Alternative Environmentally Sensitive Area (AESA) Plan (AESA24-0004)

Harris Tract Industrial Approximately 86 Acres

Denton, Denton County, Texas October 30, 2024



Project Applicant: Urban Logistics Realty

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Alternative Environmentally Sensitive Area (AESA) Plan (AESA24-0004) Harris Tract Industrial Denton, Denton County, Texas

1.0 – Introduction and Authority/Purpose and Need for Action

Pursuant to Denton Development Code (DDC) Section 7.4.7, the disturbance of Water Related Habitat is not a permitted activity. Kimley-Horn and Associates Inc. (Kimley-Horn) has prepared the following Alternative Environmentally Sensitive Area (AESA) Plan. This AESA plan is being submitted to the City of Denton under the DDC Section 2.8.4 to request approval for impacts to Environmentally Sensitive Areas (ESA). This AESA Plan proposes mitigation measures for the impacts required to construct multiple speculative warehouse buildings for Urban Logistics Realty. The mitigation activities offered as a part of this AESA would achieve the goals outlined in DDC Section 2.8.4.

1.1 – Description of Overall Development

The proposed Harris Tract Industrial project is approximately 86-acres in size generally located north of Marshall Road and west of Interstate Highway 35 in the City of Denton, Denton County, Texas (DCAD # R34437, R36979, R39150, R168120, R168148, R563770, R563769, R995240, R1012742, Figure 1).

The project consists of multiple speculative warehouse buildings with associated utility installations, roads, and parking lots. A detention pond will be excavated in the southwestern corner of the study area to satisfy DDC requirements.

1.2 - Site Visit

An ESA Field Assessment (ESA24-0013) was performed by a third-party consultant and confirmed the presence of Water Related Habitat ESA in the western portion of the study area. However, it was determined that Riparian Buffer ESA is not present onsite as the vegetation within the buffer is consistent with the surrounding upland vegetation and an ordinary high-water mark (OHWM) was not observed throughout the linear aquatic features. The locations of the Water Related Habitat ESAs are shown in Figure 2. Additional project information is available from City of Denton Case Number ESA24-0013 and within the City of Denton eTRAKiT system.

2.0 – Site Area Description

The approximate center coordinates of the study area are Latitude: 33.249 and Longitude: -97.182 (1983 North American Datum (NAD) Coordinates). The project is located within the Hickory Creek – Little Elm Reservoir watershed (USGS Hydrological Unit Code (HUC) 1203010308). Based on historic aerial imagery and current observations, the majority of the site appears to be undeveloped shrubland with a single-family residence located in the eastern portion of the study area. The on-channel ponds in the western portion of the study area were excavated by the landowner as ponds for oil and gas activities for the adjacent pad site in 2005. The ponds are also presently utilized as livestock ponds by cattle onsite.

2.1 - Vegetation

The ESA area is located in the historic Cross Timbers ecoregion. Historically, this region was dominated by post oak, blackjack oak, cedar elm, Osage-orange, and various grasses and forbs. However, this ecoregion has witnessed significant impacts due to urban sprawl and agriculture.

Based on site visit observations, the ESA area was dominated by:

- Spike rush (Eleocharis olivacea)
- Smartweed (*Polygonum pensylvanicum*)
- Floating primrose willow (*Ludwigia peploides*)

2.2 – Observed ESA Habitat

During a site visit completed by a third-party consultant, Water-Related Habitat ESA was generally mapped surrounding an upland pond and a network of streams in the western portion of the study area (Figure 3). The ESA Assessment was reviewed by the City of Denton and approved in August 2024 under the project number ESA24-0013.

Water-Related Habitat ESA

The Water-Related Habitat ESA within the western portion of the site surrounds an upland pond and a network of streams. The Water-Related Habitat ESA exists as three separate wetlands. The northernmost wetland was located north of a previously existing upland pond and measured 1.06 acres. The central wetland was located south of the previously existing upland pond and north of the existing upland pond along a stream. The central wetland measured 0.74 acre. The southern wetland is located south of the upland pond on-channel of a stream that continues offsite to the south into overland flow. The southern wetland measured 0.12 acres. Each of these three wetlands were observed to have abstract shape, with poor continuity and adjacency between them. Additionally, the wetlands appeared to be recently formed by man-made hydrologic changes to the natural flow of a stream system.

2.3 – Purpose of AESA

The purpose of the AESA plan is to propose mitigation for the impacts to the Water-Related Habitat ESA caused by the construction of the industrial warehouse development and associated infrastructure. The proposed mitigation activities herein not only improve the quality of the ESA but also expand the size of the protected area. In order to create the scale of protected area desired and to ensure the area is undisturbed by development, the Applicant plans to utilize the site's detention pond that is planned for stormwater management to help create new Water-Related Habitat ESA. The proposal includes strategically varying and manipulating the depth of the pond and planting native vegetation so that a large wetland and aquatic habitat can be created. The pond improvements are planned in conjunction with native vegetation planting in the green area surrounding the detention pond and tree preservation. Nuisance vegetation will be removed prior to the construction of the green area. This AESA plan explaining the mitigation measures will be provided to the City of Denton for formal notification and review of the proposed activity.

Additional project information is available from City of Denton Case Number ESA24-0013 and within the City of Denton eTRAKiT system.

3.0 – Affected Environment and Summary of Impacts

Mass grading of the entire site is proposed for the construction of the proposed warehouse buildings. Impacts are anticipated to the entire 1.92 acres of Water-Related Habitat ESA (Figure 4). The Water Related Habitat ESA currently consists of low-quality wetland habitat due to impacts from agriculture and the presence of cattle on the existing site. The total proposed AESA mitigation area is approximately 5 acres.

4.0 – Mitigation Activities

The Applicant read through DDC Section 2.8.4 and reviewed the example projects provided in the document in detail so that the proposed mitigation activities herein would strongly align with the City's stated desires and goals. While discussed in greater depth in the sections that follow, a summary of the mitigation activities and the value created through those activities is included below:

Guiding principle	How will this be accomplished?					
Improve encroached habitat and the surrounding environment	 Improved erosion control, as sediment forebay(s) will slow stormwater flows and native vegetation will stabilize the banks Variety of pond depths (ranging from approximately 6 inches to 48 inches) allows for the establishment of a more diverse vegetative community Stormwater pulses will provide varied water levels, similar to a natural system Water quality will be improved via deep-rooted native plant species on the banks and the sediment forebay(s) (a sediment forebay will be positioned at each incoming discharge point and is designed to trap sediments and particulate pollutants, therefore enhancing the pollutant removal capabilities of the pond) 					
Create, Expand, and/or	The proposed Alternative ESA is notably larger than the size of the					
improve non-impacted	current ESA, as our team wanted to create greater opportunity for					
areas	ecosystemto thrive.					
	While the current ESA is disparate and divided into multiple sections,					
Create continuity	we aimed to create one cohesive region to maximize the benefits of the ecosystem.					
	Proposed location is directly adjacent to main east/west right-of-way					
Maximize access &	to maximize viewpoints and access. In addition, the business park is					
utilization	designed for multiple buildings to have viewpoints of the area.					
High quality dayalan mant	The Applicant has a history of going above and beyond on their					
High quality development	developments to create value for the surrounding community.					

Several mitigation activities are proposed to offset the impacts to onsite Water-Related Habitat ESA. These activities include the utilization of a constructed detention pond to create wetland and aquatic habitat, and planting of native vegetation within the green area..

4.1 – ESA Habitat Improvements

Pursuant to DDC Section 7.5, Drainage, the development must by served by detention. Due to the topography of the site, revising the current ESAs to receive the development's flow would provide the greatest sustainability.

Sediment and Pollutant Runoff Reduction

Wetlands can serve as a pollutant sink by intercepting and sequestering suspended solids in runoff. Sediment forebay(s) will be positioned at each incoming inlet point to trap sediments and particulate pollutants, enhancing the pollutant removal capabilities of the aquatic habitat within the detention pond.

Additionally, native herbaceous vegetation will be planted along the banks and slopes of the detention pond to reduce the potential for the created wetland to discharge pollutants and to stabilize the banks.

Varied Habitat Depths

Natural landscapes and habitats have variability that is vital to a healthy ecosystem. Microtopography allows for much greater plant and animal diversity. The detention pond is being designed as a "wet" detention pond that will contain water year-round. Initial engineering designs called for two water depths (18-inches in the northern half and 48-inches in the southern half) with a sudden drop off transition between these two depths. However, to create a more a diverse ecosystem, a variety of depths are proposed. The detention ponds will be designed with a variety of water depths ranging from approximately 6" to 48" to allow for the establishment of more diverse wetland and aquatic ecosystem.

Northern Half of Detention Pond – Shallow Water Zone

The northern half of the pond will have an overall water depth of approximately 18-inches. This zone will act as the initial area to receive stormwater entering through the sediment forebay(s). This zone will allow for emergent wetland vegetation and provide shallow water habitat.

In this zone there will be slightly shallower "shelves" extending into the detention pond with a designed water depth of approximately 6 to 12-inches (approximately 0.29 acre in size). This will act as a shallow water depth area to allow for more varied vegetation species and to allow for easier access to water for wildlife.

Within this zone there will also be shallow areas near the center of the zone with a designed water depth of approximately 6 to 12-inches (approximately 0.23 acre in size). Up to four shallow zones will be constructed. This shallow zone is surrounded by water approximately 18-inches deep and will act like an "island" for species to utilize. The shallow area surrounded by slightly deeper water will afford some species protection from terrestrial based predators.

Transition Between Detention Pond Areas – Transition Zone

The transition zone between the two overall water depths will be designed to be gradual transition from approximately 18-inches of water depth to 48-inches of water depth. The gradual transition will allow for additional water depth zones for species to utilize as a more natural transition to a pool of water similar to a natural stream system.

Southern Half of Detention Pond – Deep Water Zone

The southern half of the pond will have an overall water depth of approximately 48-inches and will act as a deep-water zone for aquatic species. Deeper water will allow for more fully aquatic species to live while still having access to the shallow water zone for feeding.

In order to mimic natural habitats, there will be shallow "shelves" along the edges of the Deep-Water Zone (approximately 0.19 acre in size). These "shelves" are designed to extend into the detention pond with a designed water depth of approximately 6 to 12-inches. This will act as a shallow water area to allow more varied vegetation species and to allow for easier access to water for wildlife. Additionally, these shallow water "shelves", with a flat surface area, will allow for wildlife to safely exit the deep-water zone should they fall in or become trapped in deeper water.

4.2 – Tree Preservation

Based on the tree inventory completed prior to the preparation of this plan, no tree species were identified within the Water-Related Habitat ESA.

4.3 – Supporting Vegetation Communities

As part of developing a functioning ecosystem, vegetation is a core component. Many different vegetation communities will be formed based on physical location on the landscape as well as what seed mixes will be used to start the communities. The vegetation communities can be divided into two broad categories: terrestrial and aquatic. Below is a discussion of the varied communities.

Terrestrial Vegetation Communities

The terrestrial vegetation will be located in upland areas or areas that received periodic inundation, but the areas will remain predominately dry. The vegetation communities will be established around the detention pond totaling approximately 2 acres. There are approximately three terrestrial vegetation communities proposed: Native Sun Turf, Riparian Recovery, and Drainfield, or something similar in nature determined in conjunction with the City of Denton Environmental Compliance Team.

Native Sun Turf - Driest Native Terrestrial Vegetation

The first vegetation area is designed to be similar to native vegetation communities. A
Native Sun Turf seed mix or similar mix will be planted surrounding the upper slopes of the
detention pond. The community will consist of native short turf grasses such as
Buffalograss and Blue Gramma that should require little supplemental watering once
established.

Riparian Recovery – Moisture Transition Native Terrestrial Vegetation

 The second vegetation area, moving closer to the detention pond, is designed as a transition from the upland Native Sun Turf to a more diverse Riparian Recovery community that includes a combination of different species of native grasses and wildflowers. The Riparian Recovery seed mix or similar seed mix is designed to provide a deep rooted, diverse community, that provides increased bank stability, and runoff filtration.

Drainfield – Wet Native Terrestrial Vegetation

The third vegetation area closest to the edge of the water of the detention pond, is designed as a vegetation community that can tolerate more variable soil moisture conditions. A Drainfield seed mix or similar seed mix will be utilized that contains species that are adaptable to a wide rand of growing conditions and will help to stabilize the interface between terrestrial vegetation and aquatic vegetation.

Aquatic Vegetation Communities

The aquatic vegetation communities will be located within the inundated portions of the detention pond. It is anticipated that several small vegetation communities will establish on the varied depths within the pond. Drainfield seed mix or similar seed mix will be spread along the shallow "shelves" and a several varieties of wetland plants will be planted. Plants will be chosen from commercially reasonable and available species but could include species such as:.

- Wild rice (*Zizania aquatica*)
- Creeping spikerush (Eleocharis spikerush)
- Pickerelweed (*Pontederia cordata*)
- Native water lily (Nyphaea odorata)

- Water smartweed (Polygonum amphibium)
- Marsh purslane (Ludwigia palustris)

The seed mix installation and wetland planting will be performed per seed supplier rate and application recommendations throughout the designated seeding areas. Generally, aquatic plant species will be installed on a 2-foot or 3-foot square spacing grid. The aquatic plant species will be planted in the shallow water zones and allowed to propagate from these areas.

Temporary Vegetative Cover

Temporary non-invasive vegetative cover approved by City Staff, such as Canadian wild rye (*Elymus canadensis*), cereal rye (*Secale cereale*), winter wheat (*Triticum aestivum*), or oats (*Avena sp.*) will be established by processes such as hydro-mulching, installing erosion control blankets, or other industry standard practices following mass grading.

Irrigation within the designated green area is not proposed at this time; however, if the seeded forbs and grasses show signs of stress prior to the planting of permanent vegetation, irrigation may be deemed necessary and installed following the temporary plantings.

An initial site visit by Applicant's consultant will be performed following the completion of initial seeding and prior to the first annual monitoring event. Applicants Consultant will perform additional site visits as necessary during the first annual monitoring period.

5.0 – Perpetual Maintenance Activity

The green area and the detention pond will be maintained as detailed below in Table 2. A maintenance plan will be finalized after an agreement with the stormwater facility is made. If the property is sold in the future, the Applicant will share AESA document and any supporting documents with new owner prior to any sale so that new owner is fully aware of their responsibilities pertinent to the AESA. The new owner must comply with the described maintenance plan in order to maintain the function and health of the mitigation land.

Activity	Description
Mowing and Establishment of Mow-Zones	Occasional mowing can occur as needed within the banks of the detention pond to help maintain a proper function detention pond.
Edging	Edging is proposed to occur only within the described mow-zones.
Leaf Removal	No leaf removal outside of the described mow-zones is proposed.
Fertilizer and Pesticides	There are proposed to be no pesticides or fertilizer distributed within the designated seeding area or detention ponds, other than for the purpose of invasive species or privet removal deemed necessary by an arboricultural consultant.
Tree Removal	Trees outside of the mow zones are not proposed to be cut, trimmed, thinned, altered, or raised without the City of Denton's written permission.

Table 2: Perpetual maintenance activity for Harris Industrial Tract

Trash Removal	Trash removal is proposed to be the responsibility of the owner of the property and will take place twice per year by hand from individuals walking the mitigation land areas. No vehicles (ATVs, cars, trucks, tractors, or any other motorized vehicles) will be utilized in this effort. Trash will be disposed of in trash bags that will be removed by the City and disposed of in an approved landfill.
Invasive Species Management	Invasive species is proposed to be assessed by Applicant's consultant during annual monitoring visits during the first three years following construction. Following the conclusion of restoration effort, the owner will be responsible for sourcing an qualified consultant. It is the owner's responsibility to source a contractor to remove the invasive species.
Ground Disturbing Activity	Any ground-disturbing activity, such as maintenance, erosion control, or proposed changes to grading is proposed to not occur until designs have been approved in writing by the City of Denton.

6.0 – 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 restoration activities are complete.

7.0 – Annual Reporting

The owner will prepare an annual report each year for three consecutive years, beginning 12 months after final seeding. The annual reports will detail species diversity and vegetative coverage data. Applicant's consultant will perform monitoring activities at the end of the growing season, typically September through October, annually. Reports will be submitted by November 15th of each year.

Approximately six-to-eight 0.01-acre circular plots will be established within the designated terrestrial vegetation communities, arranged to represent different vegetative communities within the mitigation area. Each plot center will be GPS-located and marked with a center stake. The one-hundredth acre plots will have a radius of approximately 11.8 feet. Within each plot, a visual estimate of percent cover will be recorded. Additionally, all species located within the plots will be recorded and reported. The aquatic vegetation communities will be visually inspected by an environmental professional and any concerns about community growth and success will be reported.

The first two annual reports will contain action items that may include: the implementation of additional erosion control, re-seeding the seed mixtures as needed, and removing weeds within the green area. The Applicant will be responsible for maintenance such as weeding and will be responsible for any replanting effort.

Upon completion of the three-year monitoring and reporting period, the City of Denton Environmental Services shall inspect the terrestrial seeded green areas and determine whether approximately eighty-five percent (85%) of the area is healthy and has a reasonable chance of sustained cover. After city inspection, if more than 15% of seeded green area is found to be diseased or not having a reasonable chance of sustained cover, the owner shall be notified to reseed those problematic areas. Similarly, the City of Denton Environmental Servies will inspect the planted wetland vegetation area and determine if an approximately 75% of the plants are healthy and have a reasonable chance of survival. If more than

25% of the planted wetland vegetation is found to be diseased or not having a reasonable chance of sustained cover, the owner shall be notified to replant those problematic areas.

If the City determines that 85% of the terrestrial seeded green area and 75% of the wetland plants are healthy and have a reasonable chance of sustained cover, the City will issue the final acceptance of the project. If the owner does not take remedial steps to bring the property into compliance, the City may use all legal remedies to enforce this provision. These annual reports will be submitted to the City for review and inspection.

Minor landscaping or structural revisions, defined as continuing to meet or exceed the goals set forth in this mitigation plan, will be submitted to the City of Denton staff for approval prior to making the plan modifications.

8.0 – 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 improving ESAs.

The proposed AESA proposes to mitigate the impacts to the Water Related Habitat ESA from the construction of an industrial warehouse development by utilizing a detention pond to create wetland and aquatic habitat and seeding the designated green space with native seed mixtures to both provide a protective ground cover and functional native plant community. While the initial construction activity will result in impacts to the existing ESAs, the created mitigation land will be larger that the impacted ESAs and will provide more habitat and greater continuity. The green space will be seeded to create a native vegetative community that will also promote the native grasses in the surrounding area. The promotion of native plant species will suppress the regrowth of non-native grasses observed on site.

 Mitigation goals are obtained by preserving environmentally sensitive areas above the minimum requirements, exchanges between different types of ESAs, installing pollution prevention controls, and/or implementing best management practices or any other approaches that result in the improvement of the environment being impacted.

Once vegetated, the detention pond and surrounding seeding area will serve as a diverse, contiguous ecosystem, promote the native herbaceous community within the ESA, and filter surface runoff before it reaches the waterway.

The detention pond will be utilized to improve water quality by slowing and treating runoff from the proposed industrial warehouse development and nearby roadways. Pollutants derived from lawncare, motor vehicles, and pest control are expected from commercial developments. The detention ponds will capture rainwater and slowly release it into the soil, treating the rainwater and recharging groundwater.

The maintenance plan outlined in Section 5.0 details measures in place to prevent pollutants such as fertilizers and excess sediment from entering mitigation land.

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

Existing areas of Water Related Habitat ESAs are isolated from each other. The proposed mitigation land is larger than the existing Water Related Habitat ESA and is contiguous. The proposed mitigation land is located adjacent to undeveloped shrubland to the south of the study area.

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

The designated mitigation land is located adjacent to the industrial warehouse development and will be visible to employees working at the warehouse.

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 ESAs ad shall run with the land and be binding upon all successors and assigns of the current owner.

The approximately 5 acres of mitigation land will become a permanent drainage easement to be maintained by the owner of the property.

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 ESAs necessary to meet the design standards for the overall development and proposes to mitigate for the impacts by revegetating the undeveloped portion of the Water Related Habitat ESA with native vegetation. As such, the proposed development meets the criteria for approval for an AESA.

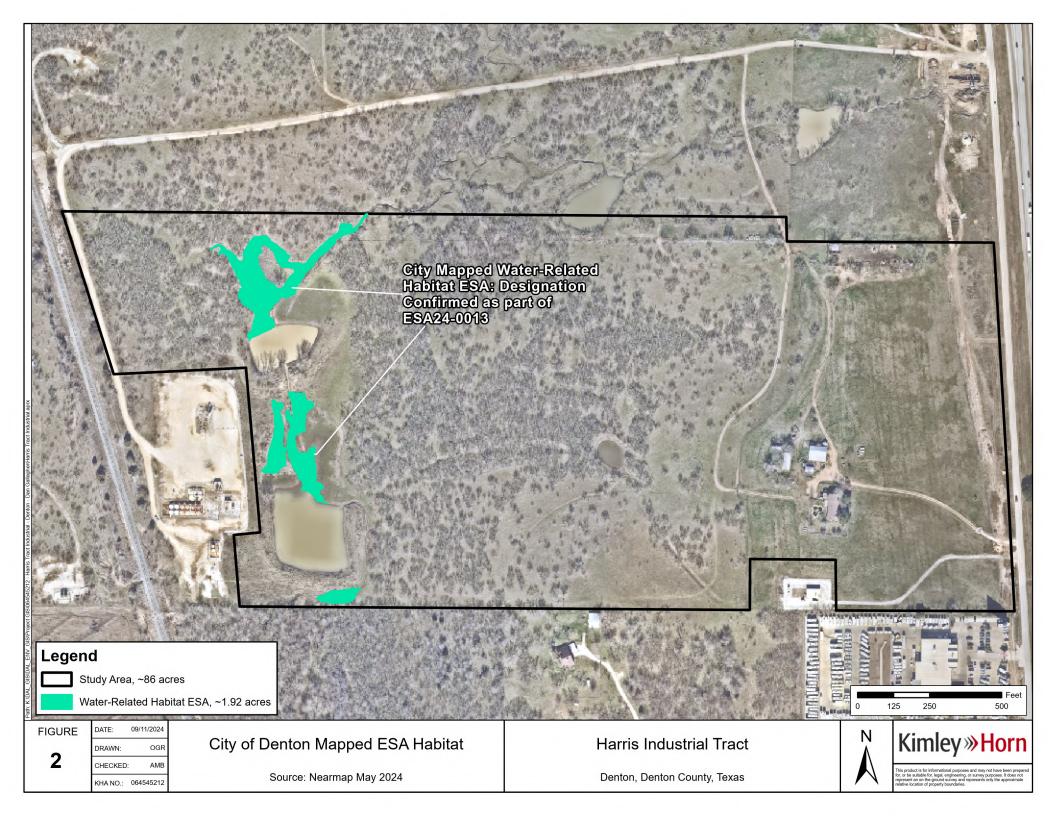
9.0 – Summary

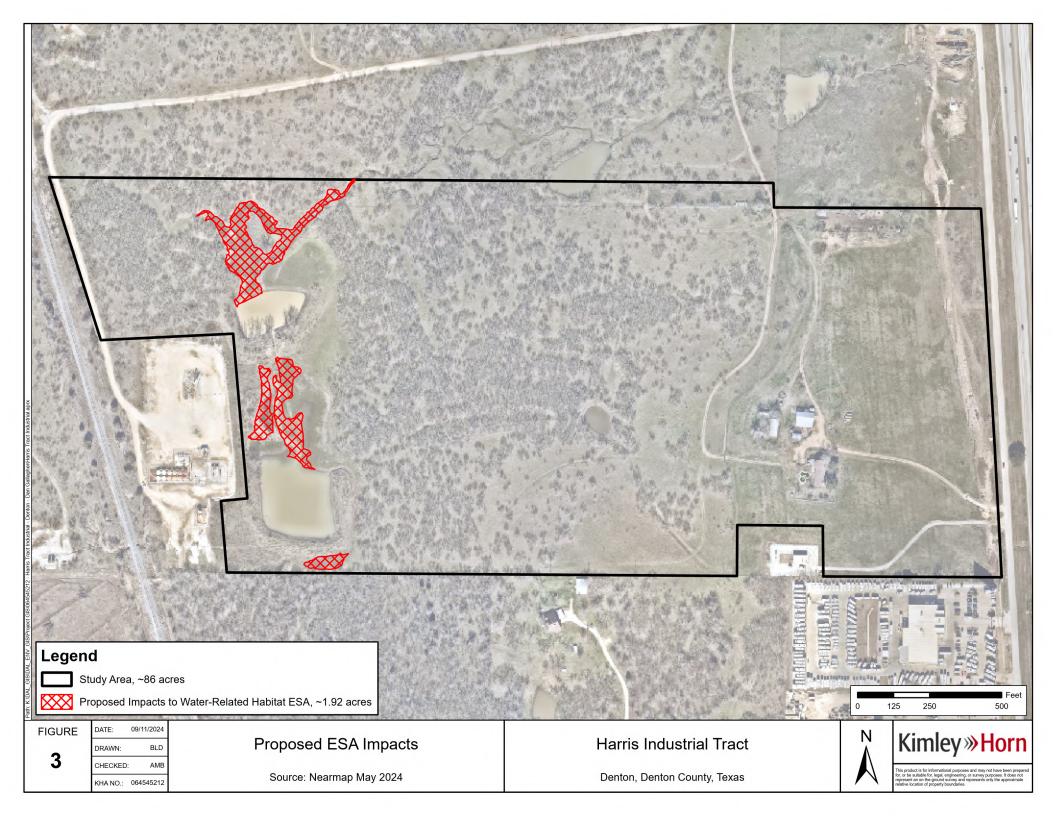
The impacts proposed to the Water Related Habitat ESA 1.92 acres resulting from the construction of the industrial warehouse. Approximately 5 acres of mitigation land are to be restored in the southwestern corner of the study area and preserved. Mitigation for the impacts to the Water-Related Habitat ESA will consist of utilizing the constructed detention pond for aquatic and wetland ecosystems and seeding the green space with native seed mixtures. This green space will provide ground cover and a functional, diverse vegetative community that will serve to filter pollutants from the proposed developments and prevent erosion. The native grasses planted within the mitigation land will provide vegetative cover and promote the native herbaceous community within the ESA.

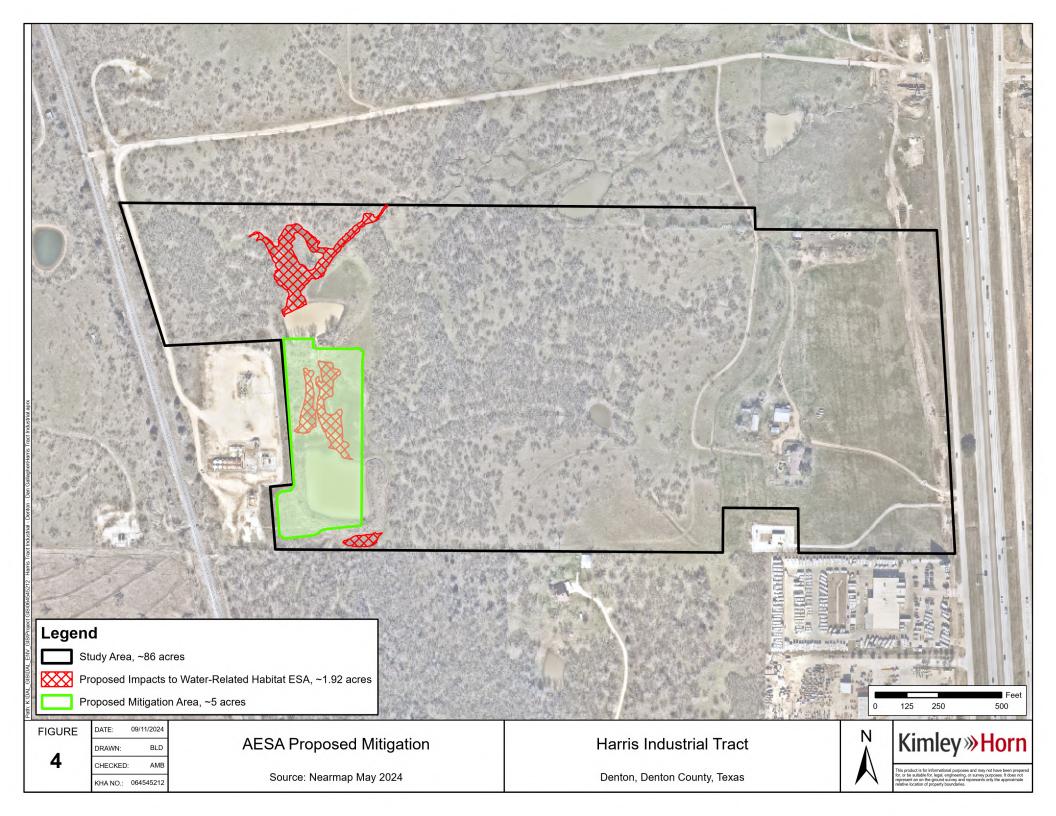
Figures

STUDY AREA MAPS

Rofe	a: Locetion	Denton Lake Lewisville Flower-Wound	N Interstate 3 5		288
is Tract Industrial - Dention - Dan GallegherHamis Tract Industrial apro			Marshall Rd		de Dr. Westgate D
Pair KUM_GISDAL_EIV_GISPaped GISDAGET12-1-Hurr	I d tudy Area, ∼86 acre	35	35		Feet 0 250 500 1,000
FIGURE	DATE: 09/05/2024 DRAWN: BLD	Vicinity Map	Harris Tract Industrial	N	Kimley »Horn
•	CHECKED: AMB KHA NO.: 064545212	Source: ESRI Basemap	Denton, Denton County, Texas		This product is for informational purposes and may not have been prepared for, or be suitable for, legal, engineering, or survey purposes. It does not represent an on-the-ground survey and represents only the approximate relative location of property boundaries.







Appendix A

HARRIS RANCH AESA SCHEMATIC

