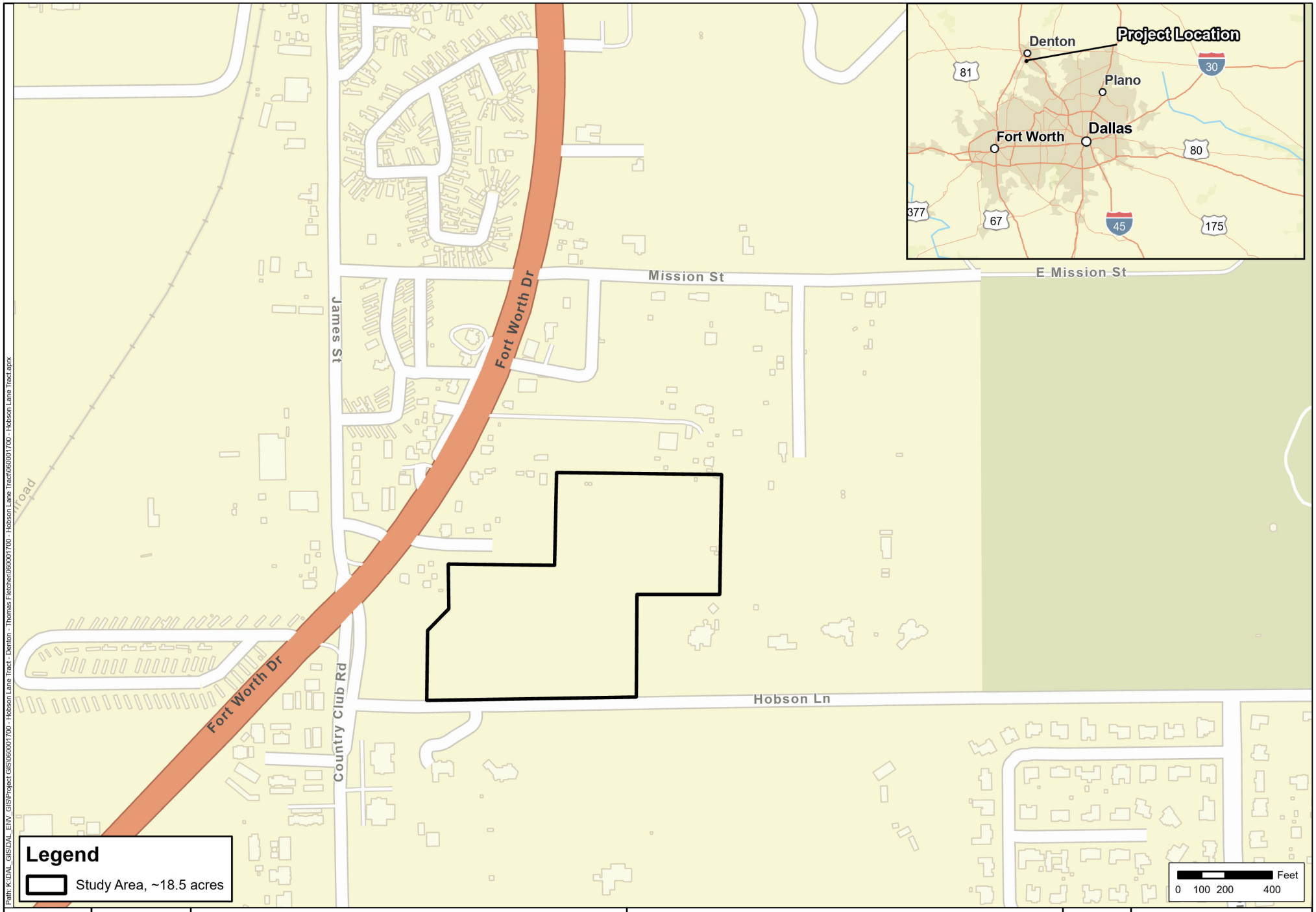


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FIGURE			
1	DATE:	07/15/2024	
	DRAWN:	LJK	
	CHECKED:	AMB	
	KHA NO.:	060001700	

Vicinity Map

Source: ESRI Basemap

Hobson Lane Tract

Denton, Denton County, Texas

N

Kimley»Horn

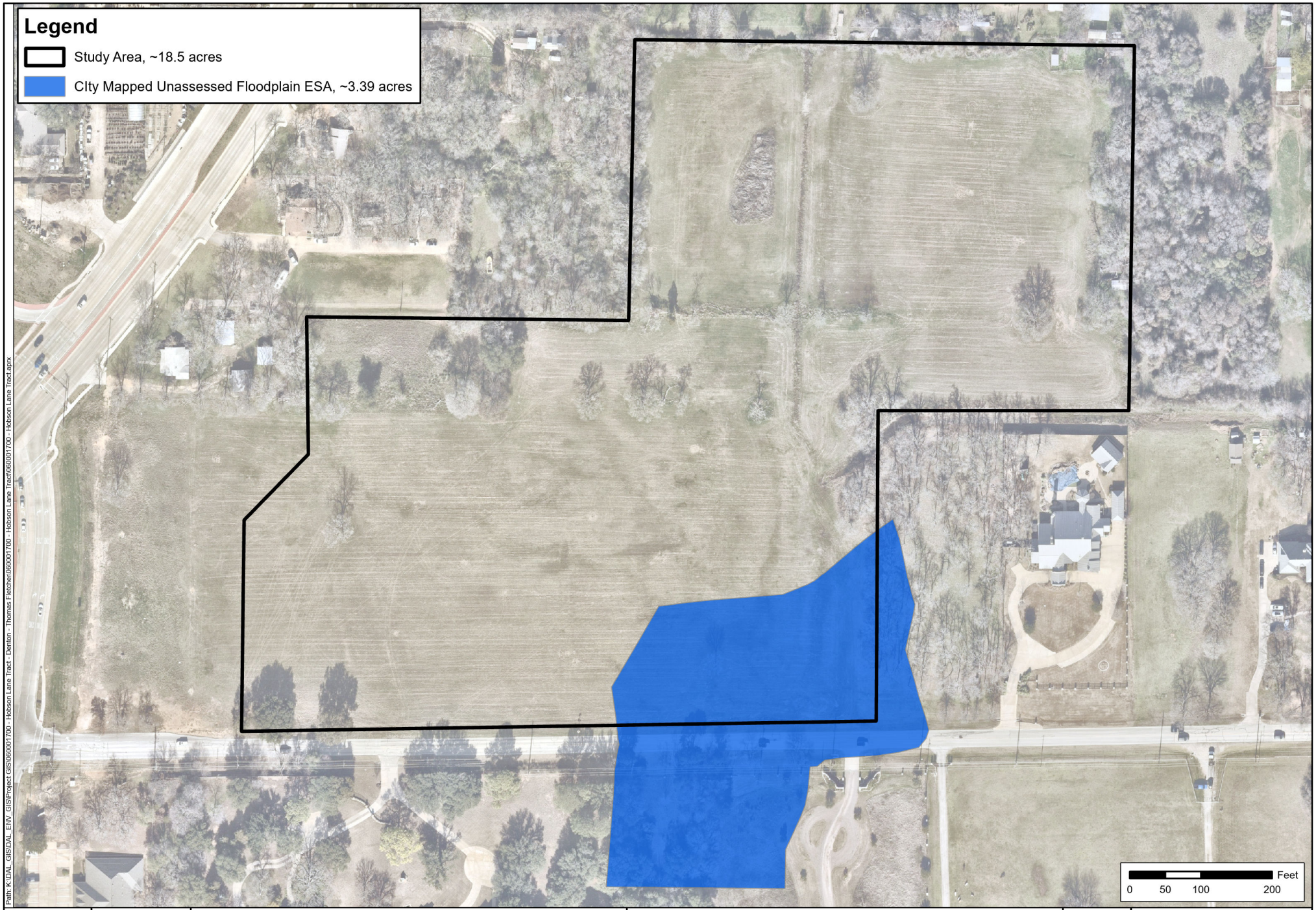

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FIGURE
2

DATE:	07/15/2024
DRAWN:	LJK
CHECKED:	AMB
KHA NO.:	060001700

City of Denton Mapped ESAs

Source: Nearmap January 2024

Hobson Lane Tract

Denton, Denton County, Texas

N

Kimley»Horn

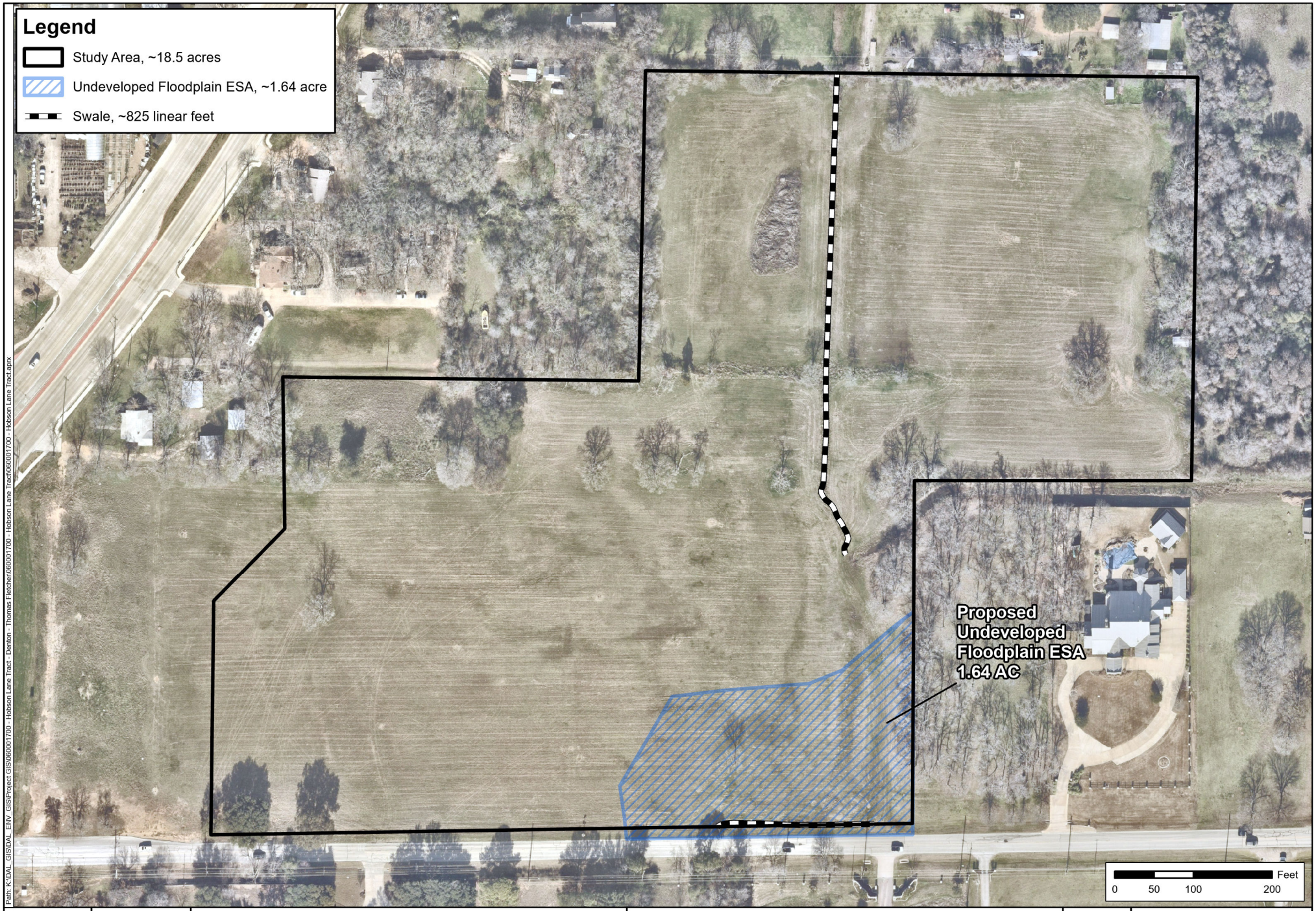

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FIGURE 3

DATE:	07/15/2024
DRAWN:	LJK
CHECKED:	AMB
KHA NO.:	060001700

Observed Onsite ESA and Aquatic Features

Source: Nearmap January 2024

Hobson Lane Tract

Denton, Denton County, Texas

N

Kimley»Horn

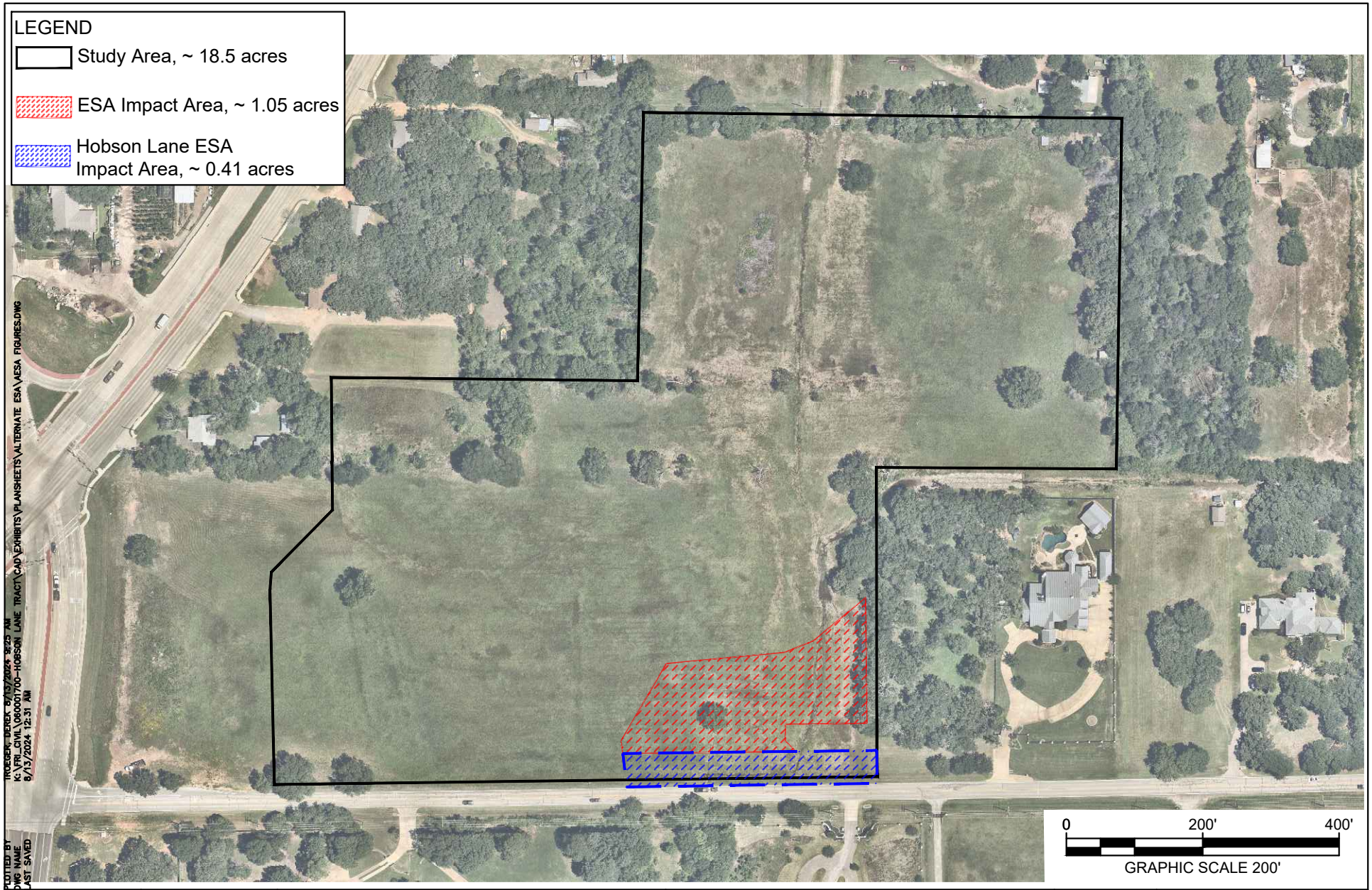


FIGURE	DATE: 08/12/2024	Proposed ESA Impacts	Hobson Lane Tract	N	Kimley»Horn
4	DRAWN: DKT	Source: Nearmap August 2024	Denton, Denton County, Texas		
	CHECKED: TLF				
	KHA NO: 060001700				

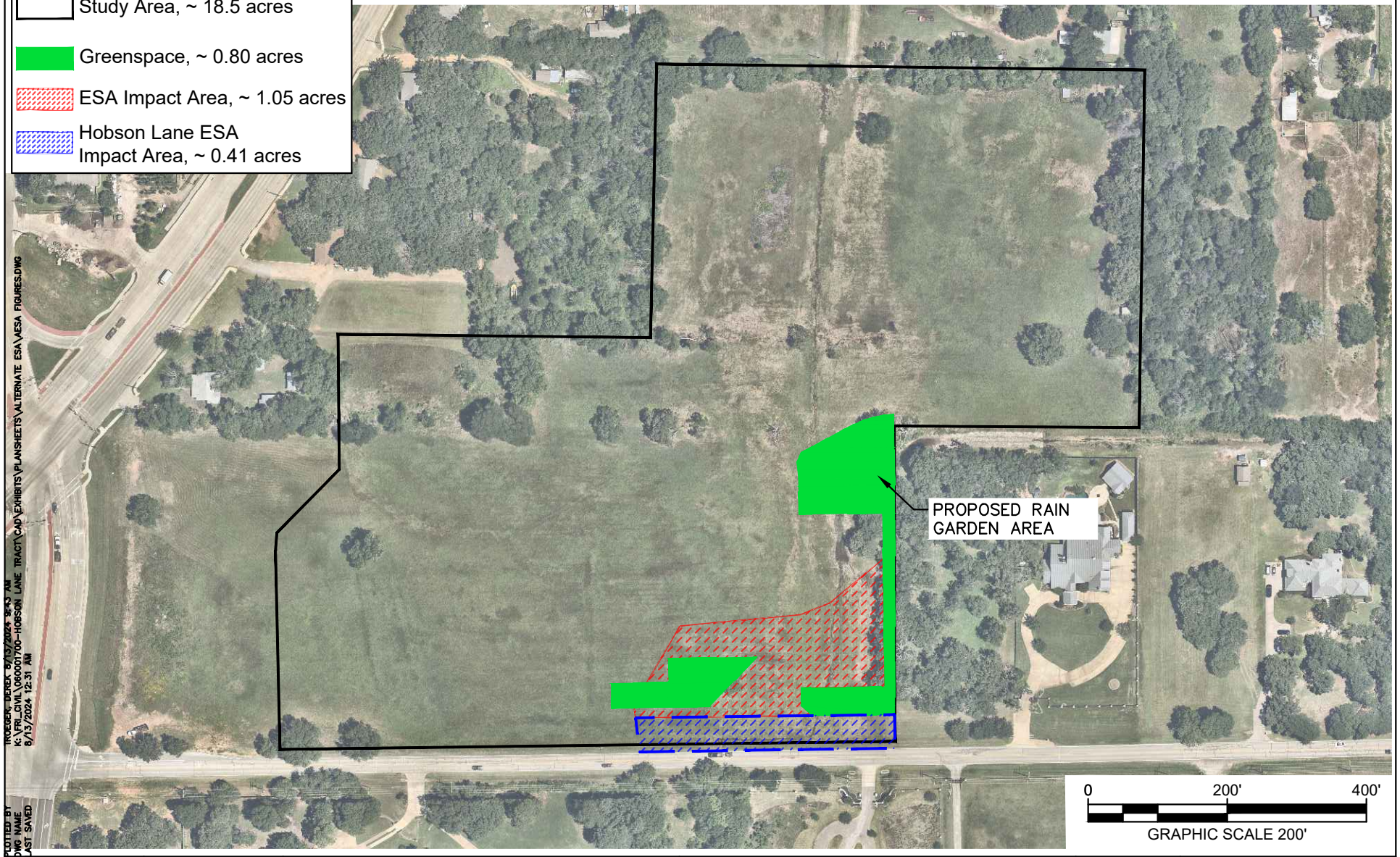


FIGURE 5	DATE: 08/12/2024 DRAWN: DKT CHECKED: TLF KHA NO: 060001700	AESA Proposed Mitigation Source: Nearmap August 2024	Hobson Lane Tract Denton, Denton County, Texas	N	Kimley»Horn

Appendix A

ESA ASSESSMENT INFORMATION

Project Number: ESA

Floodplain ESA Assessment Form

Environmental Services and Sustainability

A Floodplain ESA Assessment Form is to be completed for each feature identified as potentially to exist on the Official ESA Map. Features of substantially similar characteristics and location may be grouped together on one form. More information about Undeveloped Floodplains and assessing this feature may be found on the City of Denton webpage.

Property Address or Property ID:	R 36211	**Feature ID(s):**	

Property ID can be found through Denton Central Appraisal District *Provide a unique ID for each feature when multiple features are assessed*

Hydrologic Segment Information:

Name:	S1	**Width**	4	**Order**	1

When available, stream segment name. *Approximate stream width.* *Stream order.*

Assessment Conclusion:

Select one of the following.

☑ IS an ESA. Based upon this assessment the area is an Undeveloped Floodplain ESA. I recommend the Official ESA Map be updated to confirm the ESA designation in this area.

☐ NOT an ESA. Based upon this assessment the floodplain is developed. I recommend the Official ESA Map be updated to remove the ESA designation from this area.

Assessment Comments:

Provide a summary of details found in the field to support the conclusion selected above.

Assessing a portion of the Hobson Lane Tract project that contains unassessed floodplain ESA area mapped by the City of Denton. This area surrounded swale SW2 which was observed during site reconnaissance. The undeveloped floodplain ESA area appeared to be a maintained field historically planted with Zoysia grass and currently also occupied by native herbaceous vegetation.

Attachments Provided:

Required:	☑ overall site map ☑ current map of feature ☐ proposed map of feature ☑ soils map ☑ photographs representative of feature
Other:	

Field Assessor:

Name of Field Assessor: Alex M. Brown

Affiliation of Field Assessor (Organization): Kimley-Horn and Associates

Date the assessment was performed: 2-21-2024

I certify that the information provided here is an accurate description of the area(s) assessed.	

Environmental Services Representative:

I concur with the description of this ESA and conclusion of this assessment.	

Section 1. General Information

General Land Use:

Provide description of land hydrologically influencing feature. Select all that apply and provide more details as appropriate.

☐ Forest	Briefly describe:
☐ Agricultural:	☑ Pasture ☐ Fallow ☐ Crop, crop type:
☐ Residential:	☑ Low Intensity ☐ High Intensity
☐ Commercial/Industrial	
☐ Recreational	
☑ Other:	maintained field

Soil Map Unit Name(s):

Provide soil classification types where feature occurs.

37: Gasil-Urban land complex, 1 to 4 percent slopes	

Section 2. Floodplain Conditions

Are there modifications (cut/fill) of the floodplain?	☐ yes *(answer question below)* ☑ no
Describe:	none visible
Are there structures in the floodplain?	☐ yes *(answer question below)* ☑ no
Describe:	culvert present off site to south for road crossing

Waterway present: ☑ yes *(complete the table below and Riparian Buffer ESA form)* ☐ no

Waterway	☑ natural ☐ channelized ☐ impounded
Sinuosity	☐ meandering ☐ braided ☑ straight

Section 3. Soil Erosion and Deposition

Is there evidence of sheet flow across the floodplain?	☑ yes (answer question below) ☐ no
Active sheet flow erosion is:	☑ slight ☐ moderate ☐ severe
Is there evidence of concentrated flow?	☑ yes (answer question below) ☐ no
Active concentrated flow erosion is:	☐ slight ☑ moderate ☐ severe

Does the floodplain slope to the waterway or is a natural levee present?

☑ toward ☐ natural levee. Complete the table below.

Does natural levee create conditions for water-related habitat?	☐ yes *(complete Water-Related Habitat form)* ☑ no

Section 4. Brief Vegetation Survey

List all vegetative species covering >10% of the feature area.

Scientific name	*Common name*	*% Cover*
Zoysia sp.	lawngrass	80
Stellaria media	common chickweed	10
Artemisia vulgaris	common mugwort	15
Amorpha canescens	leadplant	5
Rumex crispus	curly dock	10
Sesbania herbacea	bigpod sesbania	10

Appendix B

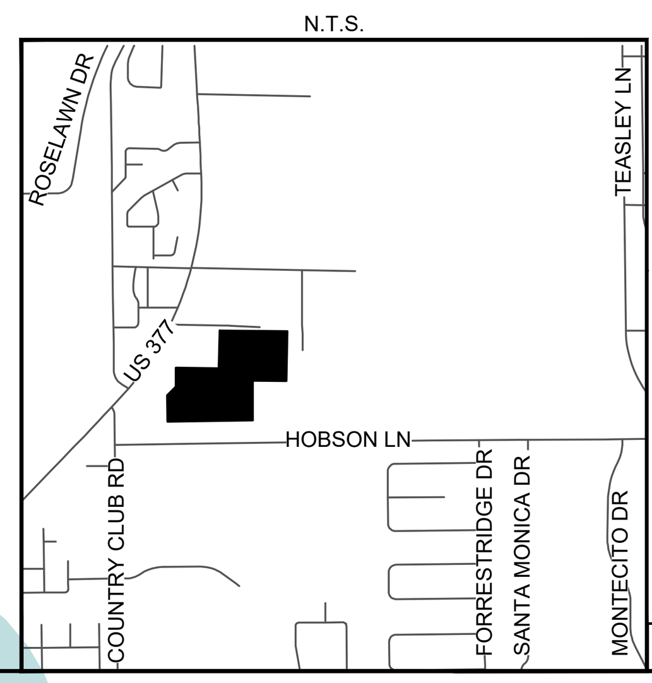
SITE PLAN

LANDSCAPE PLAN

TREE PRESERVATION PLAN

VICINITY MAP

N.T.S.



NOTE: IMPROVEMENTS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE AT TIME OF FINAL DESIGN.

UNDEVELOPED FLOODPLAIN ESA

- - - HOBSON LANE (SECONDARY ARTERIAL) = 0.40 AC

- - - GRAND PARKSIDE RESIDENTIAL = 1.24

TOTAL= 1.64 AC

SITE PLAN
FOR
GRAND PARKSIDE
PROJECT: AESA24-0001
BEING 19.15 ACRES
IN THE WILLIAM DANIEL SURVEY, ABSTRACT NO. 378
CITY OF DENTON, DENTON COUNTY, TEXAS
EX ZONING: R6
PROPOSED USE: SINGLE FAMILY

OWNER & DEVELOPER:
VANDESMITH PARTNERS, LTD
3205 ACE COURT,
ARGYLE, TX 76226
TEL: (940) 591-7963
CONTACT: DAVID VADERLAAN

ENGINEER/SURVEYOR:
Kimley»Horn
6160 WARREN PARKWAY, SUITE 210
FRISCO, TX 75034
TEL: (972) 335-3580
CONTACT: MARISSA VOLK, P.E.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	ESA-1
LEJ	LEJ	DKT	AS SHOWN	SEPTEMBER 2024	063226937	

LEGEND

TREES

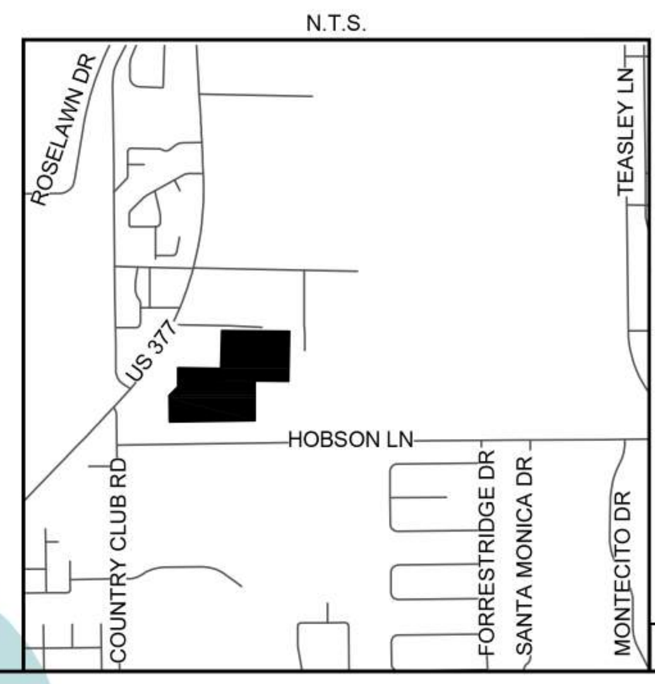
- CEDAR ELM / ULMUS CRASSIFOLIA - (QTY: 4)
- PECAN / CARYA ILLINOINENSIS - (QTY: 3)
- MEXICAN PLUS / PRUNUS MEXICANA - (QTY: 21)

SEED / SOD

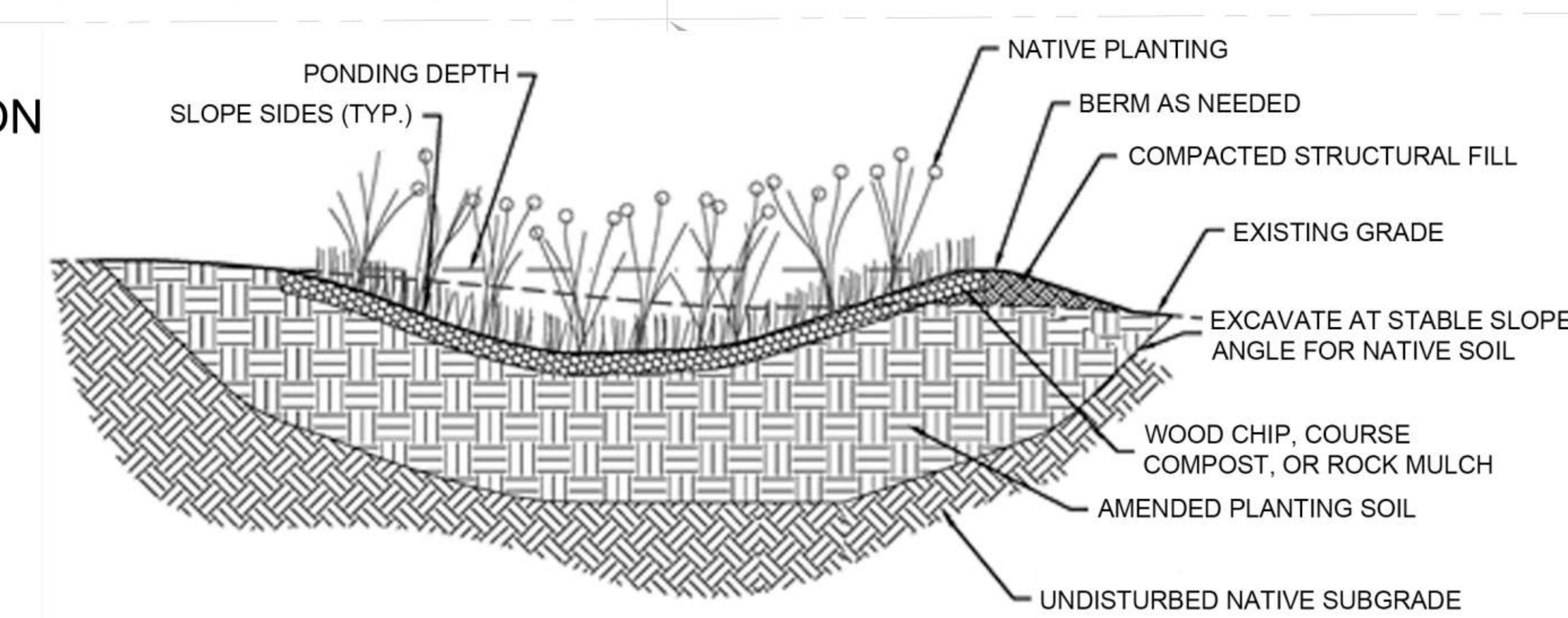
- NATIVE SUN TURF MIX / BUFFALO GRASS AND BLUE GRAMMA GRASS
- WETLAND FRINGE MIX

VICINITY MAP

N.T.S.



NOTE: IMPROVEMENTS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE AT TIME OF FINAL DESIGN.



LID 1.06 INFILTRATION RAIN GARDEN W/ PLANTING SOIL

NTS ***FINAL DESIGN W/ CONSTRUCTION PLANS

ALTERNATIVE ESA SITE PLAN / MITIGATION PLAN

SITE PLAN
FOR
GRAND PARKSIDE
PROJECT: AESA24-0001
BEING 19.15 ACRES
IN THE WILLIAM DANIEL SURVEY, ABSTRACT NO. 378
CITY OF DENTON, DENTON COUNTY, TEXAS
EX ZONING: R6
PROPOSED USE: SINGLE FAMILY

OWNER & DEVELOPER:
VANDESMITH PARTNERS, LTD
3205 ACE COURT,
ARGYLE, TX 76226
TEL: (940) 591-7963
CONTACT: DAVID VADERLAAN

ENGINEER/SURVEYOR:
Kimley»Horn
6160 WARREN PARKWAY, SUITE 210
FRISCO, TX 75034
TEL: (972) 335-3580
CONTACT: MARISSA VOLK, P.E.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	ESA-1
LEJ	LEJ	MMV	AS SHOWN	JULY 2024	063226937	

PLOTTED BY: TROEGER, DEREK
DWG NAME: K:\FRI_CIVIL\069007700-HOBSON LANE TRACT\CAD\PRELIMINARY PLANSHEETS\1 TREE PRESERVATION PLAN.DWG
LAST SAVED: 8/15/2024 10:52 AM

U.S. 377
(VARIABLE WIDTH RIGHT-OF-WAY)

JOSE T. CORONA AND FLORIBERTA CORONA
CONVEYED IN DOC. NO.2016-83495
DESC. IN VOL. 1253, PG. 783
O.R.D.C.T.

CALLED "FIRST TRACT"
CLEARMAN OWENS INC.
VOL. 657 PG. 393
O.R.D.C.T.

CALLED "SECOND TRACT"
CLEARMAN OWENS INC.
VOL. 657 PG. 393
O.R.D.C.T.

CALLED 0.919-ACRES
MICHAEL BROOKS
AND WIFE, MONICA OWENS BROOKS
VOL. 1226, PG. 654
O.R.D.C.T.

REMAINDER OF
CALLED 1.736-ACRES
CST STATIONS TEXAS LLC
DOC. NO. 2017-54513
O.R.D.C.T.

CALLED 1.0025-ACRES
RCH DEVELOPMENT, LLC
DOC. NO. 2017-56075
O.R.D.C.T.

"TRACT FOUR"
DAVID E BROWN
DOC NO 1996-60615
O.R.D.C.T.

14' PUBLIC
DEDICATION, VOL. 496,
PG. 102

14' PUBLIC R.O.W.
EASEMENT
VOL. 496, PG. 102

701.7'

REMAINDER OF
CALLED 5.975 ACRES
H.F. MEADOR
VOL. 300, PG. 282

393.8'

449.2'

122.6'

71.9'

127.6'

302.9'

513.9'

BISCAYNE LANE

GRAND CANYON ROAD

WHITE SANDS WAY

RAINIER DRIVE

DENALI ROAD

KINGS CANYON ROAD

CALLED 9.58 ACRES
VANDESMITH PARTNERS LTD
DOC. NO. 2017-54443
O.R.D.C.T.

CALLED
7.394-ACRES
JAMES D. COULTER,
& WIFE EVELYN
COULTER
VOL. 1963, PG. 9693
O.R.D.C.T.

REMAINDER OF CALLED 27.32 ACRES
VANDESMITH PARTNERS LTD
DOC. NO. 2017-54442
O.R.D.C.T.

REMAINDER OF CALLED 27.32 ACRES
VANDESMITH PARTNERS LTD
DOC. NO. 2017-54442, O.R.D.C.T.

BLOCK A
BLOCK B
BLOCK C

25X 17X 9X 6X 1X 35X

351.6'

35' DRAINAGE
EASEMENT

ESA AREA ONSITE

415.1'

THE VILLAS OF FOREST GLEN
CAB. V, PG. 441, O.R.D.C.T.

LOT 6, BLOCK A
LOT 5, BLOCK A
LOT 4, BLOCK A

RIM = 627.1±
FL EX. 8" PVC (S) = 621.1±
FL EX. 8" PVC (E) = 621.2±

RIM = 634.2±
FL EX. 8" PVC (E) = 628.1±
FL EX. 8" PVC (W) = 628.1±

55.0'

CITY OF DENTON
CAB. V, PG. 441
O.R.D.C.T.

HOBSON LANE
(VARIABLE WIDTH R.O.W.)

1225.2'

FL EX. 36" RCP = 621.1±

BM# 403

BM# 402

LOT 2
DAVIS OAKS ADDITION
VOL. P, PG. 222
P.R.D.C.T.

LOT 3
DAVIS OAKS ADDITION
VOL. P, PG. 222
P.R.D.C.T.

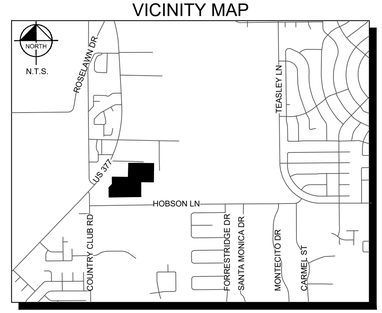
BLOCK A, LOT 1
LIVE OAK CREEK RANCH
VOL. V PG. 137
P.R.D.C.T.

RO WOODSON
VOL. 455 PG. 48
O.R.D.C.T.

NORTH

GRAPHIC SCALE IN FEET
50 0 25 50 100
1" = 50' @ 24X36

VICINITY MAP



LEGEND

- TREE TO BE PRESERVED
- TREE TO BE REMOVED
- SURVEYED TREE OUTSIDE OF LIMITS
- ORANGE TREE PROTECTIVE FENCING

TREE PRESERVATION NOTES

1. SEE SHEET TP-2 FOR TREE INFORMATION AND PRESERVATION DETAILS.

BENCHMARK LIST

BM# 402 SQUARE WITH "X" CUT SET ON A CONCRETE HEADWALL ON THE EAST SIDE OF A DRIVEWAY AND THE SOUTH SIDE OF HOBSON LANE, APPROXIMATELY 1250 FEET EAST FROM THE INTERSECTION OF HOBSON LANE AND U.S. 377.
ELEV. = 628.070

BM# 403 SQUARE WITH "X" CUT SET ON A CONCRETE HEADWALL ON THE EAST SIDE OF A DRIVEWAY AND THE SOUTH SIDE OF HOBSON LANE, APPROXIMATELY 600 FEET EAST FROM THE INTERSECTION OF HOBSON LANE AND U.S. 377.
ELEV. = 638.58

PRELIMINARY TREE PRESERVATION PLAN
PP24-0003
GRAND PARKSIDE

63 RESIDENTIAL LOTS
BEING 19.15 ACRES
IN THE WILLIAM DANIEL SURVEY, ABSTRACT NO. 378
CITY OF DENTON, DENTON COUNTY, TEXAS

PRELIMINARY
FOR REVIEW ONLY
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Kimley»Horn
Engineer DEREK K. TROEGER
P.E. No. 151058 Date 08/13/24

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TEL: (940) 591-7963
CONTACT: DAVID VADERLAAN

ENGINEER/SURVEYOR:
Kimley»Horn
6160 WARREN PARKWAY, SUITE 210
FRISCO, TX 75034
TEL: (972) 335-3580
CONTACT: MARISSA VOLK, P.E.

DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	
LEJ	LEJ	MMV	AS SHOWN	JULY 2023	063226937	TP-1

TREE NUMBER	COMMON NAME OF TREE			DIAMETER (DBH)	PART OF 3+ TREE CLUSTER (YES OR BLANK)	STATUS: HEALTHY OR DEAD/DISEASED	NOTES	CLASSIFICATION	ACTION: PRESERVE /REMOVE	SITE LOCATION
7681	live oak			17.4		Healthy		Quality	Remove	MROW
7682	live oak			19.2		Dead/Diseased	Declining	Non-protected	Remove	MROW
7683	live oak			35.7		Healthy		Heritage	Remove	MROW
7684	live oak			28.6		Healthy		Heritage	Remove	MROW
7685	pecan			19.5		Healthy		Heritage	Remove	DIA
7686	pecan			28.6		Healthy		Heritage	Preserve	DIA
7687	American elm			10.5		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7688	cedar elm			27.1		Healthy		Heritage	Remove	DIA
7689	live oak			22.7		Healthy		Heritage	Remove	DIA
7690	red mulberry			12.4		Dead/Diseased	Declining	Non-protected	Remove	DIA
7691	blackjack oak			24.3		Dead/Diseased	Declining	Non-protected	Remove	DIA
7692	cedar elm			26.1		Healthy		Heritage	Remove	DIA
7693	blackjack oak			17		Dead/Diseased	Declining	Non-protected	Remove	DIA
7694	blackjack oak			29.5		Healthy		Heritage	Remove	DIA
7695	pecan			10.3		Healthy		Quality	Remove	DIA
7696	live oak			31.4		Healthy		Heritage	Remove	DIA
7697	pecan			24		Healthy		Heritage	Remove	DIA
7698	water oak			6.4		Healthy		Quality	Remove	DIA
7699	post oak			27.2		Healthy		Heritage	Remove	DIA
7700	post oak			41.6		Healthy		Heritage	Remove	DIA
7701	hackberry			13.7		Dead/Diseased	Declining	Non-protected	Remove	DIA
7702	hackberry			13.9		Healthy		Secondary	Remove	DIA
7703	hackberry			9.5		Dead/Diseased	Declining	Non-protected	Remove	DIA
7704	hackberry			10.9		Dead/Diseased	Declining	Non-protected	Remove	DIA
7705	hackberry			16.3		Healthy		Secondary	Remove	DIA
7706	hackberry			14.3		Healthy		Secondary	Remove	DIA
7707	eastern redcedar			17.4		Dead/Diseased	Declining	Non-protected	Remove	DIA
7708	hackberry			12.9		Dead/Diseased	Declining	Non-protected	Remove	DIA
7709	American Elm			20.1		Dead/Diseased	Declining	Non-protected	Remove	DIA
7710	hackberry			6.9		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7711	hackberry			7.4		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7714	hackberry			7.4		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7719	American elm			14.8		Healthy		Quality	Preserve	DIA
7720	American elm			15.3		Healthy		Quality	Preserve	DIA
7722	American elm			17.4		Healthy		Quality	Preserve	DIA
7723	hackberry			6.8		Healthy		Secondary	Preserve	DIA
7725	American elm			32.2		Healthy		Heritage	Preserve	DIA
7726	white ash			26.6		Healthy		Secondary	Remove	DIA
7727	American elm			15.2		Healthy		Quality	Preserve	DIA
7728	blackjack oak			37.5		Healthy		Heritage	Preserve	DIA
7729	blackjack oak			27.6		Healthy		Heritage	Remove	DIA
7730	post oak			30		Healthy		Heritage	Preserve	DIA
7731	post oak			12.9		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7732	post oak			21.5		Healthy		Heritage	Preserve	DIA
7733	post oak			19.5		Healthy		Heritage	Preserve	DIA
7734	post oak			15.1		Healthy		Heritage	Preserve	DIA
7735	post oak			19.3		Healthy		Heritage	Remove	DIA
7736	blackjack oak			14.9		Dead/Diseased	Declining	Non-protected	Remove	DIA
7737	post oak			20.2		Healthy		Heritage	Remove	DIA
7738	post oak			18.1		Healthy		Heritage	Preserve	DIA
7739	blackjack oak			7.7		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7740	blackjack oak			8.5		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7741	post oak			11.9		Healthy		Heritage	Preserve	DIA
7742	post oak			19		Healthy		Heritage	Remove	DIA
7743	post oak			36.3		Healthy		Heritage	Preserve	DIA
7744	post oak			24		Healthy		Heritage	Remove	DIA
7745	post oak			19.8		Healthy		Heritage	Remove	DIA
7746	blackjack oak			19.4		Dead/Diseased	Declining	Non-protected	Remove	DIA
7748	post oak			16.3	Yes	Healthy		Heritage	Remove	DIA
7749	post oak			13.7	Yes	Healthy		Heritage	Remove	DIA
7750	post oak			17.2	Yes	Healthy		Heritage	Remove	DIA
7751	post oak			18.4	Yes	Healthy		Heritage	Remove	DIA
7752	hackberry			8.9		Healthy		Secondary	Remove	DIA
7753	Hercules-club			15.7		Dead/Diseased	Declining	Non-protected	Remove	DIA
7754	hackberry			13.2		Healthy		Secondary	Preserve	DIA
7755	hackberry			11.3		Healthy		Secondary	Preserve	DIA
7756	post oak			53.2		Healthy		Heritage	Remove	DIA
7757	post oak			23.7		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7758	post oak			26.4	Yes	Healthy		Heritage	Preserve	DIA
7759	post oak			21.9	Yes	Healthy		Heritage	Preserve	DIA
7760	post oak			15.1	Yes	Healthy		Heritage	Preserve	DIA
7761	post oak			15.4	Yes	Healthy		Heritage	Preserve	DIA
7762	post oak			17.2		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7763	post oak			28.7		Healthy		Heritage	Preserve	DIA
7764	post oak			33.6		Healthy		Heritage	Remove	DIA
7765	post oak			27.9		Healthy		Heritage	Preserve	DIA
7766	post oak			23		Healthy		Heritage	Remove	DIA
7767	post oak			13.8		Healthy		Heritage	Remove	DIA
7768	post oak			16.8		Healthy		Heritage	Remove	DIA
7769	post oak			21.7		Healthy		Heritage	Remove	DIA
7775	post oak			9.4		Healthy		Heritage	Preserve	DIA
7776	post oak			9.1		Healthy		Heritage	Preserve	DIA
7777	post oak			10.1		Dead/Diseased	Declining	Non-protected	Preserve	DIA
7778	post oak			16.6		Healthy		Heritage	Preserve	DIA
7780	post oak			15.3		Healthy		Heritage	Preserve	DIA
7781	post oak			19.5		Healthy		Heritage	Preserve	DIA
7774	post oak			16.7		Healthy		Heritage	Preserve	DIA
7772	post oak			23.8		Healthy		Heritage	Preserve	DIA
7771	post oak			19.3	Yes	Healthy		Heritage	Preserve	DIA
7770	post oak			11		Healthy		Heritage	Preserve	DIA

	dbh
Total (Healthy) dbh	1405.9
Total (Healthy) Non-Protected dbh	0
Dead Tree dbh	319.7
Total (Healthy) Heritage/Quality dbh	1,213
Required Preservation (30%)	363.87
Provided Heritage/Quality Preservation dbh:	589.5
Required Preservation dbh Achieved?	Yes

Protected Trees Removed

Type	dbh Removed	Replacement Ratio	Calculated DBH
Heritage	671	2.5:1	1677.5
Quality	34.1	2:1	68.2
Subtotal			1745.7
	Trees Removed	**Replacement Ratio**	**Calculated DBH**
Secondary	5	4":1 tree	20
Total			1765.7
Preliminary Mitigation dbh		50% Reduction	882.85

Trees Preserved

Type	dbh Preserved		Preservation Credit
Landmark	0	4:1	**0**
Heritage	526.8	3:1	1580.4
Quality	62.7	2:1	125.4
Secondary*	31.3	0.5:1*	15.65
Addt'l Cluster Credi	98.1	1.15:1	112.815
Total	620.8		1834.265
Mitigation dbh			**-951.415**

BENCHMARK LIST

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ELEV. = 628.070

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PP24-0003
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Kimley»Horn
Engineer: DEREK K. TROEGER
P.E. No. 151058 Date: 08/13/24

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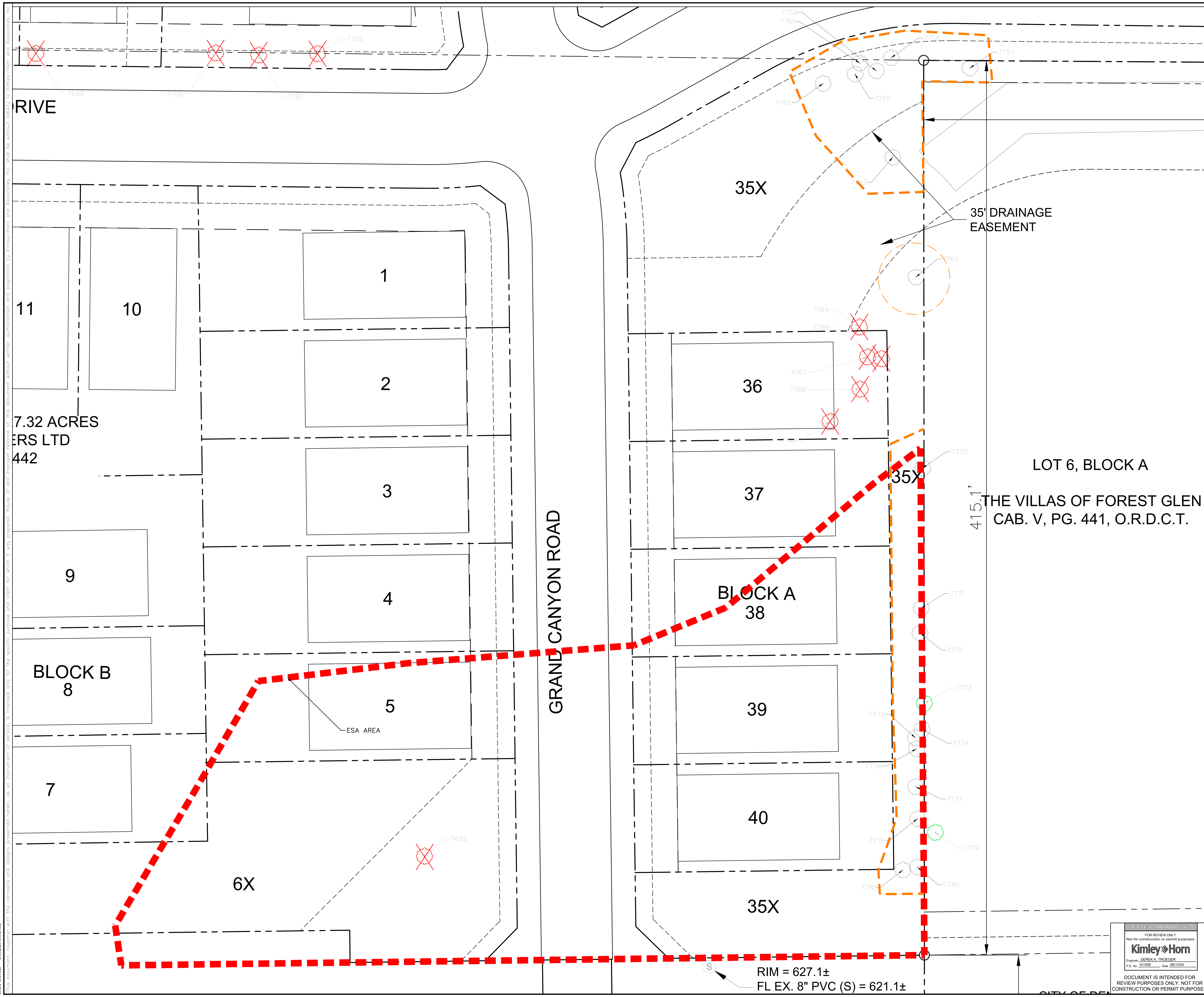
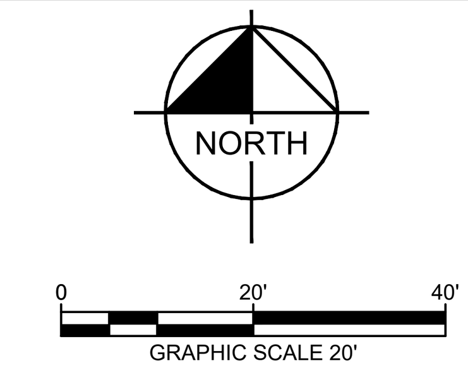
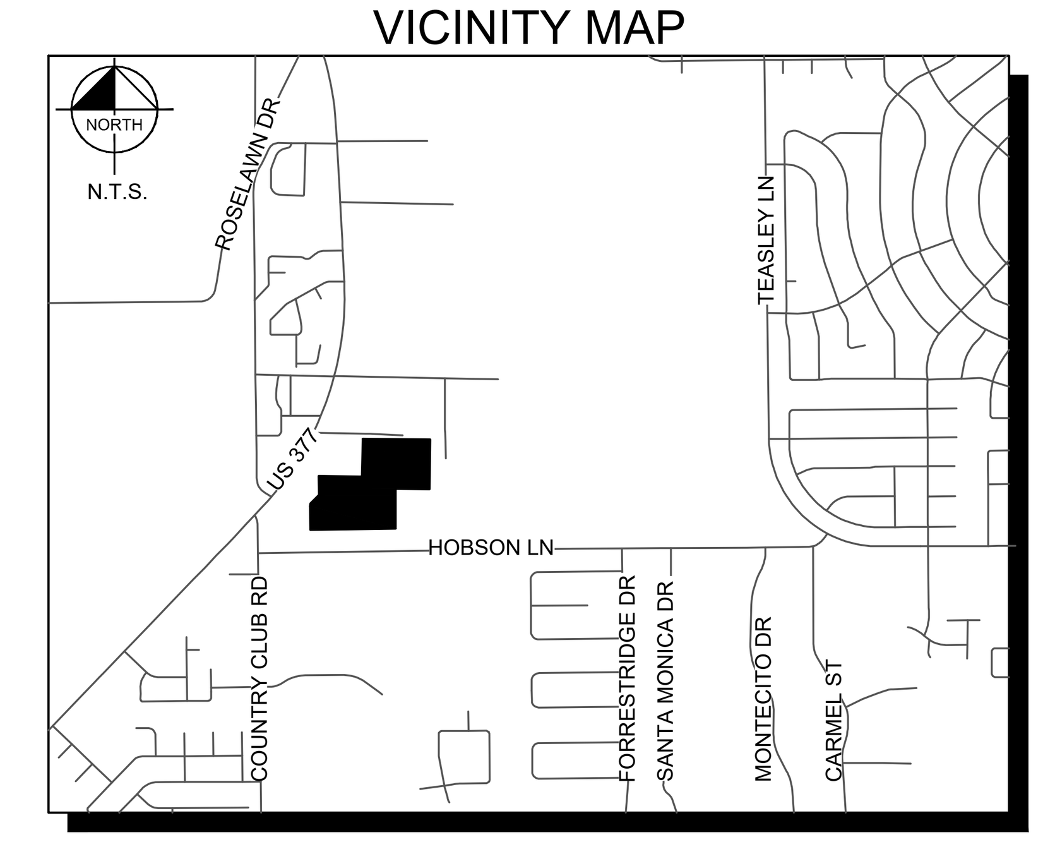
DESIGNED	DRAWN	CHECKED	SCALE	DATE	KH PROJECT #	
LEJ	LEJ	MMV	AS SHOWN	JULY 2023	063226937	TP-2





VICINITY MAP



LEGEND

●	TREE TO BE PRESERVED
⊗	TREE TO BE REMOVED
●	SURVEYED TREE OUTSIDE OF LIMITS
— —	ORANGE TREE PROTECTIVE FENCING

TREE PRESERVATION NOTES

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PLOTTED BY TROEGER, DEREK
DWG NAME K:\FRI_CIVIL\060001700-HOBSON LANE TRACT\CAD\PRELIMINARY\PLANSHEETS\T-1 TREE PRESERVATION PLAN.DWG
LAST SAVED 8/13/2024 10:32 AM