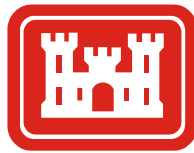


**ENVIRONMENTAL ASSESSMENT
LONE STAR LODGE AND MARINA
RAY ROBERTS LAKE
PILOT POINT, DENTON COUNTY, TEXAS**



**United States Army Corps of Engineers
Fort Worth District**

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1.0 INTRODUCTION

The purpose of this Environmental Assessment (EA) is to identify environmental effects from the proposed expansion of Lone Star Lodge and Marina located on federal lands on Ray Roberts Lake, Denton County, Texas. This EA describes the environmental impacts associated with the proposed action. Ray Roberts Lake is owned by the United States Government and operated by the United States Army Corps of Engineers (USACE), Fort Worth District.

Ray Roberts Lake is located between the cities of Sanger and Aubrey in Denton County and is on the Elm Fork Trinity River, a tributary of the Trinity River. Ray Roberts Lake inundates parts of Denton, Cooke, and Grayson Counties. The proposed project is located within the south portion of Ray Roberts Lake State Park – Jordan Unit (RRLSP-JU). RRLSP-JU is located on the southeast quadrant of Ray Roberts Lake at the terminus of Farm-to-Market (FM) 1192 (**Appendix A** - Exhibit 1.0). The cities of Dallas and Denton hold a 50-year lease from USACE, executed in 1990. In 1991 the cities entered into a "Park Management Contract" with Texas Parks & Wildlife Department (TPWD), authorizing TPWD to act as their agent for purposes of managing the areas around Ray Roberts Lake under lease by the cities. In 1998, TPWD entered into a concessionaire contract with Lakes Lantana Inc. to develop recreation amenities at RRLSP-JU, and Lantana assigned its interest in that contract to Lone Star Lodge and Marina in 2016. Lone Star Lodge and Marina operates the recreational areas, conference center, and lodging at this location (**Appendix A** - Exhibits 1.1, 4.0, and Reference Photograph Points: 11, 17, 39, 40, and 41).

The proposed project's improvements include a 500-boat slip marina, two dry storage buildings, a boat maintenance facility, 80 recreational vehicle (RV) camping spaces, and supporting utility infrastructure (**Appendix A** - Exhibit 1.3). For a list of current site facilities, see **Section 2.0**.

1.1 Purpose and Need for the Project

The purpose of the Lone Star Lodge and Marina project is to provide additional recreational facilities and an east access point to Ray Roberts Lake. The proposed marina and recreational additions would increase public access to the lake and allow for better utilization of the existing recreational facilities.

According to the Marina & Boat/ RV Storage Analysis (**Appendix B**):

- From 2010 to 2018 population and incomes increased in the Dallas-Ft. Worth core based statistical area (CBSA) and Denton County specifically.
- The Lone Star Lodge and Marina site is proximate to high population areas and high income/ net worth areas of the Dallas-Ft. Worth CBSA.
- There is a limited supply of marina facilities nearby.
- Occupancy is high at other marinas and boat/ RV storage facilities.

- In 2018 consumer spending on boat purchases, rentals, dock fees and camping totaled over \$300 million in the Dallas-Ft. Worth CBSA per year and is expected to increase.

According to the Feasibility Study for Lone Star Lodge Resort and Marina, a Planned Marina Facility in Pilot Point, Texas (**Appendix C**):

- Lone Star Lodge and Marina, LLC could expect an Internal Rate of Return (IRR) of 11.2% unlevered (not including annual debt service) or an IRR of 18.5% levered (including debt service). An IRR of +/-10-13% unlevered or +/-18-22% levered is considered an acceptable rate of return that an investor/ developer would expect in a project such as Lone Star Lodge and Marina and represents a solid opportunity for Lone Star Lodge and Marina, LLC.

The purpose of the project is to improve and increase the breadth of visitor amenities offered by the concessionaire at RRLSP-JU and to meet growing recreational boating demands. The purpose is proposed to be accomplished by constructing a marina with approximately 500 boat slips in the general vicinity of the existing small boat rental concession. The need of the Lone Star Lodge and Marina project is to meet growing market demand for boat and RV storage, add additional marina amenities in a limited supply market, and to increase public access to the east side of Ray Roberts Lake. For additional information on purpose and need for the proposed project see **Appendix B**, Marina & Boat/RV Analysis and **Appendix C**, Feasibility Study for Lone Star Lodge Resort and Marina, a Planned Marina Facility in Pilot Point, Texas.

1.2 Project Authorization

TPWD's commercial concessionaire, Lone Star Lodge and Marina, proposes amenity improvements offered at the RRLSP-JU in Denton County. The improvements would occur on land owned by USACE and leased for park and recreation purposed by the cities of Dallas and Denton; the TPWD manages the property as agent for the cities, with park amenities that have been constructed by concessionaires under contract with the TPWD. A private contractor will be responsible for completing the improvements and private dollars would fund the investment. The proposed project would be authorized pursuant to the recreation development policies and procedures of ER 1130-2-550 (Chapter 16), including the requirement to complete this EA under the National Environmental Policy Act of 1969, as amended (NEPA) (42 U.S.C. 4321, et seq.).

In 1998, TPWD contracted the development and operation of certain facilities and services at the RRLSP-JU at Ray Roberts Lake, Denton County Texas. An amendment in 2003 to the original contract stipulated that the Concessionaire would construct, develop, and complete the following facilities: (1) swimming pool, (2) picnic sites, (3) playground, (4) maintenance facilities, (5) utilities, (6) courtesy boat dock, (7) fuel dock, (8) rental docks, (9) park store unit with public restrooms, (10) boat launch facility, (11) break water structures, (12) access trails – five miles. Additionally, the amendment stated that the Concessionaire would construct, develop and complete an additional phase with the following options (1) cabins, (2) game room, (3) marina, (4) dry stack boat storage, (5) fishing barge, (6) lodge expansion, (7) full-hookup camping loops, (8) water and electric only camp loop, (9) restroom with showers at all camping loops, (10) hiking access trails, (11) playgrounds, (12) additional utilities, (13) manager residence, (14) conference buildings, and (15) equestrian camping loop with water and electric hookups,

covered horse stalls, and restroom/shower building. For a list of the completed facilities, see **Section 2.0**.

2.0 PROPOSED ACTION AND ALTERNATIVES

2.1 Existing Facilities

The current Lone Star Lodge and Marina facilities are listed below and shown in **Appendix A**, Exhibit 1.1.

- Boat launch ramp facilities.
 - 2-lane boat ramp (1).
 - Parking lot (72 spaces).
 - Courtesy dock and boat rental - 10 wet-slips (1).
 - Restroom facility (1).
- Habitable structures.
 - 13,000-square foot conference center and office (1).
 - 7,000-square foot guest lodge (2).
- Dry boat and RV storage.
 - Open dry storage (100 units).
- Miscellaneous.
 - Maintenance barn (1).
 - Maintenance yard (1).
 - Equestrian barn (1).

For additional reference of current facilities see **Appendix A** - Exhibit 4.0 and Reference Photograph Points: 11, 17, 39, 40, and 41.

2.2 Alternatives Considered

Three alternatives are considered:

- The Proposed Action would expand marina amenities, expand the current marina's capacity, and construct additional structures and associated infrastructure.
- The Marina Alternative would only construct a 100-boat slip marina with connecting utility and pedestrian access to current infrastructure.
- The No Action Alternative would result in no additions to the marina.

See **Appendix A** - Exhibit 1.2 design layouts of the Proposed Action and the Marina Alternative.

2.3 Proposed Action

The proposed action would add a 500-boat slip marina along with additional improvements and supporting infrastructure (see **Appendix A**, Exhibits 2.0-2.7 for the design layout of this alternative). The following features/improvements are proposed:

- 500-boat slip marina consisting of 10-foot by 30-foot, 15-foot by 60-foot, 18-foot by 80-foot, 22-foot by 100-foot boat slips.
- Two dry storage buildings (containing approximately 60 boats and 20 RVs).
- Boat maintenance facility.
- 80 RV camping spaces with one onsite residential unit (manufactured home).
- Supporting utility infrastructure.

This is the preferred alternative because:

- It would locate the marina in the same vicinity of an existing park for more efficient access to Ray Roberts Lake from the park.
- It would result in less disturbance to previously undisturbed land, given that the proposed location already contains recreation facilities and is maintained.
- It would be in accordance with the TPWD 1998 contract.

The RRLSP-JU encompasses the Lone Star Lodge and Marina site, including access to proposed campgrounds, cabins, and conference center facilities. The RRLSP-JU cove's dimensions would permit boats ingress to and egress from the area. Access to the area would be provided by existing RRLSP-JU roads. Existing infrastructure, including water, electric, and sanitary sewer, would be utilized and would reduce initial construction cost. Floating structures would be anchored with pole-mounted stabilizers – driven into the lakebed (Blagg, personal communication). The proposed action would be constructed in approximately 20 acres of Ray Roberts Lake and approximately 16 acres of RRLSP-JU dry land. Temporary construction areas would be approximately 20 acres. Additionally, approximately 11,400 linear feet of underground utility lines would be installed.

2.4 Marina Alternative

The Marina Alternative would be located on the opposite side of the RRLSP-JU cove with the existing boat ramp facilities (see **Appendix A** - Exhibits 2.0-2.7). The Marina Alternative would add a 100-boat slip marina along with additional improvements and supporting infrastructure.

This alternative is not preferred because it would not meet the demonstrated need for boat and RV storage facilities at the lake. This conclusion is based on the market and feasibility studies, key points of which are noted below:

- Occupancy is high at other marinas and boat/ RV storage facilities. Comparable marinas in the Dallas-Fort Worth CBSA have high occupancy rates that range from a minimum of 85% to 100% for boat slips. Dry boat storage ranges from

90% to 100% occupancy, and RV storage ranges from 90% to 100% occupancy as well (**Appendix B**).

- The lakes evaluated in the CBSA averaged 1,340 boat slips per lake. An additional 100 boat slips would only increase Ray Roberts Lake's supply to 600 boat slips (**Appendix B**).
- A 100-slip marina at Ray Roberts Lake could expect 100 percent occupancy within the first year of operation (**Appendix C**, extrapolated from page 5 table), therefore not meeting projected future demand.

2.5 No Action Alternative

The "No Action" alternative would involve no additional development at Lone Star Lodge and Marina. This alternative was rejected because:

- It would continue to limit use of the RRLSP-JU.
- It would not be in accordance with the TPWD 1998 concessionaire contract, as amended in 2003.
- Future marina development would not use existing Ray Roberts Lake park infrastructure and may be developed in a more environmentally sensitive area.

3.0 EXISTING ENVIRONMENT

Lone Star Lodge and Marina is located in the RRLSP-JU in Denton County, Texas. Ray Roberts Lake is located in the northern portion of Denton County in north central Texas and is within the Trinity River Basin along the Elm Fork Trinity River. RRLSP-JU is approximately 507 acres; Lone Star Lodge and Marina occupies a portion of the park. For the purpose of this document, the study area is defined as an approximately 232-acre area. The proposed action and alternative considered are located within the 232-acre area. The limits of construction and long-term operation and maintenance will be confined to this area. A description of the affected environment presents an inclusive description of the entire property (i.e. study area) to provide a proximal context. See **Appendix A** - Exhibit 1.3 for the study area limits.

Ray Roberts Lake was built primarily for water supply for the cities of Dallas and Denton and was authorized by the Rivers and Harbors Act of 1965. A State Water Rights Permit was issued in 1975 for Ray Roberts Lake. Construction on Ray Roberts Dam began on May 31, 1982. The dam was completed and deliberate impoundment of water began on June 30, 1987. The 15,250-foot dam has a maximum height above streambed of 141 feet. The top of dam is at the elevation of 655 feet above mean sea level. The uncontrolled emergency spillway is located near the southeast end of the dam and is broad crested on the natural ground measuring approximately 100 feet in length at crest elevation of 645.5 feet above mean sea level. The maximum design water surface elevation is 658.8 feet above mean sea level. At top of flood control pool, elevation 640.5 feet above mean sea level, the lake will cover 36,900 acres and store 1,064,600 acre-feet of water. According to 2008 TWDB survey, at top of conservation pool elevation of 632.5 feet above mean sea level, the lake will cover 28,646 acres and store 788,490 acre-feet of water. The dam controls a drainage area of approximately 692 square miles (TWDB, August 2010). The preferred action area drains into Ray Roberts Lake, via sheet

flow. See **Appendix A** - Exhibit 4.0 and Reference Photograph Points for the current site conditions.

3.1 Physical Resources

The study is a partially developed tract located at the terminus of FM 1192 on Ray Roberts Lake, in Pilot Point, Denton County, Texas. The study area is located on a peninsula, with Ray Roberts Lake surrounding the peninsula to the north, west, and south. Rural residential and agriculture land uses are adjacent to the study area to the east. The study area is generally wooded with improved access roads. The RRLSP-JU's facilities are used as a recreational lodge and access point to Ray Roberts Lake (**Appendix A** - Exhibit 1.3).

3.1.1 Topography

The 2019 Pilot Point and the 2019 Mountain Springs United States Geologic Survey (USGS) 7.5-Minute Topographic Maps of the study area were reviewed. Elevation is depicted to be between 630-680 feet above mean sea level. The majority of the study area is depicted as unimproved land (no shading). Ray Roberts Lake is depicted in the west portions of the study area. An unnamed intermittent tributary of Ray Roberts Lake is depicted in the east portion of the study area. A perennial lake/pond is depicted in the central portion of the study area (**Appendix A** - Exhibit 3.0).

3.1.2 Soils

To characterize the soils within the study area, the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) was reviewed. **Table 1** summarizes the depicted mapped soils.

Table 1. NRCS Soil Units

Map Unit Symbol	Map Unit Name	Depth	Hydric Soil Rating	Area within the Study Area (Acres)
13	Birome-Rayex-Aubrey complex, 2 to 15 percent slopes	60 inches	No	23.5
24	Callisburg fine sandy loam, 3 to 5 percent slopes	68 inches	No	22.7
35	Gasil fine sandy loam, 1 to 3 percent slopes	80 inches	No	67.3
36	Gasil fine sandy loam, 3 to 8 percent slopes	80 inches	No	3.5
46	Justin fine sandy loam, 1 to 3 percent slopes	80 inches	No	17.2
60	Navo clay loam, 1 to 3 percent slopes	72 inches	No	5.2
83	Wilson clay loam, 0 to 1 percent slopes	80 inches	No	26.6
W	Water	N/A	N/A	66.0
Total:				232.0

The USDA WSS further describes Birome-Rayex-Aubrey complex, 2 to 15 percent slopes as a ridges landform that is well drained, more than 80 inches to water table, and no frequency of ponding or flooding. Callisburg fine sandy loam, 3 to 5 percent slopes is further described as a ridges landform that is well drained, more than 80 inches to water table, and no frequency of ponding or flooding. Gasil fine sandy loam, 1 to 3 percent slopes is further described as a ridges landform that is well drained, more than 80 inches to water table, and no frequency of ponding or flooding. Gasil fine sandy loam, 3 to 8 percent slopes is further described as a ridges landform that is well drained, more than

80 inches to water table, and no frequency of ponding or flooding. Justin fine sandy loam, 1 to 3 percent slopes is further described as a ridges landform that is well drained, more than 80 inches to water table, and no frequency of ponding or flooding. Navo clay loam, 1 to 3 percent slopes is further described as a ridges landform, that is moderately well drained, more than 80 inches to water table, and no frequency of ponding or flooding. Wilson clay loam, 0 to 1 percent slopes is further described as a stream terraces landform, that is moderately well drained, 5 to 36 inches to water table, and no frequency of ponding or flooding (**Appendix A** - Exhibit 3.1). For field soil assessments see **Appendix D** for the Delineation of Waters of the United States.

3.2 Water Quality

3.2.1 Surface Water

The Texas Commission on Environmental Quality (TCEQ)'s Texas Surface Water Quality Standards establish explicit goals for the quality of streams, rivers, lakes, and bays throughout the state. The Standards are developed to maintain the quality of surface waters in Texas so that it supports public health and enjoyment and protects aquatic life, consistent with the sustainable economic development of the state.

Water quality standards identify appropriate uses for the state's surface waters, including aquatic life, recreation, and sources of public water supply (or drinking water). The criteria for evaluating support of those uses include dissolved oxygen, temperature, pH, dissolved minerals, toxic substances, and bacteria. Statewide standards may be revised on a site-specific basis when sufficient information is available (TCEQ, 2007). The TCEQ standards for Ray Roberts Lake are summarized in **Table 2**.

Table 2. TCEQ Water Quality Summary

Segment Number	Segment Name	Aquatic Life	Domestic Water Supply	Cl ⁻¹ (mg/L)	SO ₄ ⁻² (mg/L)	TDS (mg/L)	Dissolved Oxygen (mg/L)	pH Range (SU)	Indicator Bacteria 1 #/100ml	Temperature (°F)
0841	Ray Roberts Lake	High	PS	80	60	500	5.0	6.5-9.0	206 [126/200]	90

For additional surface water descriptions see **Section 3.4** and **Appendix D**, Delineation of Waters of the United States. Also see **Appendix A** - Exhibit 3.2 and Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.

3.2.2 Groundwater

Federal law focuses on controlling potential sources of groundwater contamination on a national basis. Federal laws tend to provide for general groundwater protection activities such as wellhead protection programs or development of state groundwater protection strategies. Implementation of these programs is typically delegated to the states in cooperation with local governments. The Texas Water Development Board (TWDB) has established sixteen Groundwater Management Areas (GMAs) across Texas "in order to provide conservation, preservation, protection, recharging, and prevention of waste of groundwater, and of groundwater reservoirs and subdivisions, and to control subsidence caused by withdrawal of water from those groundwater reservoirs or their subdivisions...". The preferred action is located within the TWDB GMA 8, and within the boundaries of the "Trinity Aquifer" major aquifer and the "Woodbine (outcrop)" minor aquifer (TWDB, Undated - C).

The Trinity Aquifer, a major aquifer, extends across much of the central and northeastern part of the state. It is composed of several smaller aquifers contained within the Trinity Group. Although referred to differently in different parts of the state, they include the Antlers, Glen Rose, Paluxy, Twin Mountains, Travis Peak, Hensell, and Hosston aquifers. These aquifers consist of limestones, sands, clays, gravels, and conglomerates. Their combined freshwater saturated thickness averages about 600 feet in North Texas and about 1,900 feet in Central Texas (USGS, 1996).

Recharge to the Trinity aquifer is generally as precipitation that falls on aquifer outcrop areas and as seepage from streams and ponds where the head gradient is downward. Depths of wells completed in the Trinity aquifer commonly range between 50 and 800 feet, but some well depths exceed 3,000 feet; the deeper wells are in the confined zone (USGS, 1996).

The Woodbine aquifer extends from McLennan County in North-Central Texas northward to Cooke County and eastward to Red River County, paralleling the Red River. Water produced from the aquifer furnishes municipal, industrial, domestic, livestock, and small irrigation supplies throughout its North Texas extent. The Woodbine Formation of Cretaceous age is composed of water-bearing sandstone beds interbedded with shale and clay. The aquifer dips eastward into the subsurface where it reaches a maximum depth of 2,500 feet below land surface and a maximum thickness of approximately 700 feet. The Woodbine aquifer is divided into three water-bearing zones that differ considerably in productivity and quality. Only the lower two zones of the aquifer are developed to supply water for domestic and municipal uses. Heavy municipal and industrial pumpage has contributed to water-level declines in excess of 100 feet in the Sherman-Denison area of Grayson and surrounding counties. Chemical quality deteriorates rapidly in well depths below 1,500 feet. In areas between the outcrop and this depth, quality is considered good overall as long as ground water from the upper Woodbine is sealed off. The upper Woodbine contains water of extremely poor quality in downdip locales and contains excessive iron concentrations along the outcrop (USGS, 1996).

Recharge to the aquifer is by precipitation that falls on aquifer outcrop areas and by seepage from lakes and streams where there is a downward gradient to the aquifer. Water moves through the aquifer from the outcrop in an east-southeast direction and generally follows the dip of the beds (USGS, 1996).

3.3 Aquatic Resources

According to TPWD “more than half the [Ray Roberts Lake’s] shoreline has native floating, native submersed, or non-native submersed aquatic vegetation”. The littoral zone quality in the project area is poor due to activities associated with the boat ramp/launch. According to TPWD “Ray Roberts Lake has approximately 2,000 acres of standing timber, located mostly in the upper reaches of both major arms. There is rip-rap along the dam at the south end of the main pool and 2,212 acres of floating and submersed aquatic vegetation. Additional structure is provided by stream channels, flooded main-lake points, inundated pond dams, flooded rocks/boulders/stumps, and 44 inundated brush piles constructed before impoundment” (TPWD, Undated - B). At the time of the site visits, conducted on November 19, 2018 and February 7, 2019, aquatic vegetation and nursery habitat were not observed.

3.4 Waters of the U.S., including Wetlands

Site visits were conducted to evaluate the limits of Waters of the United States (WOUS) on site (**Appendix D** - Delineation of Waters of the United States). The preferred action area was evaluated based on the USACE Wetland Delineation Manual (USACE, January 1987), as later amended by USACE memoranda, and the Regional Supplement for the Great Plains Region (USACE, March 2010). **Table 3** summarizes the delineated features observed.

Table 3. Delineated WOUS Summary Table

Feature Name	Feature Type	Study Area (acres)
Ray Roberts Lake	Open Water	76.5
RRREW-1	Riparian Emergent Wetland to Ray Roberts Lake	5.9
RRRFW-1	Riparian Forested Wetland to Ray Roberts Lake	1.0

3.5 Floodplains

Based upon the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels No. 48121C0115G (revised April 18, 2011) and 48121C0095G (revised April 18, 2011); the majority of the proposed action is located in Zone AE (100-year floodplain based on flood elevation determinations). Portions of the shoreline are designated as Zone X shaded (areas of 0.2% annual chance flood). Small portions of the west and east preferred action area are located in Zone X unshaded (areas determined to be outside the 0.2% annual chance floodplain) (**Appendix A** - Exhibit 3.3).

3.6 Air quality

Section 176(c) of the Clean Air Act (CAA) requires that federal agencies assure that their activities are in conformance with federally approved CAA state implementation plans for geographical areas designated as "non-attainment" and "maintenance" areas under the CAA. The United States Environmental Protection Agency (USEPA) General Conformity Rule to implement Section 176(c) is found at 40 CFR Part 93. The rule addresses how federal agencies are to demonstrate that activities in which they engage conform to federally approved CAA state implementation plans. Different provisions of the CAA apply depending on the source location, where pollutants are emitted, and the emitted amounts. The CAA required USEPA to establish ambient ceilings for certain criteria pollutants. The ceilings would be based on the latest scientific information regarding the effects a pollutant may have on public health or welfare. Subsequently, USEPA promulgated regulations that set national ambient air quality standards (NAAQS). Two classes of standards were established: primary and secondary. Primary standards define levels of air quality necessary, with an adequate margin of safety, to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards define levels of air quality necessary to protect public welfare (e.g., decreased visibility; damage to animals, crops, vegetation, wildlife, and buildings) from any known or anticipated adverse effects of a pollutant.

Air quality standards are currently in place for six pollutants or "criteria" pollutants: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur oxides (SOX, measured as sulfur dioxide [SO₂]), lead (Pb), and particulate matter (PM). Particulate matter standards incorporate two particulate classes: 1) particulate matter with an aerodynamic diameter less than or equal to 10 micrometers (PM₁₀) and 2) particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers (PM_{2.5}). There are many suspended particles in the atmosphere with aerodynamic diameters larger than 10 micrometers, and the collective of all particles sizes is commonly referred to as total suspended particulates (TSP). The NAAQS are the cornerstone of the CAA. Although not directly enforceable, they are the benchmark for the establishment of emission limitations by the states for the pollutants USEPA determines may endanger public health or welfare.

The fundamental method by which USEPA tracks compliance with the NAAQS is the designation of a particular region as an "attainment" or "nonattainment" region. Based on the NAAQS, each state is divided into three types of areas for each of the criteria pollutants:

- Those that are in compliance with the NAAQS (attainment).
- Those that do not meet the ambient air quality standards (nonattainment).
- Those areas where a determination of attainment/nonattainment cannot be made due to a lack of monitoring data (unclassifiable – treated as attainment until proven otherwise).

The proposed action is located in Denton County within the USEPA's Region 6 Federal Air Quality Control Region (AQCR). This region is one of a nationwide system of AQCRs established by the USEPA for air quality planning purposes (40 CFR part 81) and is designated as AQCR No 215. The Metropolitan Dallas-Fort Worth Intrastate AQCR includes the counties of Wise, Denton, Collin, Parker, Tarrant, Dallas, Rockwall, Kaufman, Ellis, and Johnson. The entire AQCR 215 is designated by the USEPA as being in nonattainment for the following:

- 2015 Eight-Hour Ozone (TCEQ, 10/11/2019).
- 2008 Eight-Hour Ozone (TCEQ, 10/11/2019).

3.7 Noise

The Noise Control Act of 1972 (Public Law 92-574) and Quiet Communities Act of 1978 directs federal agencies to comply with applicable federal, state, interstate, and local noise control regulations. USEPA and the United States Department of Housing and Urban Development (HUD) have identified noise levels to protect public health and welfare with an adequate margin of safety. These levels are considered acceptable guidelines for assessing noise conditions in an environmental setting. Noise levels below 65 decibels (dB) are considered to be at an acceptable level near residential areas (HUD, March 2009).

The Noise Guidebook, published by HUD, was utilized to determine major noise sources. Based upon the HUD Guidance, for the major source noise to have a potential impact

on the baseline noise of the study area, a roadway must be within 1,000 feet, a rail line 3,000 feet, and an airport 15 miles from the study area. Four major noise sources were identified near the study area: FM 1192 and three airports.

Due to the size and traffic volume of FM 1192, noise associated with FM 1192 is considered nominal. Noise impacts associated with the airports would not extend beyond the property limits of the airports due to the type of aircraft that use them. There are no other commercial operations within the study area that would be considered a major noise source (**Appendix A** - Exhibit 3.4a and Exhibit 3.4b).

Other exterior ambient noise sources generally include park and recreational areas, rural residential areas, and noise from boats, wind, and birds. The United States Department of Transportation Federal Highway Administration noise abatement criteria of an hourly weighted sound level for picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals is 67 (exterior) decibels L_{eq} (United States Department of Transportation Federal Highway Administration, 8/24/2017). The rural residential areas, and noise from boats, wind, and birds noise sources' levels are unknown. Boats, boat ramps and marina structures' noise levels are difficult to predict. An inventory of number of boats, type of boats, boat motors would be needed. Additionally, recreational boat patterns are unpredictable. Recreational boat noise modeling is not known to exist. There are no known noise surveys completed within the study area.

3.8 Vegetation

Data from the TPWD Ecological Mapping System of Texas (EMST) were used to estimate areas of vegetation cover and types within the project area. These data were developed from satellite imagery with 10-meter mapping resolution and collected from 2005 to 2007 and refined with in situ data. Using this refined imagery, TPWD created a statewide land cover data set that includes a sufficient number of land cover classes to provide insight for planning and management at a variety of scales. A map showing EMST mapped vegetation communities in the study area is in **Appendix A** - Exhibit 3.5.

On November 19, 2018 and February 7, 2019, biological surveys were conducted by traversing the project area to observe the dominant plants within different vegetation communities, collect representative photographs of each community, and use a Global Positioning Systems (GPS) device to identify communities' limits. **Table 4** includes a summary of the mapped vegetation communities within the preferred action area. Aerial imagery was reviewed after the site visits to confirm community limits (**Appendix A** - Exhibit 3.6 and Reference Photograph Points Log). Descriptions of the observed plant communities in **Table 4** are provided below the table.

Table 4. Observed Vegetation Communities

Vegetation Community Name	Study Area (Acres)
Brushy Swamp/Emergent Wetland	5.9
Forested Wetland	1.0
Grasslands	6.3
Maintained Grasslands and Road ROW	19.8

Vegetation Community Name	Study Area (Acres)
Mesquite Shrublands	60.6
Post Oak Woodlands	49.0
Open Water / Ray Roberts Lake	76.5
RipRap Shoreline	0.2
Sparsely Vegetated/Compacted Soils	1.6
Urban Development	11.1
Total:	232

Post Oak Woodlands - This vegetation type represents the wooded areas located on site that were primarily dominated by post oak (*Quercus stellata*). Other notable species observed in this area included eastern red cedar (*Juniperus virginiana*) and cedar elm (*Ulmus crassifolia*). These areas typically had a large percentage of canopy cover from the overstory, which resulted in reduced cover from the herbaceous stratum. In some areas, saw greenbrier (*Smilax bona-nox*) was observed in high densities. This vegetation type is comparable to EMST classifications 504 (Cross Timbers: Post Oak Woodland) and 524 (Cross Timbers: Oak – Hardwood Slope Forest) (**Appendix A** - Reference Photograph Points 4, 9, and 14 contain representative photos that illustrate this cover type).

Mesquite Shrublands – This vegetation type represents the upland areas located on site that were primarily dominated by honey locust (*Gleditsia triacanthos*), honey mesquite (*Prosopis glandulosa*), and cedar elm. These areas consist primarily of woody plants that are mostly less than nine feet tall and grow as random individuals. The herbaceous layer was dominated primarily by Bermuda grass (*Cynodon dactylon*) and marsh bristlegrass (*Setaria parviflora*). Other notable species observed in this area include Johnson grass (*Sorghum halepense*), annual marsh elder (*Iva annua*), and curly dock (*Rumex crispus*). This vegetation type is comparable to EMST classification 9106 (Native Invasive: Mesquite Shrubland) (**Appendix A** - Reference Photograph Points 24 and 27 contain representative photos that illustrate this cover type).

Grasslands – This vegetation type represents the areas located on site that were primarily dominated by herbaceous vegetation and lacked significant canopy cover from woody species. Dominant species that were observed in these areas included big bluestem (*Andropogon gerardii*), sideoats grama (*Bouteloua curtipendula*), annual ragweed (*Ambrosia artemisiifolia*), and Bermuda grass. Other notable species included Texas bluegrass (*Poa arachnifera*) and saw greenbrier. Although generally lacking in woody vegetation, post oak and sea myrtle (*Baccharis halimifolia*) were also observed. This vegetation type is comparable to EMST classification 507 (Cross Timbers: Savanna Grassland) (**Appendix A** - Reference Photograph Points 5, 15, and 25 contain representative photos that illustrate this cover type).

Maintained Grasslands and Road ROW – This vegetation type represents the areas located on site that were largely effected by human activities. Due to frequent human activity, woody vegetation in these areas consist of intentionally planted species, or have high species diversity with low abundance of each species. Dominant woody species observed in these areas included eastern cottonwood (*Populus deltoides*), sea myrtle, honey locust, and cedar elm. In addition, continuous mowing (multiple mowing periods

in a year) and trampling of the herbaceous layer prevents more sensitive species from establishing, which results in an abundance of invasive species. Dominant species in the herbaceous layer included saw greenbrier, annual ragweed, and Bermuda grass. Other notable species included Johnson grass (**Appendix A** - Reference Photograph Points 18, 33, and 34 contain representative photos that illustrate this cover type).

Brushy Swamp/Emergent Wetlands – This vegetation type represents the areas located on site that met all three wetland criteria, but were generally lacking canopy cover from woody species more than nine feet tall. These areas were primarily dominated by woody plants, such as buttonbush (*Cephalanthus occidentalis*), which were typically less than nine feet tall and observed growing as random individuals or small clusters. The herbaceous layer was dominated primarily by broadleaf cattail (*Typha latifolia*). These areas contained hydric soils that were either inundated or saturated below the soil surface (**Appendix A** - Reference Photograph Points 2, 20, and 30 contain representative photos that illustrate this cover type).

Forested Wetlands – This vegetation type represents the area located on site that met all three wetland criteria and contained significant canopy cover from woody species greater than nine feet tall. The dominant woody species observed in this area included cedar elm, and the herbaceous layer was dominated primarily by ravenfoot sedge (*Carex crus-corvi*) and common rush (*Juncus effusus*). This area contained hydric soils that were either inundated or saturated below the soil surface (**Appendix A** - Reference Photograph Point 21 contains representative photos that illustrate this cover type).

Inert Materials (Sparsely Vegetated)/Compacted Soils – This vegetation type represents the areas located on site that have little to no vegetation due to compacted or disturbed soils, and built-up areas that provide impervious cover. These areas include rocky shorelines with scarce vegetation, parking lots, roads and human built structures. Although typically lacking, vegetation was observed in some of these areas and consisted of post oak, buttonbush, and Bermuda grass. This vegetation type is comparable to EMST classification 9411 (Urban Low Intensity) (**Appendix A** - Reference Photograph Points 1, 37, and 41 contain representative photos that illustrate this cover type).

Open Water – This vegetation type represents Ray Roberts Lake. Most vegetation in this area consists of algae species, aquatic fauna, and emergent vegetation. Dominant vegetation observed along the banks of the lake consisted of black willow (*Salix nigra*), ravenfoot sedge, and buttonbush. This vegetation type is comparable to EMST classification 9600 (Open Water) (**Appendix A** - Reference Photograph Points 16, 17, 35, 36, 37, and 43 contain representative photos that illustrate this cover type).

Urban Development – This community represents impermeable surface development including buildings, parking lots, etc. (**Appendix A** - Reference Photograph Points 11 and 41 contain representative photos that illustrate this cover type).

3.9 Wildlife

Signs of wildlife (i.e. tracks, scat, trails, etc.) were observed within the limits of the project area during the site investigations. In addition, United States Fish and Wildlife Service (USFWS) Information, Planning, and Conservation System (IPAC) lists five

migratory bird species of particular concern in Denton County on a permanent, seasonal, or casual basis, and some may be found passing through the project area.

Wildlife habitat was assessed using the TPWD Wildlife Habitat Appraisal Procedure (WHAP) (**Appendix D**). The Wildlife Habitat Appraisal Procedure was developed to allow a qualitative, holistic evaluation of wildlife habitat for particular tracts of land statewide without imposing significant time requirements in regard to fieldwork and compilation of data.

A majority of the wildlife in the vicinity of the project area are species commonly associated with 'park-like' habitats or those habitats regularly utilized and impacted by human activities associated with recreation such as camping, picnicking, etc. Qualified biologists conducted site visits on November 19, 2018 and February 7, 2019 (**Appendix A** - Exhibits 3.5-3.6 for the Vegetation Maps). Wildlife species observed during the site visits, including observation of tracks and/or scat, included various avian species, white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), nine-banded armadillo (*Dasypus novemcinctus*), striped skunk (*Mephitis mephitis*), and cottontail rabbit (*Sylvilagus spp.*). WHAP score for Section 1 (Total Habitat Units) is 15.9. The WHAP score for Section 2 (Protected Species or Endangered Species) is 310. The WHAP score for Section 3 is 0.36. For the WHAP score sheets and summary see **Appendix D**.

3.10 Threatened and Endangered Species

USFWS has the authority under the Endangered Species Act (ESA) to list and monitor the status of species whose populations are considered imperiled. USFWS regulations implementing the ESA are codified and regularly updated in 50 CFR Part 17. The federal process identifies potential candidates based on biological vulnerability. The vulnerability assessment considers several factors affecting a species within its range and is linked to the best scientific data available to the USFWS. Species listed as endangered or threatened by the USFWS are afforded full protection under the ESA, including the prohibition of indirect take such as the destruction of designated critical habitat.

Federally listed threatened and endangered species are listed on the USFWS IPaC. The USFWS has record of an official species request made through the USFWS' IPaC on December 13, 2018 (Consultation Code: 02ETAR00-2019-SLI-0417). An official species list document, dated December 13, 2018 was generated by IPaC on behalf of the Arlington Ecological Services Field Office (**Appendix D**). The list of threatened and endangered species compiled by the USFWS on the IPaC for Denton County, Texas includes four species whose known ranges extend into the project area. **Table 5** includes the species listed by the USFWS in Denton County, Texas, their federal status, habitat descriptions, and special conditions.

Table 5. Federal Listed Species in Denton County

Species	USFWS Status	Habitat Description	Habitat Present	Condition(s)
Birds				
Least tern (<i>Sterna antillarum</i>)	Endangered	Migratory and breed along the river systems of Texas, especially the Red and Rio Grande River systems. Most often seen on sandbars in rivers and lakes or on pond edges free of vegetation, but may also breed on man-made structures such as water treatment plants. The birds nest in Texas during May through August, and winter in Central and South America.	No; absence of suitable habitat within or near the project area. See Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.	
Piping plover (<i>Charadrius melodus</i>)	Threatened	Breeding area extends along the eastern coast of the United States south to southern Texas and includes the Great Lakes region, the northern Midwestern states, and south central Canada. The Piping Plover winters along the eastern Mexico coast. Piping Plovers nest on sandy beaches along the ocean or inland lakes; bare to sparsely vegetated areas on dredge-created and natural alluvial islands in rivers; gravel pits along rivers; and salt-encrusted bare areas of sand, gravel, or pebbly mud on alkaline interior lakes and ponds.	No; absence of suitable habitat within or near the project area. Outside of final designated critical habitat. See Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.	Wind Energy Projects
Red knot (<i>Calidris canutus rufa</i>)	Threatened	Migrate long distances in flocks northward through the United States mainly April to June, southward July to October. Prefers the shoreline of coast and bays and also uses mudflats during rare inland encounters; Primarily inhabits seacoasts on tidal flats and beaches, herbaceous wetlands, and tidal flat/shore.	No; absence of suitable habitat within or near the project area. See Reference Photograph Points: 5, 6, 7, 8, 10, 24, 25, 26, 27, 28, 29, 33, 31, and 34.	Wind Energy Projects
Whooping crane (<i>Grus americana</i>)	Endangered	Potential migrant via plains throughout most of Texas to the coast; winters in coastal marshes of Aransas, Calhoun, and Refugio counties. Breeds, migrates, winters, and forages in a variety of wetland and other habitats; During migration, a variety of habitats are used; however, wetland mosaics appear to be the most suitable.	No; absence of suitable habitat within or near the project area. Outside of final designated critical habitat. See Reference Photograph Points: 5, 6, 7, 8, 10, 24, 25, 26, 27, 28, 29, 33, 31, and 34.	

3.10.1 Migratory Bird Species

The 1918 Migratory Bird Treaty Act (MTBA) (16 U.S.C. 703-712), establishes a federal prohibition to pursue, hunt, capture, kill, collect, possess, buy, sell, trade, or transport migratory bird, nest, young, feather, or egg, without a permit issued in accordance with the policies and regulations of the MBTA. Under the act, "take" is defined as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture, or collect migratory birds." The MBTA does not prohibit the destruction of the bird nest alone (without birds or eggs), provided that no possession of the nest occurs during destruction. There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

In December 2017, Memorandum M-37050 (the "M-Opinion") was issued by the Department of Interior (DOI) Office of the Solicitor. The M-Opinion reversed the previous prohibition of incidental take under the MBTA. The USFWS is subject to the M-Opinion and issued a Guidance Memorandum that concurs with the M-Opinion and describes how it applies to its enforcement of the MBTA moving forward. The USFWS guidance reiterates that the MBTA does not prohibit the incidental take of migratory birds when the ultimate purpose of an action is something other than the purposeful take of migratory birds, their eggs or their nests. However, the same guidance letter states that impacts to migratory birds must still be considered under NEPA. Therefore, for projects that have a federal nexus, impacts to migratory birds (including incidental take) must still be documented and evaluated.

Aerial photos and site reconnaissance indicated the majority of the site consists of wooded post-oak areas, some maintained grasslands, and sporadic development. The wooded areas are likely to provide suitable nesting and/or foraging habitat for migratory birds. Migratory birds have the potential to be present within the study area from time-to-time (**Appendix A** - Exhibit 4.0 and Referenced Photograph Points: 5, 6, 7, 8, 10, 24, 25, 26, 27, 28, 29, 33, 31, and 34).

3.10.2 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA), prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

This definition also covers impacts resulting from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

The project area generally consists of wooded post-oak dominated areas with some developed land. Bald and golden eagle's typical habitat requirements include broad swaths of undeveloped land, large trees and/or cliffs for nesting habitat, and large waterbodies (navigable rivers, lakes, reservoirs, large ponds, etc.) for foraging/hunting activities. Bald eagles are known to be present on Ray Roberts Lake however, the immediate preferred action area is partially developed parkland and would not be conducive to the bald eagle.

3.10.3 Invasive Species

Executive Order (EO) 13112, Invasive Species requires federal agencies to prevent the introduction of invasive species, provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause. According to the Texasinvasives.org (an inter-agency cooperative with the goal of protecting Texas from the threat of invasive species), the proposed action is located within the Cross Timbers and Prairies Ecoregion. Texasinvasives.org lists the following 12 species (**Table 6**) as particularly problematic within the Cross Timbers and Prairies Ecoregion.

Table 6. Cross Timbers and Prairies Invasive Species

Common Name	Scientific Name	United States Habitat Description
Japanese honeysuckle	<i>Lonicera japonica</i>	Most commonly occurring invasive plant, overwhelming and replacing native flora in all forest types over a wide range of sites. Occurs as dense infestations along forest margins and right-of-ways as well as under dense canopies and as arbors high in canopies. Shade tolerant. Persists by large woody rootstocks and spreads by rooting at vine nodes and animal-dispersed seeds.
glossy privet	<i>Ligustrum lucidum</i>	In North America, <i>Ligustrum</i> spp. often grow along roadsides, in old fields and in other disturbed habitats and in a variety of undisturbed natural areas.
Chinese privet	<i>Ligustrum sinense</i>	Becomes established in moist places such as ditches, streams, and riverbanks, growing best in well-drained soils where abundant moisture is available. It tolerates a wide variety of conditions, including high salinity, and can flourish in many soil types from heavy clays to loose sands.
giant reed grass	<i>Arundo donax</i>	Form dense infestations where previously planted. Occur on wet to dry sites. Colonize by vines twining and covering shrubs and trees and by runners rooting at nodes when vines covered by leaf litter. Seeds water-dispersed along riparian areas. Large seed size a deterrent to animal dispersal.
Chinese wisteria	<i>Wisteria sinensis</i>	Found in limestone outcrops and dry creek beds throughout Central Texas.
lilac chastetree	<i>Vitex agnus-castus</i>	Typically in range/grasslands, riparian zones, urban areas, wetlands.
Brazilian vervain	<i>Verbena brasiliensis</i>	Typically in range/grasslands, riparian zones, urban areas, wetlands.
Guinea grass	<i>Urochloa maxima</i>	Typically in agricultural areas, riparian zones, disturbed areas.
common periwinkle	<i>Vinca minor</i>	Found around old home site plantings and scattered in open to dense canopied forests. Form mats and extensive infestations even under forest canopies by vines rooting at nodes, with viability of seeds yet to be reported.
Chinaberry tree	<i>Melia azedarach</i>	Common on roadsides, at forest margins, and around old home sites but rare at high elevations. Semi-shade tolerant. Forms colonies from root sprouts or sprouts from root collars, and spreads by bird-dispersed abundant seeds.
Chinese tallow tree	<i>Triadica sebifera</i>	Invades stream banks, riverbanks, and wet areas like ditches as well as upland sites. Thrives in both freshwater and saline soils. Shade tolerant, flood tolerant, and allelopathic. Increasing widely through ornamental plantings. Spreading by bird- and water-dispersed seeds and colonizing by prolific surface root sprouts.

Common Name	Scientific Name	United States Habitat Description
Johnson grass	<i>Sorghum halepense</i>	Disturbed sites, roadsides, fields, agronomic and vegetable crops. Grow best on fertile, well-drained soils in warm temperate to sub-tropical regions where some warm season moisture is available. Also, orchards, vineyards, cotton fields, ditch banks. Often grows in moist soils.

None of the above-mentioned species were observed during site reconnaissance, other than the Johnson grass. Vegetation within the project area was generally wooded post-oak dominated areas with maintained recreational/park areas. Aside from the terrestrial plant species listed above, EO 13112 requires the evaluation of invasive aquatic vegetation, insects, animals, and pathogens. However, given the project setting (TPWD managed park setting), and the lack of regulatory database information for other potential invasive species, no further consideration to invasive species (beyond the potential spread of invasive terrestrial vegetation) is warranted.

3.10.4 State Listed Species

The TPWD, Wildlife Diversity Section, maintains computerized records of state-listed threatened and endangered species by county. The State of Texas does not list threatened and endangered species using the same criteria as the federal government. The state has separate laws governing the listing of species as threatened or endangered. Threatened and endangered animal species in Texas are those species so designated according to Chapters 67 and 68 of the Texas Parks and Wildlife Code and Section 65.171-65.184 of Title 31 of the Texas Administrative Code. Animals that are not currently listed by the federal government may be listed by the state as threatened and endangered. The state does not have the authority at this time to list invertebrates. The state lists 13 endangered species and 33 threatened species as occurring or potentially occurring in Denton County (**Table 7**).

Table 7. Listed Species in Denton County

Species	State Status	Habitat Description	Habitat Present
Birds			
American peregrine falcon (<i>Falco peregrinus anatum</i>)	Threatened	Year-round resident and local breeder in west Texas, nests in tall cliff eyries; also, migrant across state from more northern breeding areas in United States and Canada, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	Habitat present; areas observed along Ray Roberts Lake shoreline. See Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.
Arctic peregrine falcon (<i>Falco peregrinus tundrius</i>)	-	Migrant throughout state from subspecies' far northern breeding range, winters along coast and farther south; occupies wide range of habitats during migration, including urban, concentrations along coast and barrier islands; low-altitude migrant, stopovers at leading landscape edges such as lake shores, coastlines, and barrier islands.	Habitat present; areas observed along Ray Roberts Lake shoreline. See Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.

Species	State Status	Habitat Description	Habitat Present
Bald eagle (<i>Haliaeetus leucocephalus</i>)	Threatened	See Section 3.10.2, above.	See Section 3.10.2, above.
Henslow's sparrow (<i>Ammodramus henslowii</i>)	-	Wintering individuals (not flocks) found in weedy fields or cutover areas where lots of bunch grasses occur along with vines and brambles; a key component is bare ground for running/walking.	No; suitable weedy field or cutover areas were not observed in the project area.
Peregrine falcon (<i>Falco peregrinus</i>)	Threatened	Both subspecies migrate across the state from more northern breeding areas in United States and Canada to winter along coast and farther south; subspecies (<i>Falco peregrinus anatum</i>) is also a resident breeder in west Texas; the two subspecies' listing statuses differ, <i>Falco peregrinus tundrius</i> is no longer listed in Texas; but because the subspecies are not easily distinguishable at a distance, reference is generally made only to the species level; see subspecies for habitat.	Habitat present; areas observed along Ray Roberts Lake shoreline. See Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.
Red knot	-	See Table 4 above.	See Table 4 above.
Sprague's pipit (<i>Anthus spragueii</i>)	-	Only in Texas during migration and winter, mid-September to early April; short to medium distance, diurnal migrant; strongly tied to native upland prairie, can be locally common in coastal grasslands, uncommon to rare further west; sensitive to patch size and avoids edges.	Habitat present; grasslands observed. See Reference Photograph Points: 5, 6, 8, 15.
Western burrowing owl (<i>Athene cunicularia hypugaea</i>)	-	Open grasslands, especially prairie, plains, and savanna, sometimes in open areas such as vacant lots near human habitation or airports; nests and roosts in abandoned burrows.	Habitat present; grasslands observed. See Reference Photograph Points: 5, 6, 8, 15.
White-faced ibis (<i>Plegadis chihi</i>)	Threatened	Prefers freshwater marshes, sloughs, and irrigated rice fields, but will attend brackish and saltwater habitats; nests in marshes, in low trees, on the ground in bulrushes or reeds, or on floating mats.	No; suitable prairie ponds, flooded pastures or fields, ditches, and other shallow standing water areas observed along Ray Roberts Lake shoreline.
Whooping crane	Endangered	See Table 4 above.	See Table 4 above.
Wood stork (<i>Mycteria Americana</i>)	Threatened	Forages in prairie ponds, flooded pastures or fields, ditches, and other shallow standing water, including salt-water; usually roosts communally in tall snags, sometimes in association with other wading birds (i.e. active heronries); breeds in Mexico and birds move into Gulf States in search of mud flats and other wetlands, even those associated with forested areas; formerly nested in Texas, but no breeding records since 1960.	No; suitable prairie ponds, flooded pastures or fields, ditches, and other shallow standing water areas observed along Ray Roberts Lake shoreline.

Species	State Status	Habitat Description	Habitat Present
Mammals			
Plains spotted skunk (<i>Spilogale putorius interrupta</i>)	-	Catholic; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie.	Habitat present; wooded areas observed. See Reference Photograph Points: 3, 4, 5, 6, 7, 9, 10, and 14.
Red wolf (<i>Canis rufus</i>)	Endangered	Extirpated; formerly known throughout eastern half of Texas in brushy and forested areas, as well as coastal prairies.	Extirpated
Mollusks			
Louisiana pigtoe (<i>Pleurobema riddellii</i>)	Threatened	Streams and moderate-size rivers, usually flowing water on substrates of mud, sand, and gravel; not generally known from impoundments; Sabine, Neches, and Trinity (historic) River basins.	Habitat present; impoundment (Ray Roberts Lake) observed. See Reference Photograph Points: 16, 17, 30, 37, 42, 43, and 45.
Sandbank pocketbook (<i>Lampsilis satura</i>)	Threatened	Small to large rivers with moderate flows and swift current on gravel, gravel-sand, and sand bottoms; east Texas, Sulfur south through San Jacinto River basins; Neches River.	No; suitable intermittent and/or perennial streams were not observed in the project area.
Texas heelsplitter (<i>Potamilus amphichaenus</i>)	Threatened	Quiet waters in mud or sand and also in reservoirs. Sabine, Neches, and Trinity River basins.	Habitat present; reservoir (Ray Roberts Lake) observed. See Reference Photograph Points: 2, 20, 21, and 30.
Texas pigtoe (<i>Fusconaia askewi</i>)	Threatened	Rivers with mixed mud, sand, and fine gravel in protected areas associated with fallen trees or other structures; east Texas River basins, Sulphur River, Cypress Creek, Sabine through Trinity rivers as well as San Jacinto River.	No; suitable intermittent and/or perennial streams were not observed in the project area.
Reptiles			
Texas garter snake (<i>Thamnophis sirtalis annectens</i>)	-	Wet or moist microhabitats are conducive to the species occurrence, but is not necessarily restricted to them; hibernates underground or in or under surface cover; breeds March-August.	Habitat present; multiple moist microhabitats observed.
Texas horned lizard (<i>Phrynosoma cornutum</i>)	Threatened	Open, arid and semi-arid regions with sparse vegetation, including grass, cactus, scattered brush or scrubby trees; soil may vary in texture from sandy to rocky; burrows into soil, enters rodent burrows, or hides under rock when inactive; breeds March-September.	No; suitable arid or semi-arid areas were not observed in the project area.
Timber rattlesnake (<i>Crotalus horridus</i>)	Threatened	Swamps, floodplains, upland pine and deciduous woodlands, riparian zones, abandoned farmland; limestone bluffs, sandy soil or black clay; prefers dense ground cover, i.e. grapevines or palmetto.	Habitat present; riparian areas observed along Ray Roberts Lake shoreline. See Reference Photograph Points: 9, 16, 20, 37.

Species	State Status	Habitat Description	Habitat Present
Plants			
Glen rose yucca (<i>Yucca necopina</i>)	-	Texas endemic; grasslands on sandy soils and limestone outcrops; flowering April-June.	Habitat present; grasslands observed. See Reference Photograph Points: 5, 6, 8, 15.
Topeka purple-coneflower (<i>Echinacea atrorubens</i>)	-	Occurring mostly in tallgrass prairie of the southern Great Plains, in black land prairies but also in a variety of other sites like limestone hillsides; Perennial; Flowering Jan-June; Fruiting Jan-May.	Habitat present; grasslands observed. See Reference Photograph Points: 5, 6, 8, 15.
“-“ – Rare or Species of Concern, but no regulatory listing status.			

3.11 Cultural Resources

DOI regulations implementing Section 106 of the National Historic Preservation Act (Section 106) requires federal agencies to take into account the effects of their “undertakings” on historic properties that are within the proposal’s “area of potential effects” (APE) and to provide the Advisory Council on Historic Preservation (ACHP) with a reasonable opportunity to comment on such undertakings. The regulations implementing Section 106, establish the process through which federal agencies meet this statutory requirement. Notwithstanding the above statement, in most cases Agency actions would not be reviewed by the ACHP but rather by State Historic Preservation Officers (SHPO) and Tribal Historic Preservation Officers (THPOs) on and off tribal land. Federal agencies must consider whether their activities could affect historic properties that are already listed, determined eligible, or not yet evaluated under the National Register of Historic Places (NRHP) criteria. Properties that are either listed on or eligible for listing in the NRHP are provided the same measure of protection under Section 106. A cultural resources report was completed by TPWD on June 1, 2018. Survey and background study indicated a negative finding for cultural resources located within the project area. The cultural resources report is located in **Appendix D**.

3.12 Socioeconomic Conditions

EO 12898 requires federal agencies to identify and address disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. As defined by the USEPA, environmental justice is the fair treatment and meaningful involvement of people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies

The City of Pilot Point, Texas had a population of 3,856 according to the 2010 census. Denton County had a population of 662,614 as of the 2010 census. Racial characteristics of the City’s residents are as follows: 69 percent of the population is classified as non-Hispanic White; 26 percent is Hispanic; 3 percent is black; and 2 percent is all other. There are 1,293 households located in the City of Pilot Point.

The project area is located in census tract 19124-48-121-0201.03. 2010 census lists the tract’s population as 11,305. The tract’s minority population is 27.6%. The tract’s median family income is \$69,650 and 8.33% of the population below poverty line. The tract’s

employment (in the labor force) is estimated to be 69.7% (United States Census Bureau. 2010).

3.13 Recreation

Recreational opportunities around Ray Roberts Lake include numerous water-related and nature-focused activities. Additionally, Lone Star Lodge and Marina provides equestrian trails, hike and bike trails, recreational fishing, and recreational boat launch opportunities. Ray Roberts Lake has one commercial marina with 500 wet slips that is located on the west side of lake. According to the project sponsor, the facility is generally outdated and in poor condition. It is usually filled to capacity. Ray Roberts Lake has low commercial marina boat storage capacity (Garrett, personal communication). The proposed improvements would affect Ray Roberts Lake. Under 33 U.S. Code Section 408 Ray Roberts Lake modifications would require USACE approval. However, the proposed improvements would not be under the requirements of Section 408 because geographic locations of the proposed improvements are located within areas leased to TPWD for recreational use and would be consistent with USACE Ray Roberts Lake's management.

3.14 Potential Hazardous, Toxic and Radioactive Waste Concerns

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (RCRA), which was further amended by the Hazardous and Solid Waste Amendments, defines hazardous wastes. In general, both hazardous materials and hazardous wastes include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or welfare or to the environment when released or otherwise improperly managed.

Unless otherwise exempted by CERCLA regulations, RCRA Subtitle C (40 CFR Parts 260 through 270) regulations are administered by the TCEQ and are applicable to the management of hazardous wastes. Hazardous waste must be handled, stored, transported, disposed, or recycled in accordance with these regulations. Lone Star Lodge and Marina currently does not generate hazardous waste as part of its operation.

A Radius Report was generated by EDR to identify listed facilities located within approximate minimum search distances of one mile or less. Three facilities were listed and mapped in the database: Lone Star Gas Company, Lonestar Lodge and Marina, and Ray Roberts Lake. Lone Star Gas Company was listed in the Department of Transportation Office of Pipeline Safety and Accident data (DOT OPS) database. This facility is listed as Natural Gas Transmission 1984 - 2001 with a reported incident on October 16, 1988. The pipeline was reportedly damaged by a track loader resulting in a 4-inch diameter hole. The pipeline was taken out of service and the damaged section was replaced. The facility is listed as on the target property but the exact location of the incident along the pipeline is unknown. Lonestar Lodge and Marina was listed in the Aboveground Storage Tank Database and Compliance History Listing. Lonestar Lodge and Marina is listed as an active watercraft refueling facility. The facility reportedly has one 6,000-gallon aboveground storage tank storing gasoline that was installed in 2018. The tank is reported as in use. Lonestar Lodge and Marina is also listed in the Compliance History Listing. In 2018, the facility was given a classification rating of 0

indicating compliance with environmental regulations. Ray Roberts Lake is listed in the database as a Department of Defense site. The Radius Report is located in **Appendix D**.

3.15 Aesthetics

While there are no federal policies regarding aesthetics, it is USACE policy to establish architectural themes for facilities on project lands so that they blend with the existing views to the extent practicable. Facilities or structures proposed to be located within the Ray Roberts Lake project area would be required to blend in a manner with existing structures or in compliance with Lake/Park architectural themes. Existing structures are an upscale rustic style (Garrett, personal communication).

4.0 IMPACTS

4.1 Physical Resources

The proposed marina and attendant features would be situated on the 60-acre portion of Lone Star Lodge and Marina subleased from TPWD. The total development area encompassed by the proposed project includes 52 acres, most of which has been impacted by past park developments (i.e., TPWD and USACE). The site topography would be altered for leveling pad sites as needed for construction of buildings and related facilities. Similarly, soils will only be altered to the extent necessary for grading and construction. Deep soil disturbance is not expected as a result of the proposed project. No dredging would take place (Garrett, personal communication).

4.2 Water Quality

Impacts on surface water quality associated with construction, and caused by erosion, sedimentation, and siltation are considered short-term and minimal in nature. The preferred plan includes construction of a marina, boat ramp, and associated features including silt fences.

The proposed fuel dock would result in nominal impacts to water quality through minor fuel spills. This would result in reduced water quality in the vicinity of the dock. However, the fuel dock would have specific safeguards in place to prevent large spills. Safeguards would include small spill kits and an emergency plan, including an emergency pump shutoff. In the event of a spill of fuel (i.e., more significant than typical dripping), a spill response plan would be implemented to contain and clean-up the spill using small, absorbent booms. In the event of an actual emergency relating to a fuel spill, fire/emergency responders would be contacted.

Landscape maintenance at the marina could also result in localized effects to water quality, in the form of pesticide/herbicide use and runoff into the lake. Impacts to groundwater are not expected.

Design will include placement of large rock riprap aprons at discharge points. The aprons would dissipate erosive stormwater flow. Additionally, natural vegetative plantings will be placed at the end of the aprons to limit runoff pollutants.

4.3 Aquatic Resources

The observed shore aquatic habitat is limited due to the site being used as a boat launch/ramp. It is anticipated that displaced aquatic resources would return and reestablish after project construction was complete. It is not anticipated that operation of these facilities would result in significant long-term impacts. The developed boat ramp facilities would be utilized during construction of the marina and associated features. The temporary construction launch point area is approximately 0.6 acre. These temporary impacts could include increased turbidity in the vicinity of the development and displacement of aquatic organisms during the construction process.

4.4 Waters of the U.S., including Wetlands

Utility line crossing would be authorized under non-reporting Nationwide Permit 12. Utility line impacts would be temporary and contours/elevations would be restored to pre-construction conditions. The marina, marina's sidewalks, marina's utility connections, and wave attenuators would be constructed without placement of fill material (temporary or permanent) into Ray Roberts Lake (below conservation pool level 632.5 feet). The floating structures including the marina, sidewalks, etc. would be constructed using the existing boat ramp and the area immediately adjacent to the south (**Appendix A** - Exhibit 1.3 and Referenced Photograph Points: 16, 17, 35, 36, 37, 42, 43, 46, 47, and 48). The marina and wave attenuators would be anchored with pole-mounted stabilizers (pilings) – driven into the lakebed (Blagg, personal communication). Also see **Appendix D**, Delineation of Waters of the United States. **Table 8** summarizes the amount of impacts.

Table 8. Impacts to WOUS Summary

Feature Name	Feature Type	Area within Preferred Action (acres)	Permanent Impact area (acres)	Temporary Impact area (acres)
Ray Roberts Lake	Open Water	20.5	None	None
RRREW-1	Riparian Emergent Wetland to Ray Roberts Lake	0.04	None	0.04

4.5 Floodplains

The proposed development would be located above Ray Roberts Lake's conservation pool elevation (632.5 feet) but below the Ray Roberts Lake's flood control elevation (640.5 feet). Development areas would be graded with some fill and excavation. Ray Roberts Lake floodplain storage capacity would have a net increase of approximately 11,562 cubic yards.

4.6 Air Quality

Impacts to air quality would be primarily related to boat motor and automobile emissions associated with the marina facility. However, no significant impacts to air quality is expected as a result of the proposed project. Construction activities would have a temporary and nominal impact.

4.7 Noise

Short-term noise impacts are anticipated. Noise associated with the operation of machinery on construction sites is typically short-term, intermittent, and highly localized. Long-term noise impacts from the increase of auto traffic, marina operations, and recreational boating are anticipated but would be nominal.

4.8 Vegetation

Due to the nature of the project, some of the actions involve impacts to previously undisturbed vegetation. Due to periodic maintenance (such as regular mowing intervals) and previous disturbance of the natural mid-story and understory, the vegetation impact would be minimal. Long-term effects are areas with new structures such as buildings and parking lots. Short-term effects are areas with temporary construction but would be restored to their previous conditions (re-contoured and replanted). **Table 9** summarizes the long term and short term effect areas.

Table 9. Impacted Vegetation Communities

Vegetation Community Name	Long-Term Effects of the Project Development (acres)	Short-Term Effects of the Project Development (acres)
Brushy Swamp/Emergent Wetland	None	0.04
Grasslands	1.54	2.0
Maintained Grasslands and Road ROW	5.27	7.35
Mesquite Shrublands	4.50	4.27
Post Oak Woodlands	3.92	4.35
Open Water / Ray Roberts Lake	None	21.0
RipRap Shoreline	None	0.11
Sparsely Vegetated/Compacted Soils	0.06	0.1
Total:	15.3	39.22

4.9 Wildlife

Some increased activity in the park may result in displacement of some wildlife. This effect is expected to be minor for the following reasons: the preferred action area is already used as a park and boat ramp area, the abundance of adjoining similar habitat to the preferred action area, and the minor amount of wildlife within the immediate preferred action area.

4.10 Threatened and Endangered Species

The IPaC lists the piping plover and red knot as conditional and should only be considered for "Wind Energy Projects." The project is not a wind energy project; therefore, further evaluation and effects determinations are not warranted for these species within the proposed project limits (USFWS, 2018).

The least tern, based on the IPaC report, does not have critical habitat within, or in the immediate vicinity of, the proposed project limits. Least terns nest along sand and gravel bars within braided streams and rivers. They are also known to nest on man-made structures such as inland beaches, wastewater treatment plants, gravel mines, etc. During the field investigation, no suitable nesting habitat for the least tern was observed. Based on this information, it is unlikely that construction of the proposed project would result in a take of this species. Based on the available data, least tern habitat is absent in the proposed action's footprint and proposed action's vicinity, and impacts to least tern or least tern habitat are not anticipated from the proposed project.

The whooping crane, based on the IPaC report, does not have critical habitat within the project area. The nearest critical whooping crane habitat is located in the Salt Plains National Wildlife Refuge approximately 230 miles to the northwest, in Alfalfa County, Oklahoma. Whooping cranes use a variety of stopover habitats during their long migrations; feeding in croplands and large wetlands. They are known to roost in large wetlands and occasionally in riverine habitat such as large sandbars in wide unobstructed channels isolated from human disturbance. This type of habitat does not exist within the proposed action area. Based on the available data, whooping crane habitat is absent in the proposed action area and proposed action's immediate vicinity, and impacts to whooping cranes or whooping crane habitat are not anticipated from the proposed project.

If endangered species were observed prior to or during construction, activities would immediately cease and the USACE and the USFWS would be notified in accordance with the Endangered Species Act.

4.11 Cultural Resources

An archeological survey and background study, dated June 28, 2018, indicated no cultural resources would be adversely impacted by the project. The cultural resources report is located in **Appendix D**.

4.12 Socioeconomic Conditions

In combination with future recreational development around Ray Roberts Lake, the proposed project would continue to have positive impacts to the area's socioeconomic resources. Increased traffic to the Lone Star Lodge and Marina is not expected to significantly adversely affect the surrounding communities. The concessions would be operated by personnel hired from the local community. Two operation employees would gradually increase to six employees in year five (Garrett, personal communication).

4.13 Recreation

No noteworthy change in the type of recreation is foreseen in the proposed action. Enhancement of many on-site recreational amenities would occur with the proposed alternative. Adding 500 wet slips would be within the Ray Roberts Lake's capacity. The proposed action would increase recreation opportunities, because of increased facility capacity.

4.14 Potential Hazardous, Toxic and Radioactive Waste Concerns

Based on the current land uses in the project area (e.g., boat launch and lodge), the proposed project is not anticipated to result in significant impacts to hazardous, toxic, and radioactive wastes (HTRW) sites. Since no significant changes (addition of one fuel dock and one associated tank) would occur on the property (i.e., land use changes, etc.) with regard to HTRW, no impacts are expected as a result of the proposed project. A Spill Prevention, Control, and Countermeasure (SPCC) plan is located in **Appendix F**.

4.15 Aesthetics

The proposed project involves new facilities that would be viewable from parts of the lake and shoreline. Implementation of the proposed project is not anticipated to cause significant adverse aesthetic impacts. To enhance the aesthetic appeal, appropriate roofing material is planned for use on the floating marina structure. According to the project sponsor, the project would be constructed as upscale rustic style (Garrett, personal communication).

5.0 CUMULATIVE IMPACTS

Cumulative impacts are analyzed by adding the likely effects of other past, present and reasonably foreseeable actions in the immediate area to the impacts related to the proposed plan.

Future proposed projects in the surrounding region could conceivably have an effect on, or be affected by, the proposed action and are discussed herein, to the extent they are known. It is possible that other actions are proposed for the area that are not known by the preparers of this report.

<Cumulative Impacts to be completed by the USACE.>

6.0 MITIGATION

The following preliminary mitigation plans are provided. Final mitigation plans are pending subsequent agency coordination and would be finalized prior to construction.

Best management practices (BMP)s would be utilized during construction to reduce the amount of sediment being transported into the lake from disturbed areas during rainfall events. These BMPs would likely include a combination of the following: sediment socks, sediment fences, hay bales, vegetative buffer strips, temporary seeding, or sodding. Once development is complete, temporary construction areas would be revegetated naturally or re-seeded with a mix of similar species.

Section 402 of the Clean Water Act and Chapter 26 of the Texas Water Code require construction projects involving ground-disturbing activities greater than one acre to develop and implement a Storm Water Pollution Prevention Plan (SWP3). The SWP3 will include both narrative and drawings. A SWP3 would be developed before construction activities commence.

40 CFR part 112 states required control measures to be met for the storage of hazardous materials. See **Appendix F** for the proposed marina's SPCC Plan.

Temporary impacts to WOUS would be authorized under a Nationwide Permit 12 and would not require compensatory mitigation-

Project developer (Ross Garrett) proposes to remove woody invasive species (listed in **Table 6**) to compensate for loss of Cross Timber's habitat. Invasive woody species would be selectively removed and properly disposed from the Post Oak Woodlands plant community. The mitigation area size is calculated at three to one ratio of the impacted Post Oak Woodlands. See **Table 10** for specific size. **Appendix F** - Exhibit 5.0 depicts potential areas of the mitigation.

Table 10. Mitigation Area

Vegetation Community Name	Mitigation Compensation Area (acres)	Size of Effected Area from Project Development (acres)	Compensation Ratio
Post Oak Woodlands	24.81	8.27	3:1

Additionally, Project developer (Ross Garrett) will plant Cross Timber species, where applicable, in new landscaped areas. Blackjack oaks (or similar oak species) would be planted. No non-native species would be planted. Temporary herbaceous revegetation and soil stabilization would be completed under the SWP3.

7.0 AGENCY COORDINATION

An archeological survey and background study indicated that no cultural resources would be adversely impacted by the project. Concurrence from Texas Historical Commission SHPO, and the USACE was received on September 13, 2018.

<Agency coordination to be completed by the USACE.>

8.0 PUBLIC INVOLVEMENT

A notice of EA availability will be published in accordance with 40 CFR §1506.6 and USACE requirements.

<Public involvement to be completed by the USACE.>

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Regulatory Compliance Status Summary Table

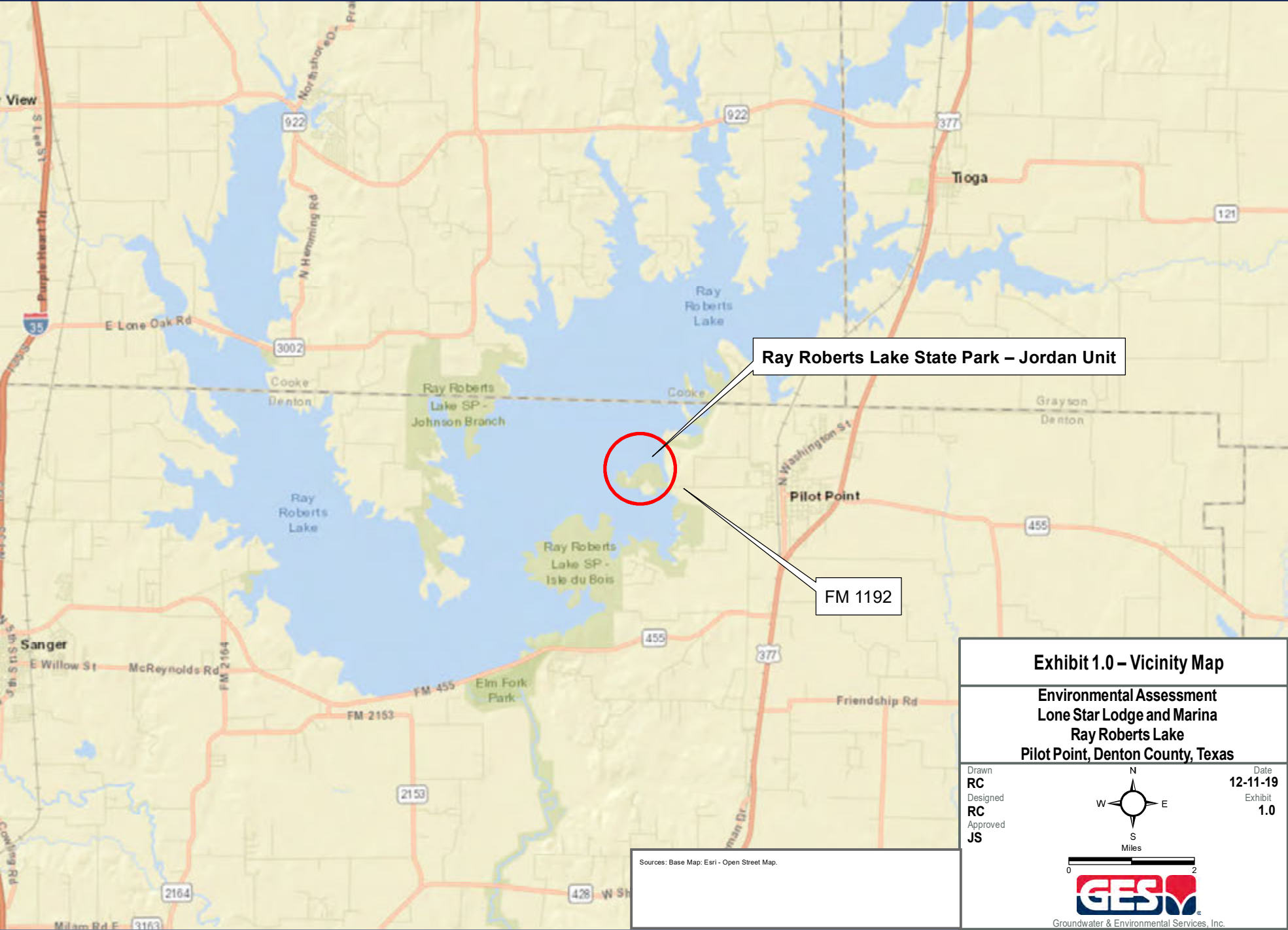
Prominent Laws and Regulations	Compliance Summary
Bald and Golden Eagle Protection Act	Project would comply with protected species laws and regulations. For additional information regarding the Bald and Golden Eagle Protection Act and project compliance, see Sections 3.10 and 4.10.
Clean Air Act	Project would comply with the Clean Air Act. For additional information and discussion, see Sections 3.6 and 4.6.
Clean Water Act	Project would comply with the Clean Water Act. For additional information and discussion, see Sections 3.4, 4.4, and 6.0.
Coastal Zone Management Act	Project is located approximately 250 miles north of the coastal zone. Coastal Zone Management Act's protected resources would not be affected by the project.
Comprehensive Environmental Response, Compensation, and Liability Act	Project would comply with the Comprehensive Environmental Response, Compensation, and Liability Act. For additional information and discussion, see Sections 3.14 and 4.14.
Endangered Species Act	Project would comply with protected species laws and regulations. For additional information regarding the Endangered Species Act and project compliance, see Sections 3.9, 3.10, 4.9, and 4.10.
Executive Order 11988 - Floodplain Management	Project would comply with floodplain development requirements. For additional information and discussion, see Sections 3.5 and 4.5.
Executive Order 12898 - Environmental Justice	Project would comply with the Executive Order 12898 - Environmental Justice. For additional information and discussion, see Sections 3.12 and 4.12.
Executive Order 13112 - Invasive Species	Project would comply with controlled species laws and regulations. For additional information regarding the Executive Order 13112 - Invasive Species and project compliance see Sections 3.10 and 4.10.
Fish and Wildlife Coordination Act	Project would comply with protected species laws and regulations. For additional information regarding the Fish and Wildlife Coordination Act and project compliance see Sections 3.9, 3.10, 4.9, and 4.10.

Prominent Laws and Regulations	Compliance Summary
Flood Disaster Protection Act	Project would comply with floodplain development requirements. For additional information and discussion, see Sections 3.5 and 4.5.
Marine Mammal Protection Act	Project is located approximately 250 miles north of the coastal area. Marine Mammal Protection Act's protected resources would not be affected by the project.
Migratory Bird Treaty Act	Project would comply with protected species laws and regulations. For additional information regarding the Migratory Bird Treaty Act and project compliance see Sections 3.9, 3.10, 4.9, and 4.10.
National Flood Insurance Act	Project would comply with floodplain development requirements. For additional information and discussion, see Sections 3.5 and 4.5.
National Historic Preservation Act	Project would comply with the National Historic Preservation Act. For additional information and discussion, see Sections 3.11 and 4.11.
Noise Control Act	Project would comply with the Noise Control Act. For additional information and discussion, see Sections 3.7 and 4.7.
Resource Conservation and Recovery Act	Project would comply with the Resource Conservation and Recovery Act. For additional information and discussion, see Sections 3.14 and 4.14.
Scenic Rivers Act	Project is located approximately 175 miles southwest of the closest designated Scenic River. Scenic Rivers Act's protected resources would not be affected by the project.
Solid Waste Disposal Act	Project would comply with the Solid Waste Disposal Act. For additional information and discussion, see Sections 3.14 and 4.14.
Superfund Amendments and Reauthorization Act	Project would comply with the Superfund Amendments and Reauthorization Act. For additional information and discussion, see Sections 3.14 and 4.14.
Toxic Substances Control Act	Project would comply with the Toxic Substances Control Act. For additional information and discussion, see Sections 3.14 and 4.14.

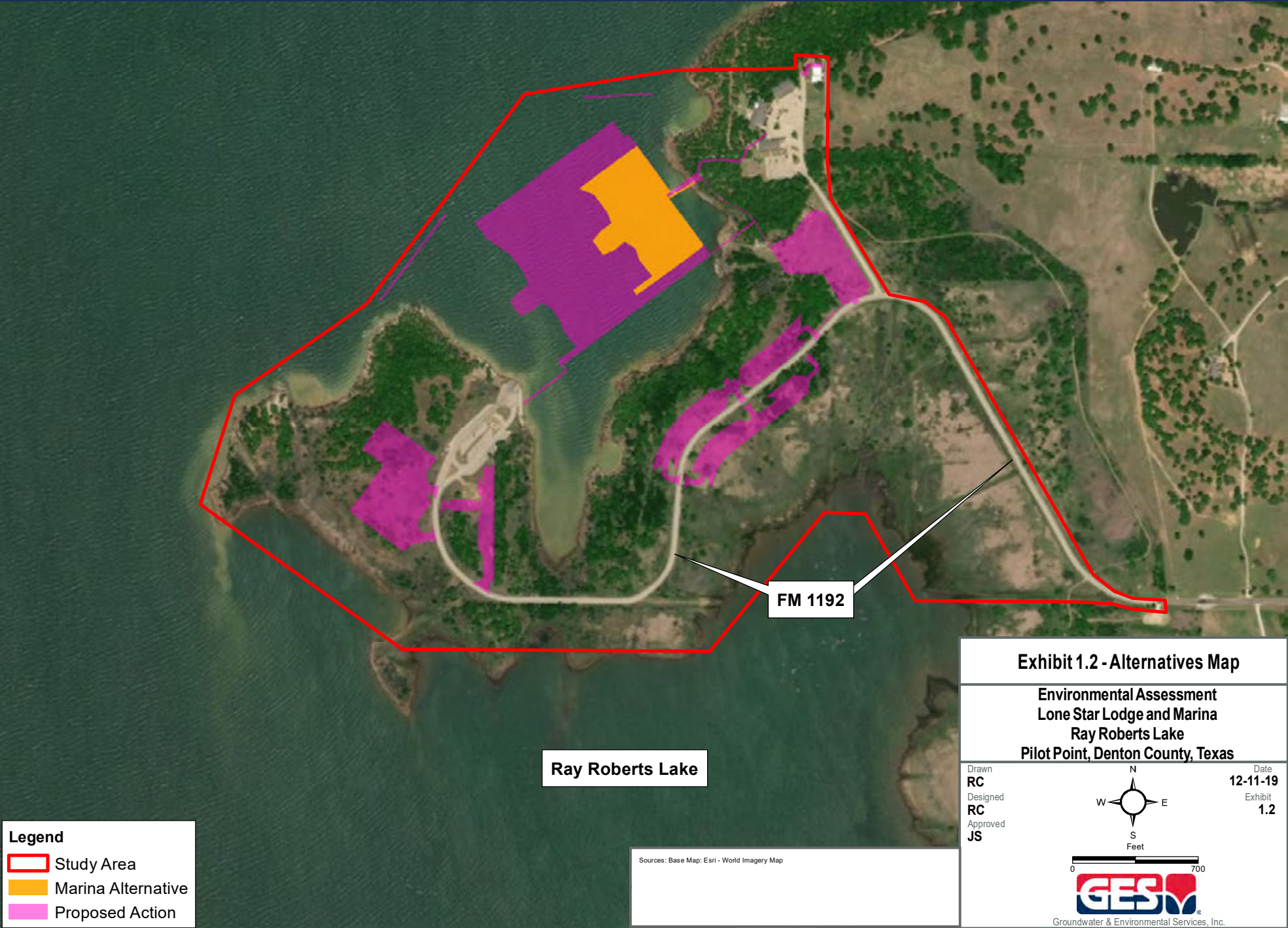
APPENDIX A

Site Location Maps and Photographs

Exhibit #	Name of Exhibit
1.0	Vicinity Map
1.1	Existing Facilities Map
1.2	Alternatives Map
1.3	Proposed Action Layout Map
2.0	Cover Sheet
2.1	Master Site Plan
2.2	Proposed Marina Boat Docks
2.3	Proposed Boat Launch Parking
2.4	Proposed Maintenance Building
2.5	Proposed Self-Storage Building
2.6	Proposed Camping Sites
2.7	Proposed Marina Parking Lot
3.0	2019 USGS Topographic Map
3.1	USDA Soils Map
3.2	Surface Water Map
3.3	FEMA Flood Hazard Zones Map
3.4a	Noise Map
3.4b	Noise Map
3.5	EMST Vegetation Map
3.6	Vegetation Map
4.0	Reference Photograph Points Map
A.1	Photographs (31 Pages)





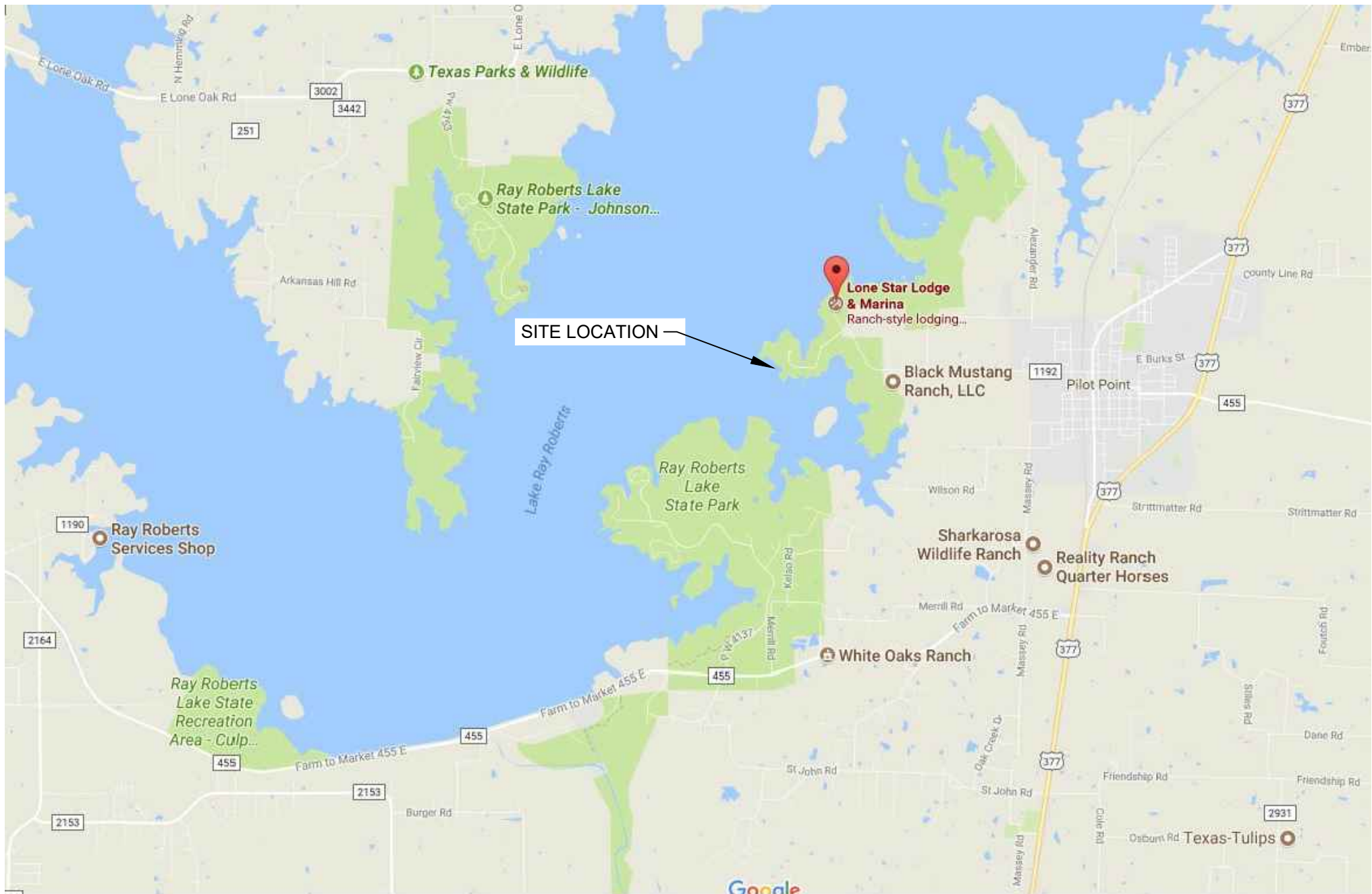




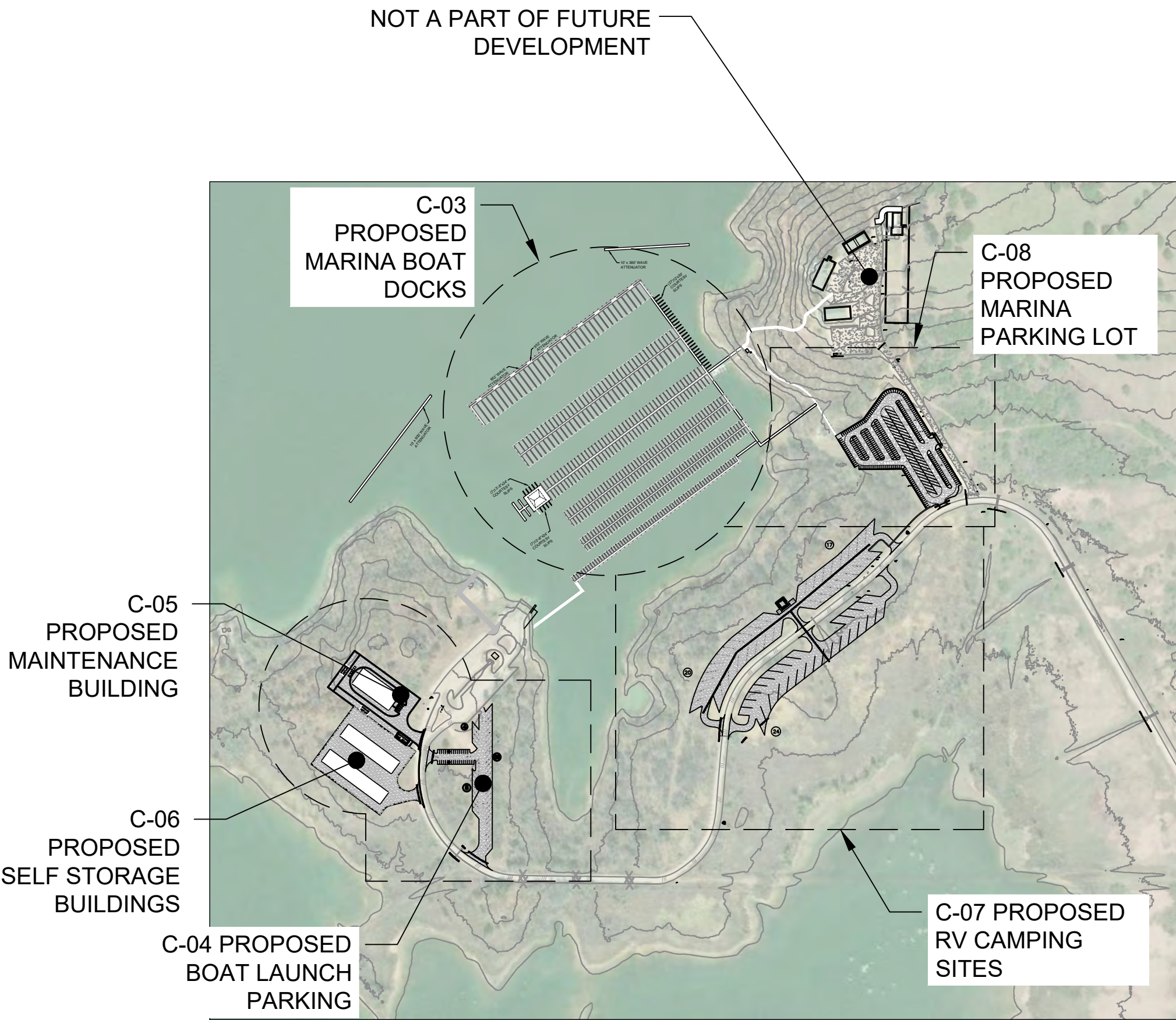
LONE STAR LODGE AND MARINA

RAY ROBERTS LAKE STATE PARK
JORDAN PARK
DENTON COUNTY, TEXAS

OCTOBER, 2019



VICINITY MAP
NOT TO SCALE



SHEET INDEX
NOT TO SCALE



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LANDMARK SURVEYORS, INC.
JERRY YENSAN
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PHONE: 940-382-4016

CLIENT
LONE STAR LODGE & MARINA
ROSS GARRETT
2200 FM 1192
PILOT POINT, TX 76258
PHONE: 817-239-5745

BENCHMARK:
TBM NO. 1
"PK" NAIL IN CENTER OF PAINTED
"X"
ELEV. = 645.30'
TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'
TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'
TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
ELEV. = 681.17'

NO.	REVISION	DESCRIPTION	DATE

CONSULTANT:
THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF INTERIM REVIEW UNDER THE AUTHORITY OF PYOTR I. GULER, (TEXAS NO. 87141) ON 01/03/2018. IT IS NOT TO BE USED FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

SEAL:
FOR PRELIMINARY DESIGN & REVIEW PURPOSES ONLY.

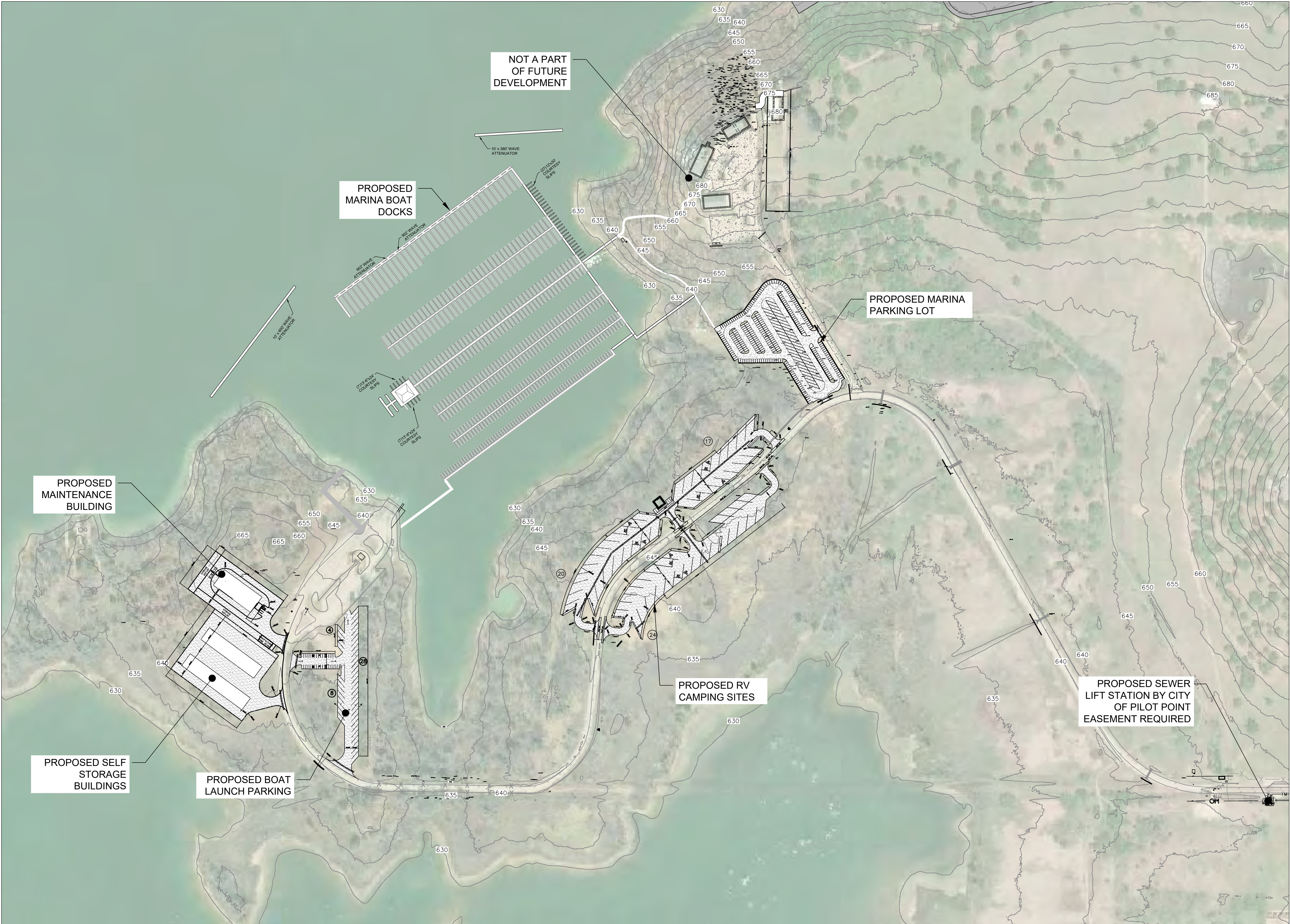
KJE
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Fax (940) 387-0830
(TBPE #F-12214)

**LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK**

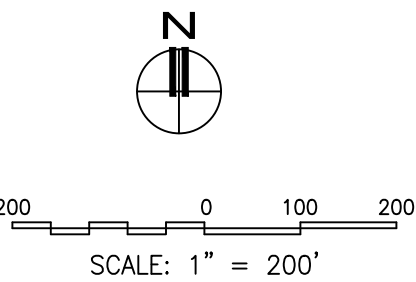
COVER SHEET

DATE: 10/23/2019	SHEET:
DRAWN BY: MAP/MLL	Exhibit - 2.0
CHECKED BY: KJW	
SCALE: AS NOTED	



KEY NOTES

- BENCHMARK:**
- TBM NO. 1
"PK" NAIL IN CENTER OF PAINTED
"X"
ELEV. = 645.30'
- TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'
- TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'
- TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
ELEV. = 681.17'



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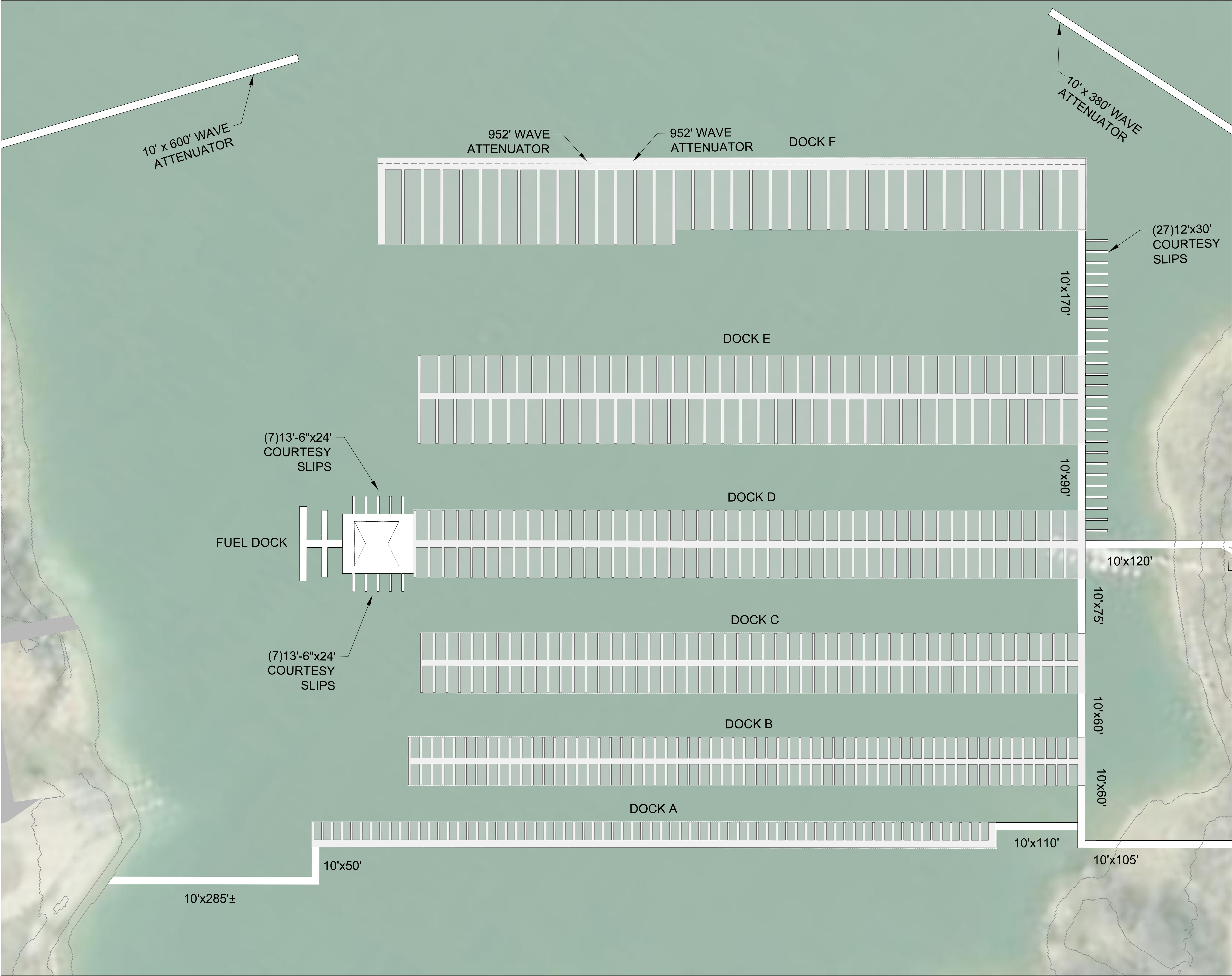
LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK

MASTER SITE PLAN

DATE: 10/23/2019
DRAWN BY: KJW/MLL
CHECKED BY: KJW
SCALE: AS NOTED

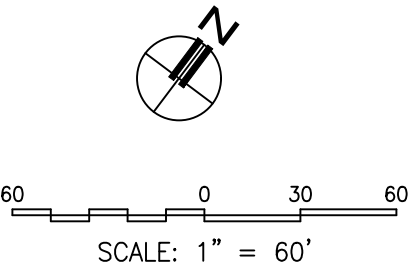
SHEET:

Exhibit - 2.1




KEY NOTES

- BENCHMARK:**
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ELEV. = 645.30'
 - TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'
 - TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'
 - TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
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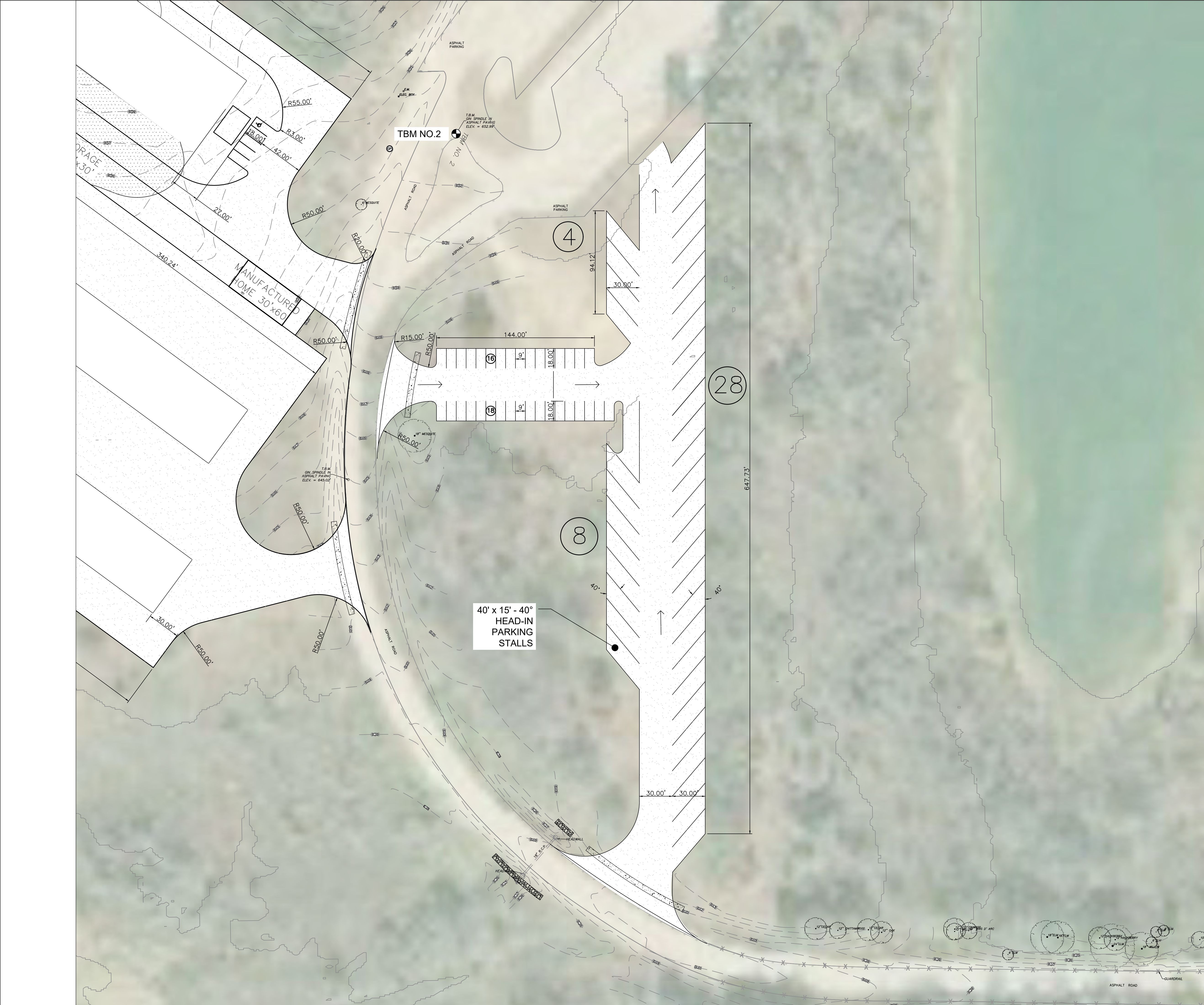


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LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK

PROPOSED MARINA BOAT DOCKS

DATE:	10/23/2019	SHEET:	Exhibit - 2.2
DRAWN BY:	KJW/MLL		
CHECKED BY:	KJW		
SCALE:	AS NOTED		



KEY NOTES

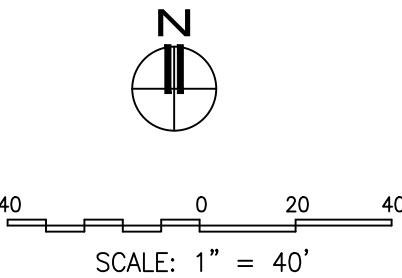
- 1 TRUCK & BOAT TRAILER PARKING
41 HEAD-IN SPACES
(APPROX. 40'x15' - 40° ANGLE TYP.)
- 2 REGULAR PARKING
34 SPACES
(18'x9' - 90° ANGLE TYP.)

BENCHMARK:
TBM. NO. 1
"PK" NAIL IN CENTER OF PAINTED "X"
ELEV. = 645.30'


TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'

TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'

TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
ELEV. = 681.17'



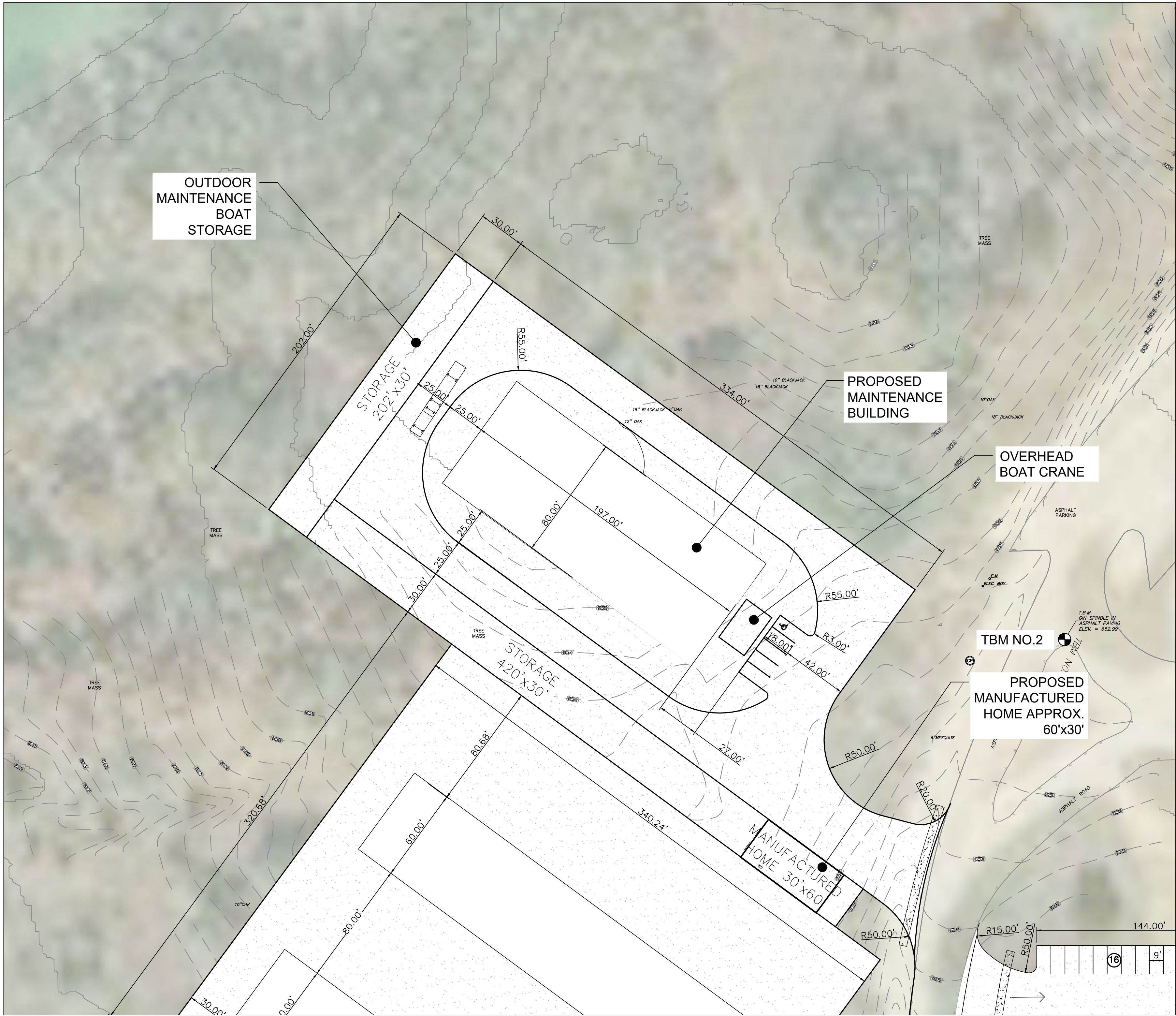
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LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK
PROPOSED BOAT LAUNCH
PARKING

DATE: 10/23/2019	SHEET:
DRAWN BY: MAP/MLL	Exhibit - 2.3
CHECKED BY: KJW	
SCALE: AS NOTED	

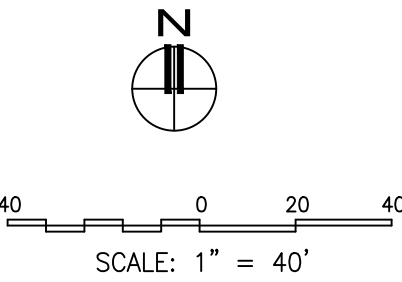


MAINTENANCE BUILDING


KEY NOTES

- 1 MAINTENANCE BLDG. AREA
5 PARKING SPACES (18'x9')

- BENCHMARK:**
- TBM. NO. 1
"PK" NAIL IN CENTER OF PAINTED "X"
ELEV. = 645.30'
- TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'
- TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'
- TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
ELEV. = 681.17'



NO.	REVISION DESCRIPTION	DATE
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LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK

PROPOSED MAINTENANCE BUILDING

DATE: 10/23/2019	SHEET:
DRAWN BY: MAP/MLL	Exhibit - 2.4
CHECKED BY: KJW	
SCALE: AS NOTED	



SELF STORAGE BUILDINGS

KEY NOTES


1 BOAT SELF STORAGE

- BENCHMARK:**
- TBM NO. 1
"PK" NAIL IN CENTER OF PAINTED "X"
ELEV. = 645.30'
 - TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'
 - TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'
 - TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
ELEV. = 681.17'



SCALE: 1" = 40'

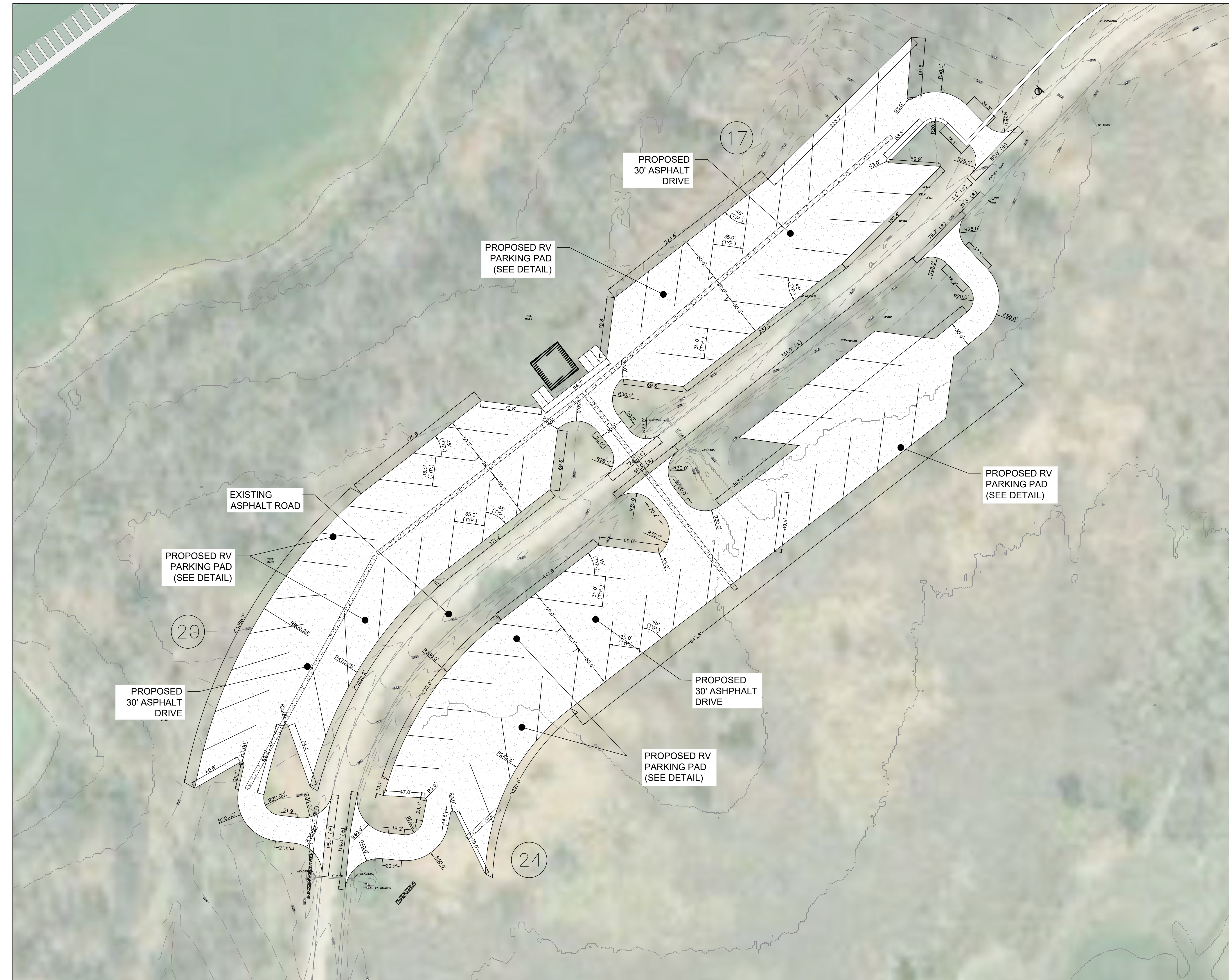
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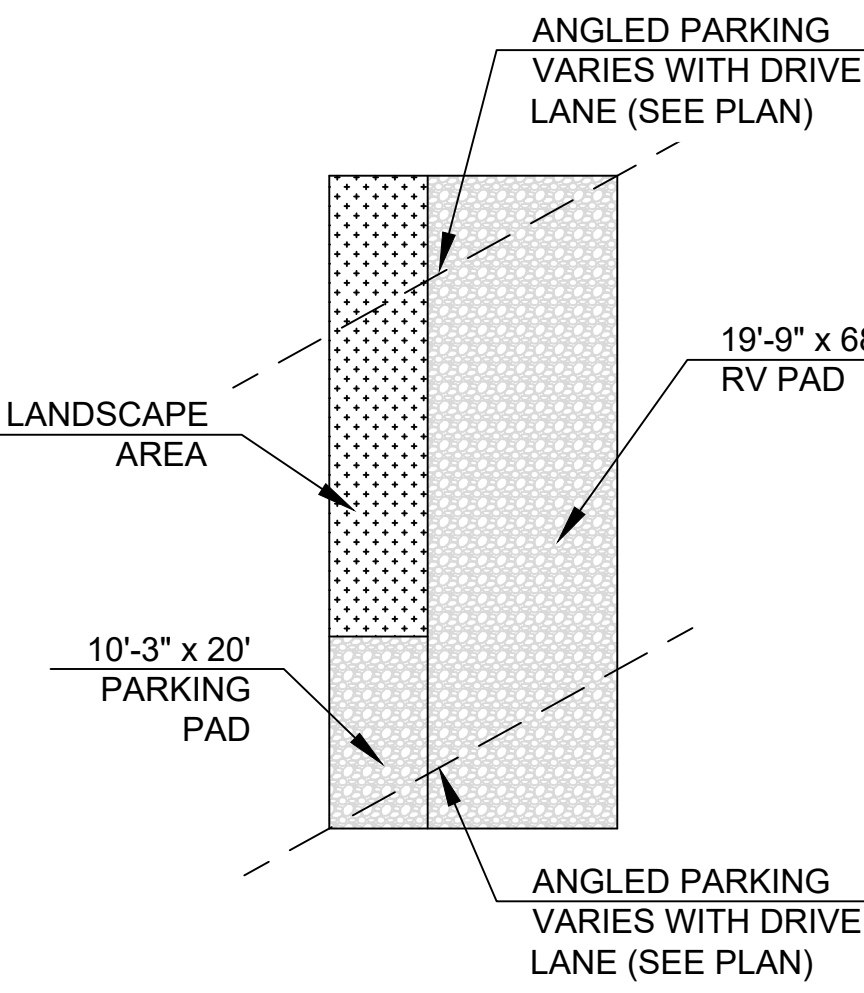
LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK
PROPOSED SELF STORAGE BUILDINGS

DATE: 10/23/2019	SHEET:
DRAWN BY: MAP/MLL	Exhibit - 2.5
CHECKED BY: KJW	
SCALE: AS NOTED	



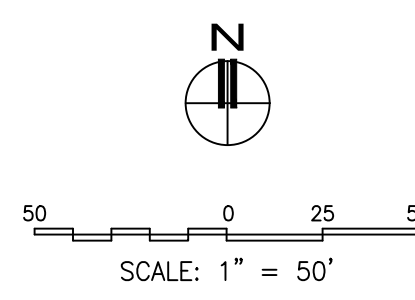
KEY NOTES

- 1 RV CAMPING SITES – 53 SITES
BACK-IN 30' PARKING TYP.
(35' WIDE, MIN. 68' LENGTH TYP.)
- 2 AMENITIES BUILDING – 6 SPACES
(18'x9' REGULAR PARKING TYP.)




TYPICAL RV PARKING PAD DETAIL
N.T.S.

- BENCHMARK:**
- TBM NO. 1
"PK" NAIL IN CENTER OF PAINTED "X"
ELEV. = 645.30'
 - TBM NO. 2
GIN SPINDLE IN ASPHALT PAVING
ELEV. = 652.99'
 - TBM NO. 3
"PK" NAIL IN CONCRETE PARKING
ELEV. = 682.43'
 - TBM NO. 4
"PK" NAIL IN CONCRETE PARKING
ELEV. = 681.17'



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ENVIRONMENTAL & CIVIL ENGINEERING

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LONE STAR LODGE
LAKE RAY ROBERTS

PROPOSED RV CAMPING SITES

DATE: 10/23/2019	SHEET:
DRAWN BY: MAP/MLL	Exhibit - 2.6
CHECKED BY: KJW	
SCALE: AS NOTED	

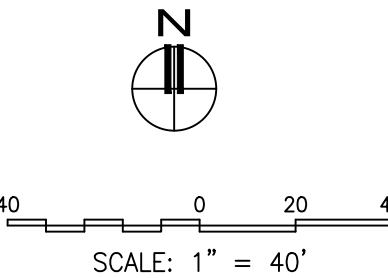


KEY NOTES

- 1

RV PARKING 14 SPACES
HEAD-IN 40' PARKING TYP.
(MIN 15' WIDE, 70' LENGTH TYP.)
- 2

MARINA PARKING LOT
PHASE 1 - 182 TOTAL SPACES
PHASE 2 - 296 TOTAL SPACES
(18'x9' REGULAR PARKING TYP.)



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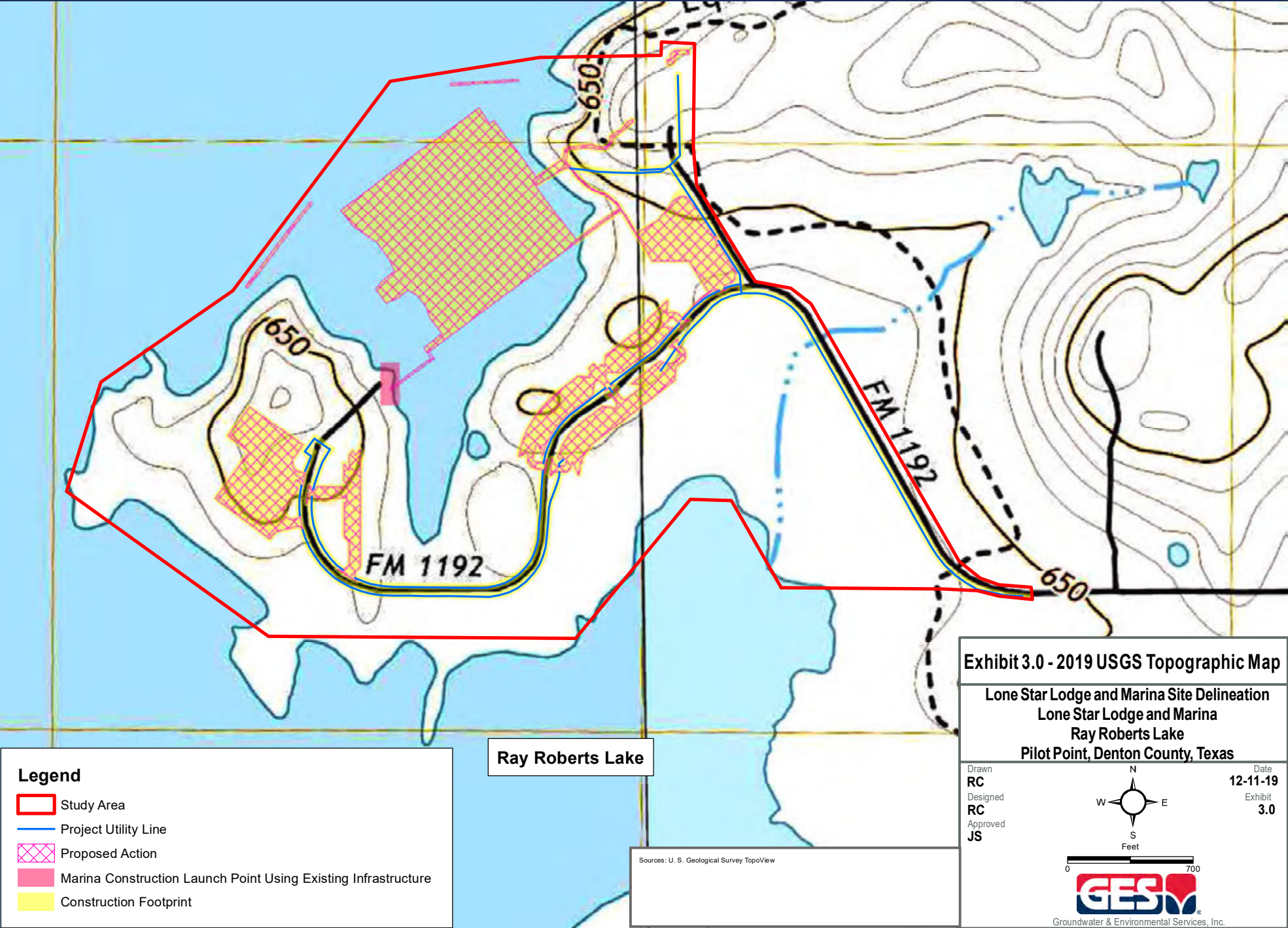
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Fax (940) 387-0830
(TBPE #F-12214)

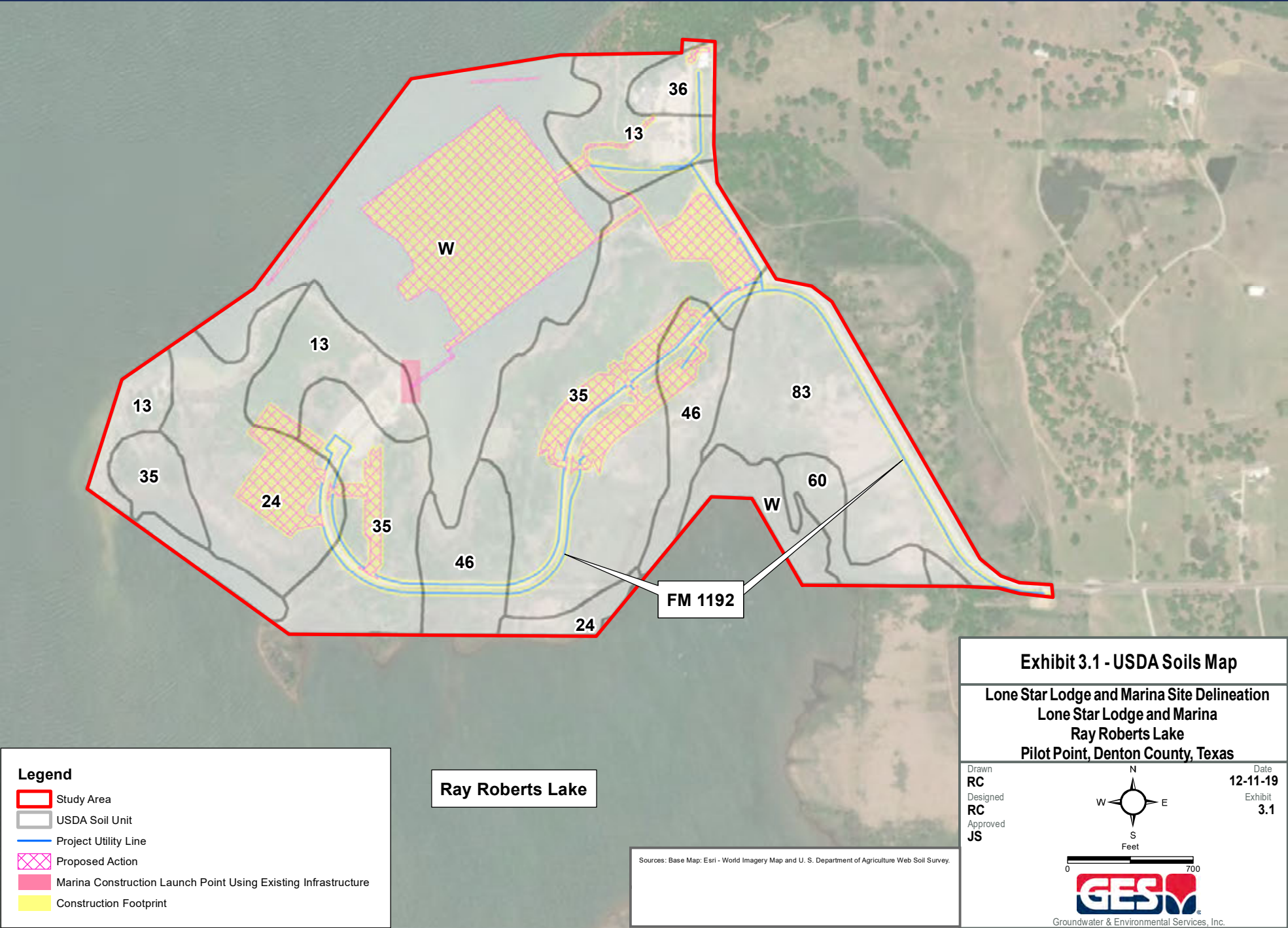
LONE STAR LODGE & MARINA
RAY ROBERTS LAKE STATE PARK

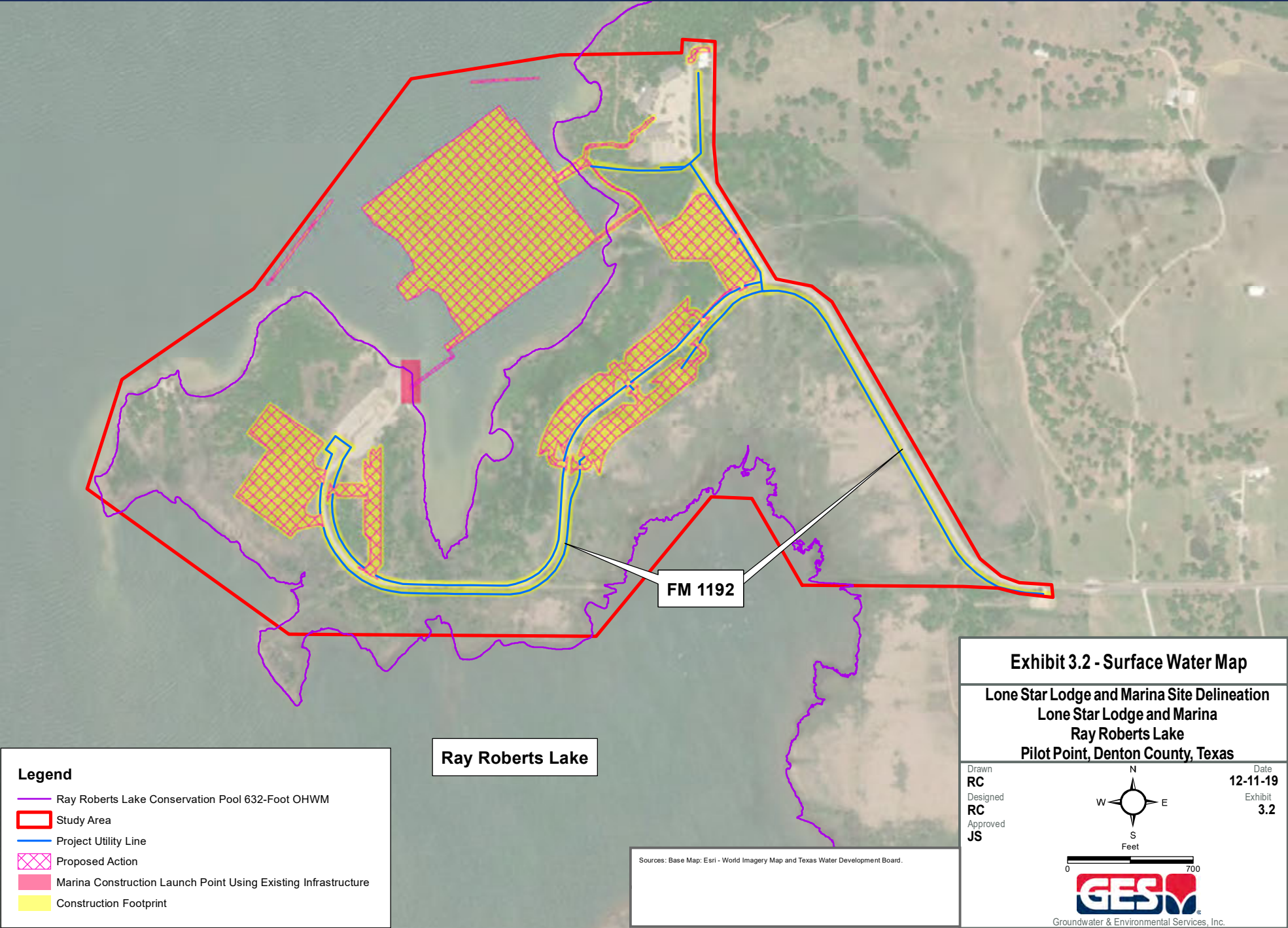
PROPOSED MARINA
PARKING LOT

DATE: 10/23/2019
DRAWN BY: MAP/MLL
CHECKED BY: KJW
SCALE: AS NOTED

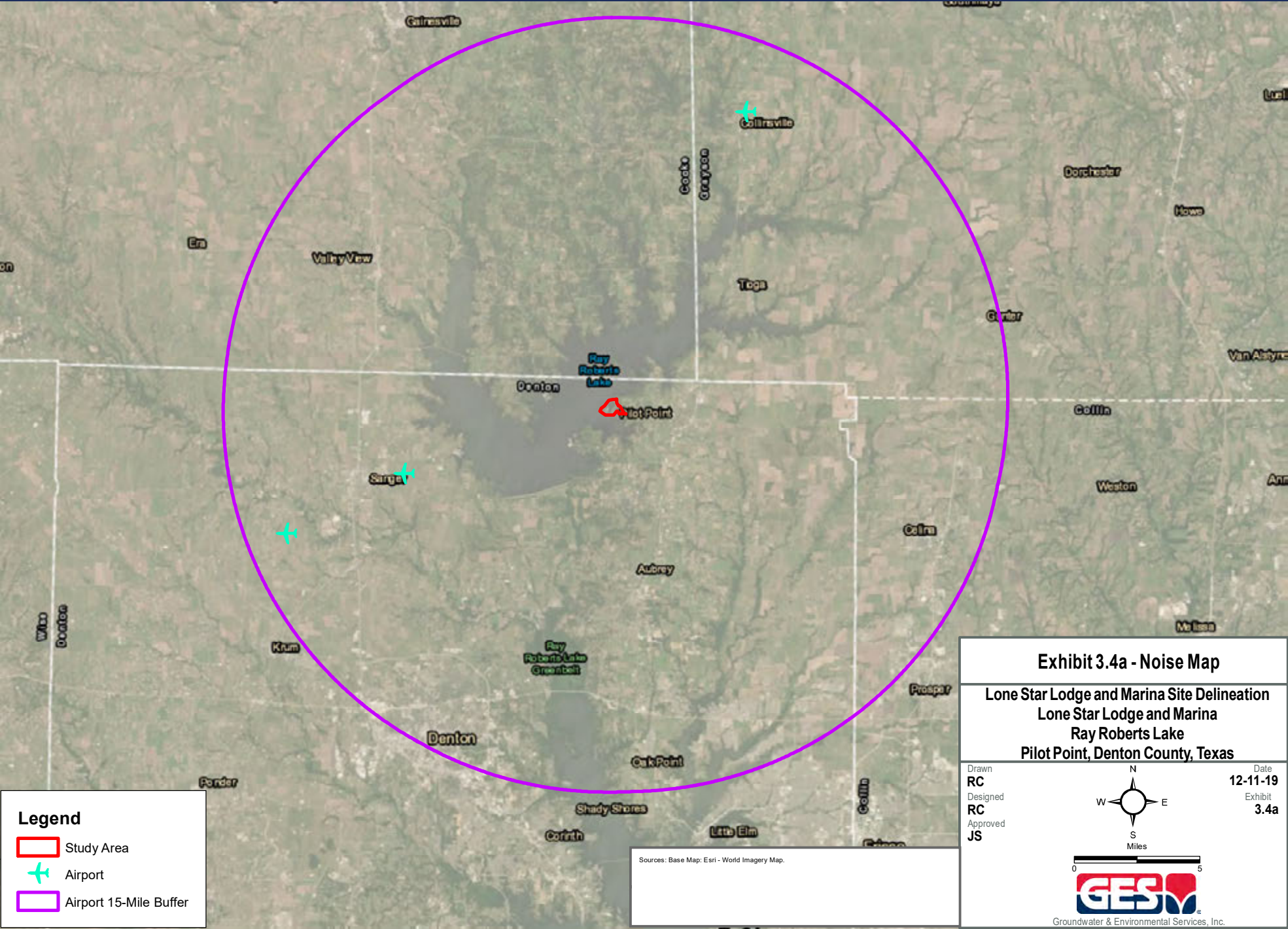
SHEET:
Exhibit - 2.7

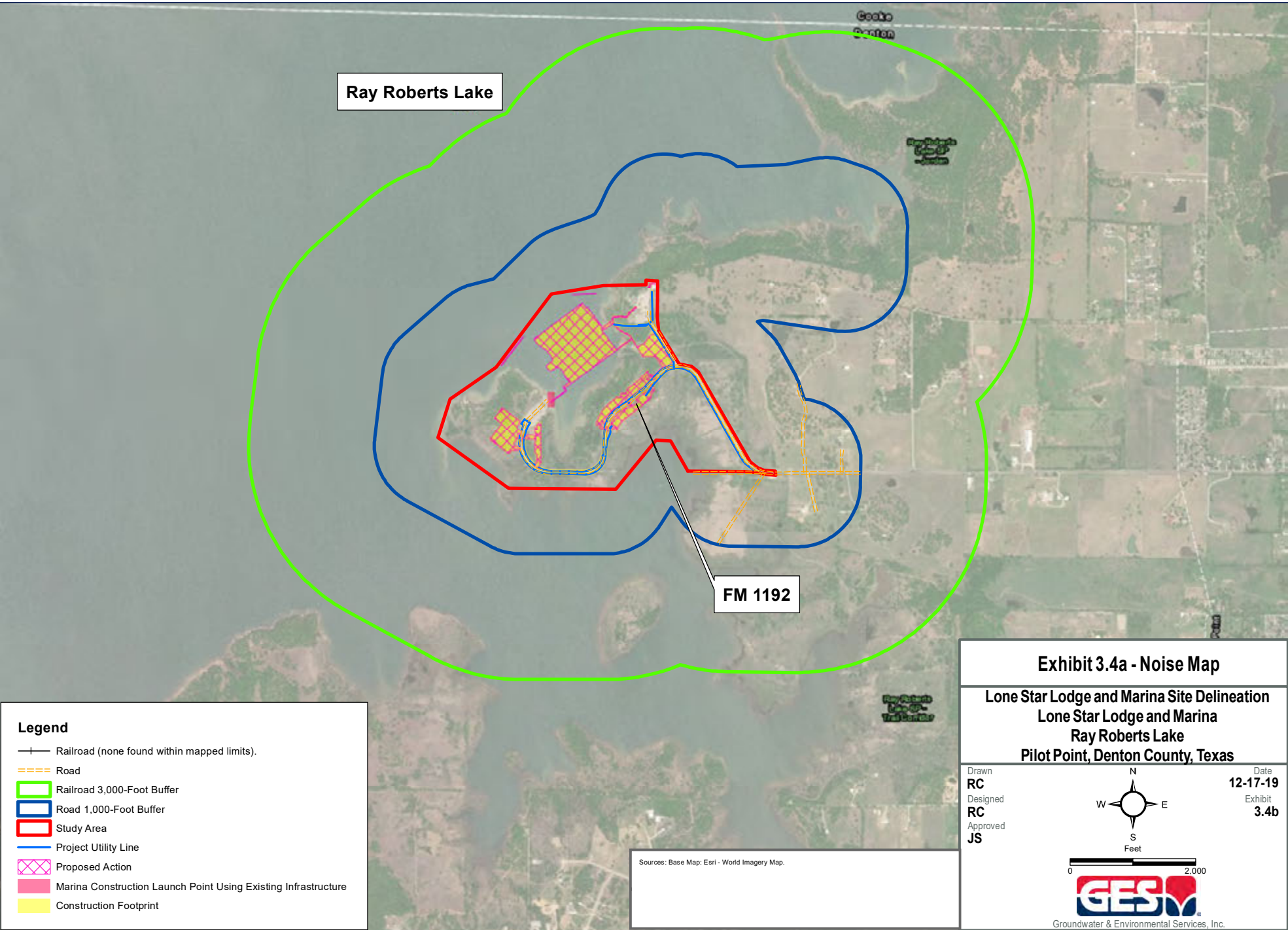


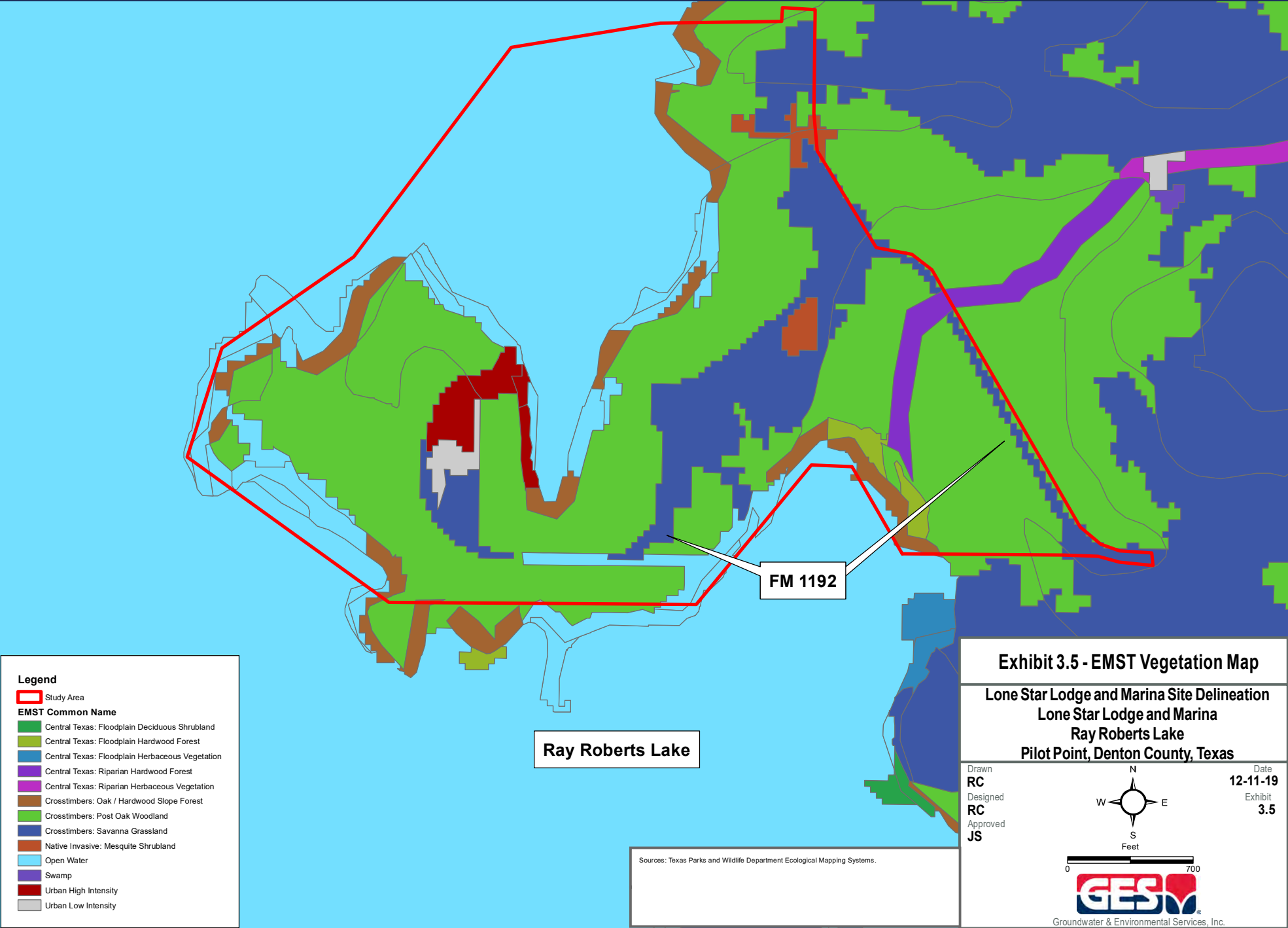


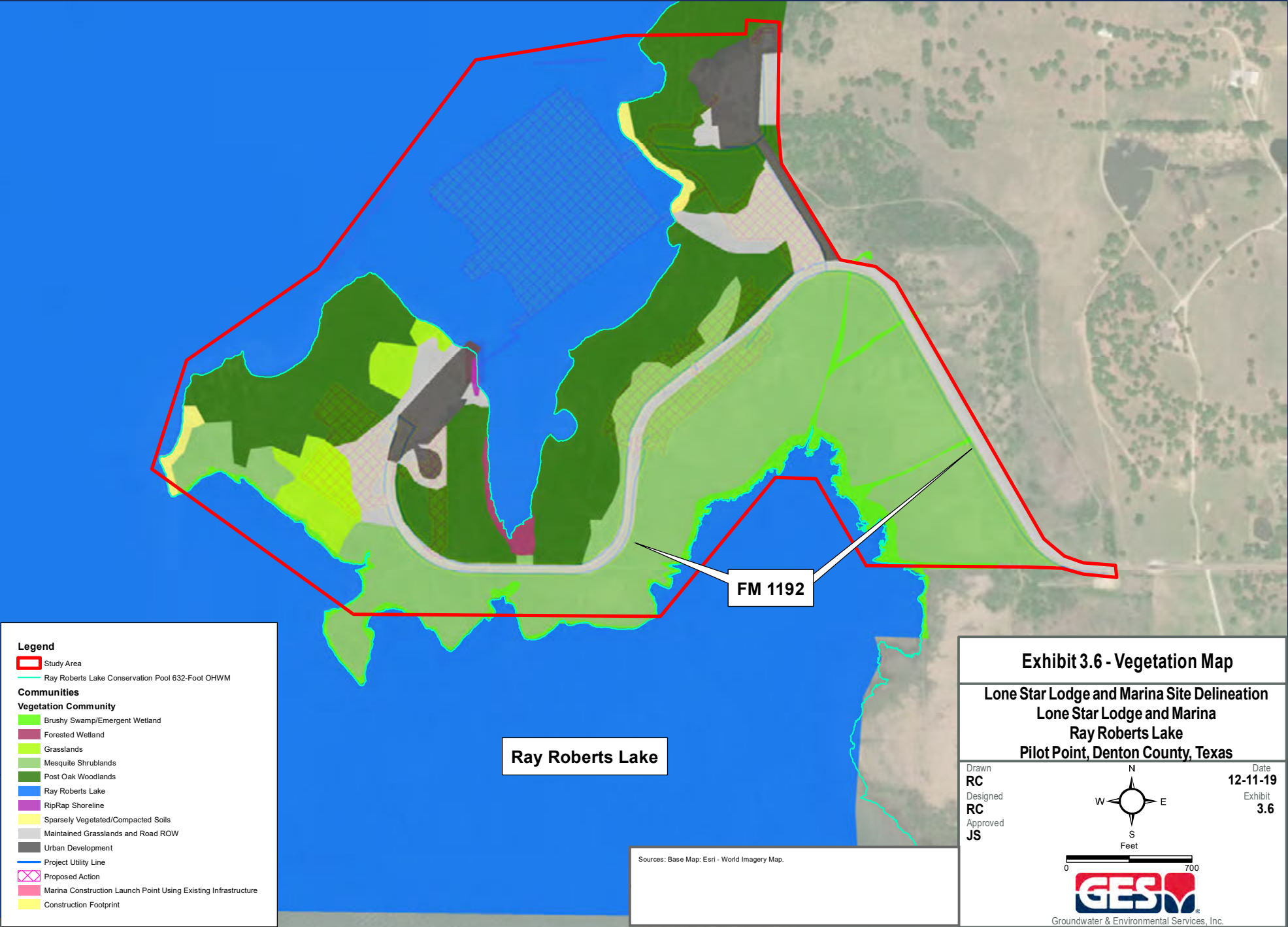




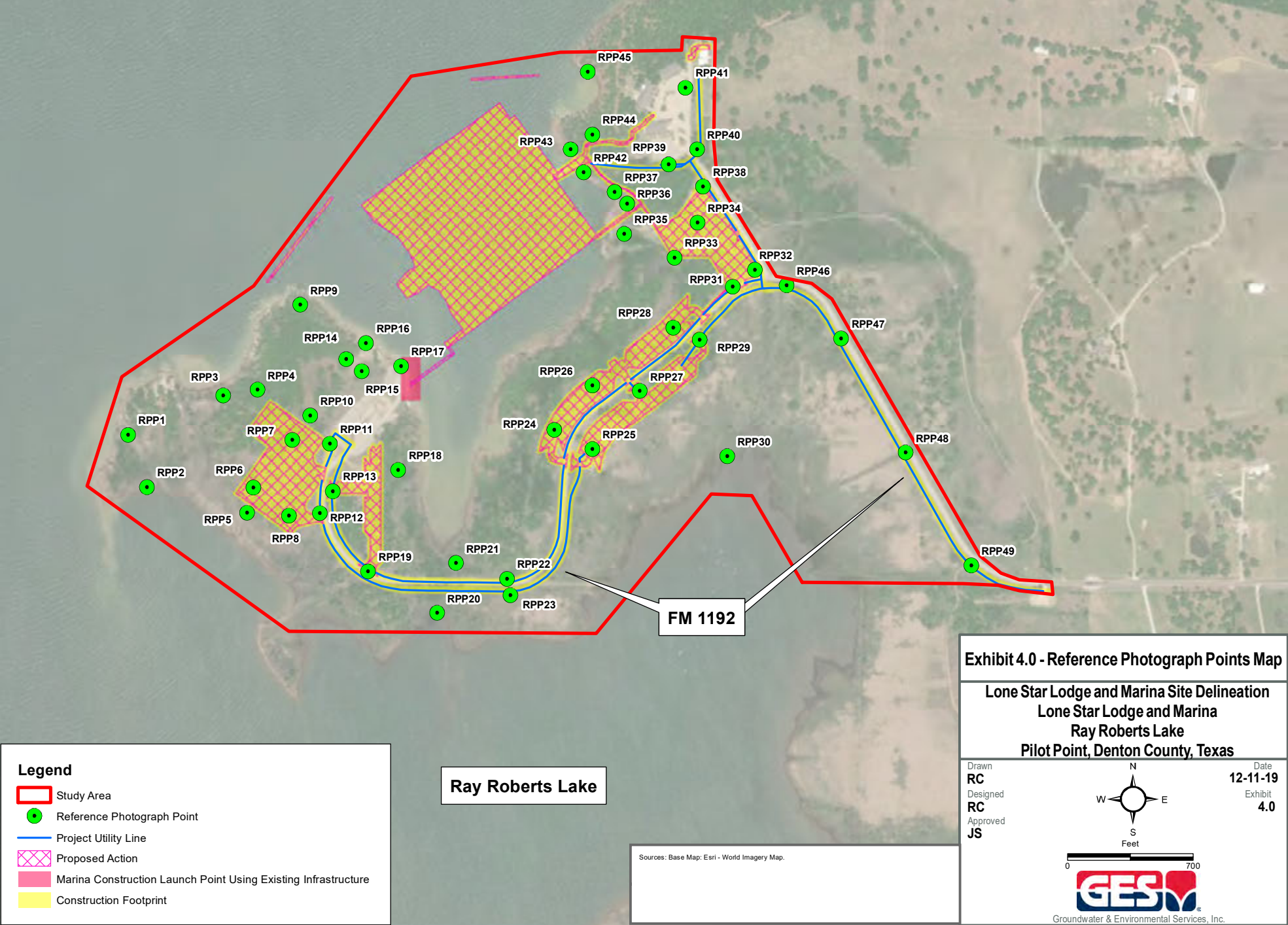








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View of sparsely vegetated/compacted soils from Reference Photograph Point 1 (RPP1) facing northwest. Groundwater & Environmental Services, Inc. (GES) site visit - February 2019.



View of sparsely vegetated/compacted soils vegetation type from RPP1 facing southeast. GES site visit - February 2019.



View of sparsely vegetated/compacted soils and post oak woodlands from RPP1 facing north. GES site visit - February 2019.



View of sparsely vegetated/compacted soils and mesquite shrublands from RPP1 facing south. GES site visit - February 2019.



View of brushy swamp/emergent wetlands from RPP2 facing east. GES site visit - February 2019.



View of brushy swamp/emergent wetlands and Ray Roberts Lake from RPP2 facing south. GES site visit - February 2019.



View of brushy swamp/emergent wetlands from RPP2 facing west. GES site visit - February 2019.



View of post oak woodlands and Ray Roberts Lake shoreline from RPP3 facing north. GES site visit - November 2018.



View of post oak woodlands and Ray Roberts Lake shoreline from RPP3 facing west. GES site visit - November 2018.



View of post oak woodlands and Ray Roberts Lake shoreline from RPP3 facing southwest. GES site visit - November 2018.



View of post oak woodlands from RPP4 facing east. GES site visit - February 2019.



View of post oak woodlands and Ray Roberts Lake shoreline from RPP4 facing southwest. GES site visit - February 2019.



View of post oak woodlands and Ray Roberts Lake from RPP4 facing northwest. GES site visit - February 2019.



View of post oak woodlands from RPP4 facing north. GES site visit - February 2019.



View of post oak woodlands from RPP4 facing southeast. GES site visit - February 2019.



View of grasslands from RPP5 facing southeast. GES site visit - February 2019.



View of grasslands from RPP5 facing southwest. GES site visit - February 2019.



View of grasslands from RPP5 facing northeast. GES site visit - February 2019.



View of grasslands from RPP6 facing south. GES site visit - February 2019.



View of grasslands from RPP6 facing east. GES site visit - February 2019.



View of post oak woodlands from RPP7 facing west. GES site visit - November 2019.



View of grasslands and post oak woodlands from RPP8 facing south. GES site visit - February 2019.



View of post oak woodlands and Ray Roberts Lake from RPP9 facing north. GES site visit - November 2019.



View of post oak woodlands from RPP9 facing south. GES site visit - February 2019.



View of post oak woodlands from RPP9 facing southeast. GES site visit - February 2019.



View of post oak woodlands from RPP10 facing southwest. GES site visit - February 2019.



View of parking lot near 2-lane boat ramp (urban development) from RPP11 facing northeast. Google Earth Pro - September 2013.



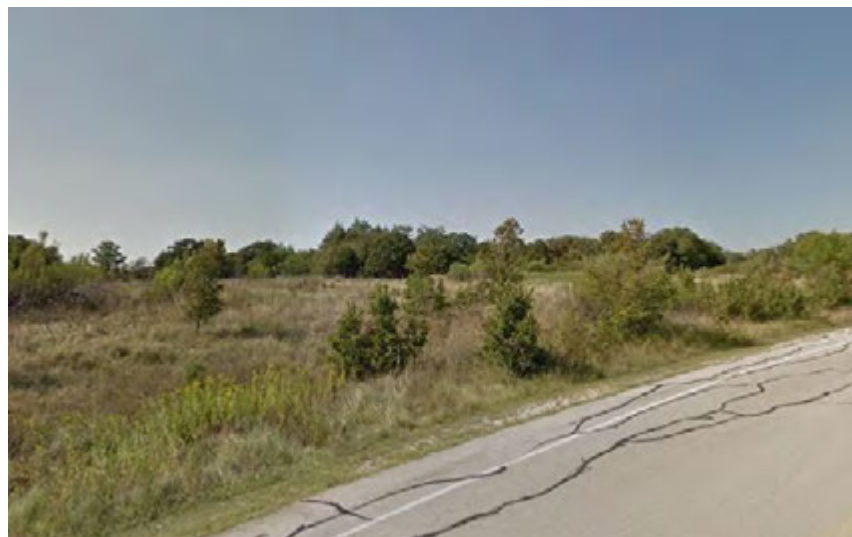
View of parking lot near 2-lane boat ramp (urban development) from RPP11 facing north. Google Earth Pro - September 2013.



View of maintained grasslands, road right-of-way (ROW) adjacent to the urban development from RPP11 facing southwest. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW adjacent to the urban development from RPP11 facing northwest. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW adjacent to the urban development from RPP12 facing northwest. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW adjacent to the urban development from RPP12 facing southwest. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW and post oak woodlands from RPP13 facing northeast. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW and post oak woodlands from RPP13 facing southeast. Google Earth Pro - September 2013.



View of post oak woodlands from RPP14 facing west. GES site visit - November 2018.



View of post oak woodlands from RPP14 facing north. GES site visit - November 2018.



View of grasslands from RPP15 facing north. GES site visit - November 2018.



View of grasslands from RPP15 facing southwest. GES site visit - November 2018.



View of grasslands from RPP15 facing west. GES site visit - November 2018.



View of Ray Roberts Lake shoreline from RPP16 facing southeast. GES site visit - February 2019.



View of Ray Roberts Lake from RPP16 facing northeast. GES site visit - February 2019.



View of Ray Roberts Lake from RPP16 facing east toward proposed marina. GES site visit - February 2019.



View of Ray Roberts Lake shoreline from RPP16 facing southeast. GES site visit - February 2019.



View of Ray Roberts Lake and boat ramp (urban development) from RPP17 facing southeast. GES site visit - November 2019.



View of Ray Roberts Lake from RPP17 facing northeast. GES site visit - November 2019.



View of maintained grasslands and riprap shoreline from RPP17 facing northwest. GES site visit - November 2019.



View of post oak woodlands from RPP18 facing north. GES site visit - November 2019.



View of post oak woodlands from RPP18 facing east. GES site visit - November 2018.



View of post oak woodlands from RPP18 facing west. GES site visit - November 2018.



View of post oak woodlands from RPP18 facing south. GES site visit - November 2018.



View of post oak woodlands, maintained grasslands and road ROW from RPP19 facing northwest. Google Earth Pro - September 2013.



View of post oak woodlands, maintained grasslands and road ROW from RPP19 facing northeast. Google Earth Pro - September 2013.



View of brushy swamp/emergent wetland from RPP20 facing north. GES site visit - February 2019.



View of Ray Roberts Lake from RPP20 facing southeast. GES site visit - February 2019.



View of Ray Roberts Lake from RPP20 facing south. GES site visit - February 2019.



View Ray Roberts Lake shoreline and brushy swamp/emergent wetland from RPP20 facing east. GES site visit - February 2019.



View of forested wetland from RPP21 facing west. GES site visit - February 2019.



View of forested wetland from RPP21 facing south. GES site visit - February 2019.



View of post oak woodlands, maintained grasslands and road ROW from RPP22 facing west. Google Earth Pro - September 2013.



View of mesquite shrublands and post oak woodlands from RPP22 facing northeast. Google Earth Pro - September 2013.



View of mesquite shrublands, maintained grasslands and road ROW from RPP23 facing west. Google Earth Pro - September 2013.



View of mesquite shrublands, maintained grasslands and road ROW from RPP23 facing east. Google Earth Pro - September 2013.



View of mesquite shrublands, maintained grasslands and road ROW from RPP24 facing southeast. GES site visit - November 2018.



View of mesquite shrublands and post oak woodlands from RPP24 facing southwest. GES site visit - November 2018.



View of mesquite shrublands, maintained grasslands and road ROW from RPP25 facing northwest. GES site visit - November 2018.



View of mesquite shrublands from RPP25 facing east. GES site visit - November 2018.



View of mesquite shrublands from RPP25 facing southeast. GES site visit - November 2018.



View of mesquite shrublands from RPP25 facing south. GES site visit - November 2018.



View of mesquite shrublands from RPP26 facing northeast. GES site visit - November 2018.



View of mesquite shrublands, maintained grasslands and road ROW from RPP27 facing northwest. GES site visit - November 2018.



View of mesquite shrublands from RPP27 facing southwest. GES site visit - November 2018.



View of mesquite shrublands from RPP27 facing southeast. GES site visit - November 2018.



View of mesquite shrublands from RPP27 facing south. GES site visit - November 2018.



View of post oak woodlands and mesquite shrublands from RPP28 facing northeast. GES site visit - November 2018.



View of mesquite shrublands from RPP29 facing southeast. Google Earth Pro - September 2013.



View of brushy swamp/emergent wetlands from RPP30 facing northwest. GES site visit - February 2019.



View of brushy swamp/emergent wetlands from RPP30 facing northeast. GES site visit - February 2019.



View of brushy swamp/emergent wetlands from RPP30 facing southeast. GES site visit - February 2019.



View of brushy swamp/emergent wetlands from RPP30 facing north. GES site visit - February 2019.



View of maintained grasslands and post oak woodlands from RPP31 facing north. Google Earth Pro - September 2013.



View of maintained grasslands from RPP32 facing west. Google Earth Pro - September 2013.



View of maintained grasslands from RPP33 facing east. GES site visit - November 2018.



View of post oak woodlands from RPP33 facing southeast. GES site visit - November 2018.



View of post oak woodlands from RPP33 facing southwest. GES site visit - November 2018.



View of maintained grasslands from RPP34 facing northeast. GES site visit - November 2018.



View of maintained grasslands from RPP34 facing southeast. GES site visit - November 2018.



View of maintained grasslands from RPP34 facing west. GES site visit - November 2018.



View mesquite shrublands and maintained grasslands from RPP35 facing east. GES site visit - November 2018.



View of post oak woodland and sparsely vegetated/compacted soils shoreline vegetation from RPP36 facing southwest. GES site visit - November 2018.



View of of post oak woodland and sparsely vegetated/compacted soils shoreline vegetation from RPP36 facing south. GES site visit - November 2018.



View of Ray Roberts Lake and sparsely vegetated/compacted soils shoreline from RPP37 facing south. GES site visit - November 2018.



View of the existing sewer system, to be abandoned, and maintained grasslands, road ROW from RPP38 facing southwest. Google Earth Pro - September 2013.



View of parking lot (urban development) and post oak woodlands from RPP39 facing southwest. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW, and post oak woodlands from RPP40 facing north. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW and the maintenance barn from RPP41 facing northeast. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW adjacent to the maintenance barn from RPP41 facing southeast. Google Earth Pro - September 2013.



View of one of the guest lodge buildings and associated parking lot (urban development) from RPP41 facing southwest. Google Earth Pro - September 2013.



View of the conference center and office parking lot (urban development) from RPP41 facing west. Google Earth Pro - September 2013.



View one of the guest lodge buildings and associated parking lot (urban development) from RPP41 facing northwest. Google Earth Pro - September 2013.



View of the courtesy dock, boat rental facility and Ray Roberts Lake and sparsely vegetated/compacted soils shoreline from RPP42 facing northwest. GES site visit - February 2019.



View of the courtesy dock, boat rental facility and Ray Roberts Lake and sparsely vegetated/compacted soils shoreline from RPP43 facing southeast. GES site visit - February 2019.



View of Ray Roberts Lake and sparsely vegetated/compacted soils shoreline from RPP43 facing northwest. GES site visit - February 2019.



View of Ray Roberts Lake from RPP43 facing west. GES site visit - February 2019.



View of Ray Roberts Lake and sparsely vegetated/compacted soils shoreline from RPP43 facing southwest. GES site visit - February 2019.



View of post oak woodlands from RPP44 facing east. GES site visit - February 2019.



View of Ray Roberts Lake's shoreline and Ray Roberts Lake from RPP45 facing northwest. GES site visit - February 2019.



View of Ray Roberts Lake's shoreline and Ray Roberts Lake from RPP45 facing southeast. GES site visit - February 2019.



View of post oak woodlands from RPP45 facing east. GES site visit - February 2019.



View of road ROW and brushy swamp/emergent wetland from RPP46 facing north. Google Earth Pro - September 2013.



View of mesquite shrublands and road ROW from RPP46 facing south. Google Earth Pro - September 2013.



View of mesquite shrublands and road ROW from RPP47 facing northeast. Google Earth Pro - September 2013.



View of mesquite shrublands from RPP47 facing southwest. Google Earth Pro - September 2013.



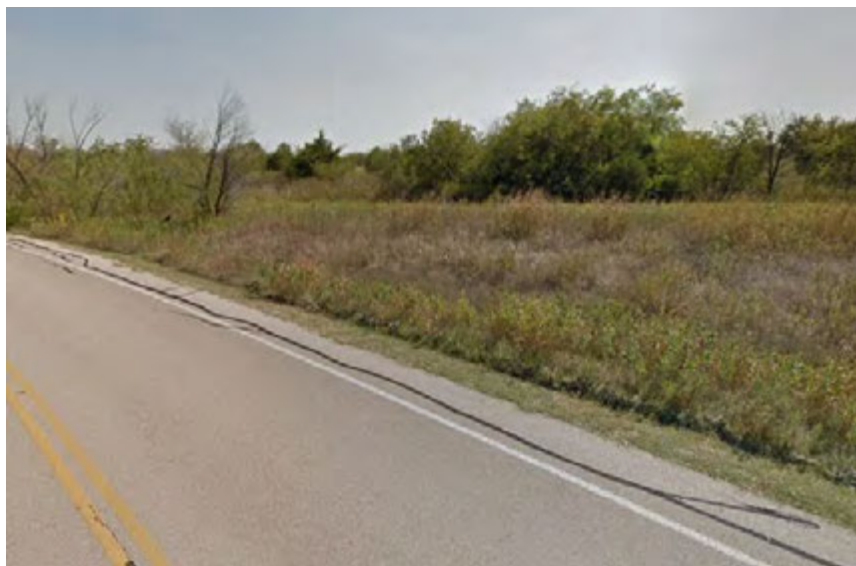
View of maintained grasslands and road ROW from RPP48 facing northwest. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW, and emergent wetland from RPP48 facing southeast. Google Earth Pro - September 2013.



View of maintained grasslands, road ROW, and emergent wetland from RPP49 facing northwest. Google Earth Pro - September 2013.



View of maintained grasslands and road ROW from RPP49 facing southeast.
Google Earth Pro - September 2013.

APPENDIX B

Marina & Boat/RV Storage Analysis



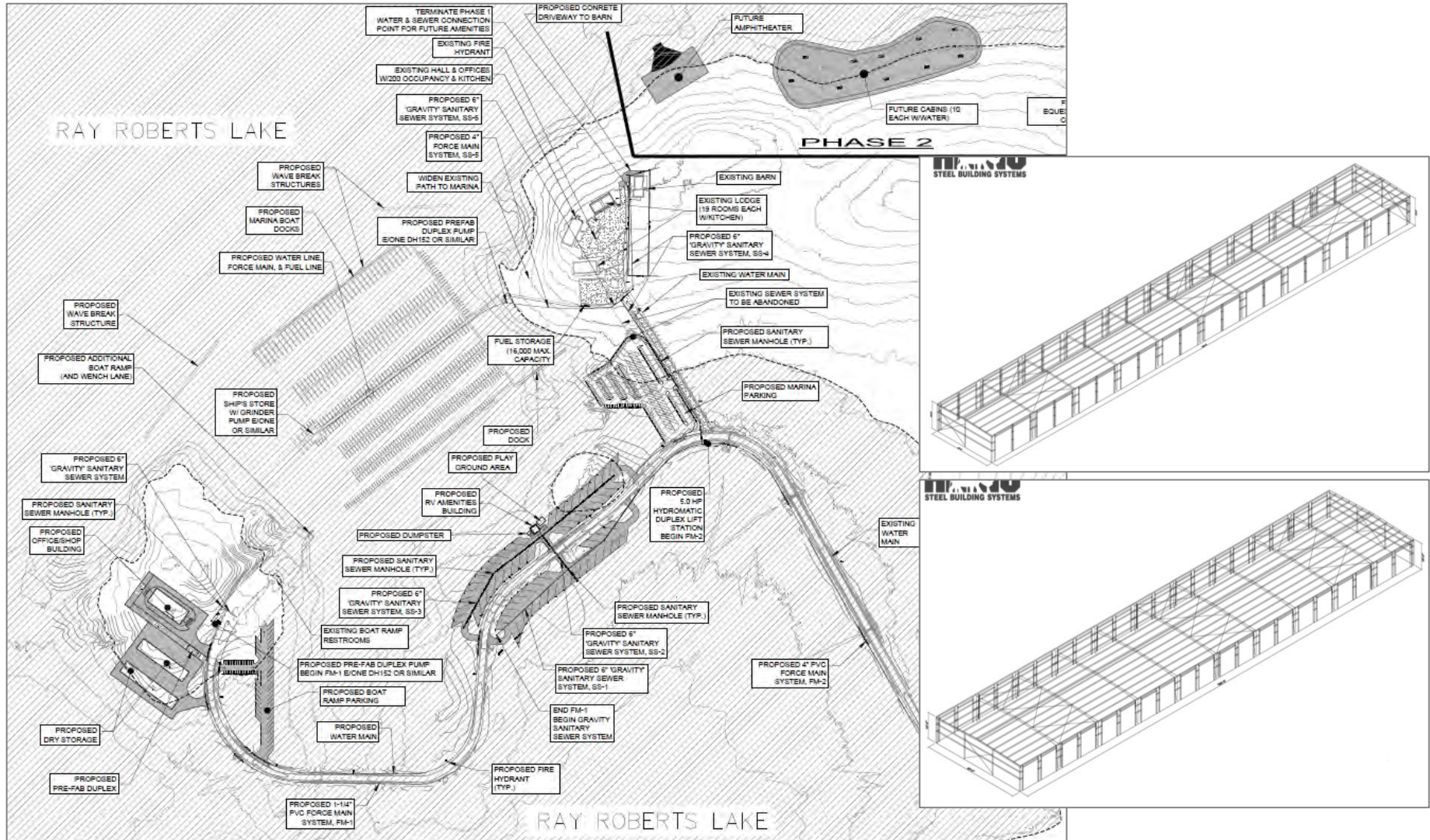
Marina & Boat/ RV Storage Analysis

Lone Star Lodge and Marina
Ray Roberts Lake, Texas
June 2019

Meyers
RESEARCH

I.	Executive Summary	4
II.	Location Analysis	8
III.	Competitive Market Positioning	16
IV.	Local Recreation Expenditures	23
V.	Economic & Demographic Overview	29
VI.	Appendix	41

Lone Star Lodge & Marina is a planned recreation-focused development on Ray Roberts Lake, north of Dallas, Texas. Specifically, the project is planned for a 500-boat slip marina consisting of 10' x 30', 15' x 60' and 18' x 80' boat slips, two dry storage buildings that can contain approximately 60 boats and 20 RVs, a boat maintenance facility as well as 80 RV camping spaces. Additional amenities planned include a convenience store and bar/grill.



Source: KJE, Rhino Steel Building Systems

I. Executive Summary

Marina & Boat/ RV Storage Analysis - Ray Roberts Lake, Texas

Based on our research, including site visits, conversations with local marina representatives, and our own supply/ demand analysis, we conclude that a 500-boat slip marina, dry boat storage, RV storage and nightly RV camping uses are supportable at Ray Roberts Lake in general and at the Lone Star Lodge & Marina Subject Site specifically. The following bullets summarize our findings that support this conclusion:

- **Population and incomes are increasing in the Dallas-Ft. Worth Core Based Statistical Area (CBSA) and Denton County specifically.** From 2010 through 2018, the number of new households added to the Dallas-Ft. Worth CBSA increased annually to peak at 59,042 new households in 2018. Growth is projected to remain relatively high going forward, with over 54,500 new households per year from 2019 through 2023 (+/- 2.0% annual growth). In Denton County, Household growth exceeded 9,000 new households in 2018, the highest growth since 2006. Similarly to the CBSA overall, household growth is expected to continue in 2019 to 2023, with 9,105 new households in 2019 (2.9% annual growth). Median incomes in the Dallas-Ft. Worth CBSA are consistently higher than the US median household income—this past year continued the trend of rising incomes with a 2.8% increase in Dallas-Fort Worth versus a 2.3% increase in the US. In Denton County, median incomes are expected to continue to increase in the 2.5% to 4.7% range annually and projected to reach over \$100,000 by 2022. This robust population growth and rising income levels bodes well for the opportunity to introduce a new boat marina facility at the Subject Site. Source: Demographer ESRI (www.esri.com).
- **The Lone Star Marina Site is proximate to high population areas and high income/ net worth areas of the Dallas-Ft. Worth CBSA.** Lone Star Marina's location is a relatively easy commute to population concentrations to the north of Dallas such as Denton, McKinney and Plano. There are several areas with projected growth rates over 5% annually that are within 30 minutes from the Site. Lone Star Marina is located within 30 minutes of areas with high incomes (\$93,000 to \$143,000) and within 60 minutes of areas with very high median incomes (\$143,000 to \$199,000), and the Site is located within 30 minutes of areas with median net worth (\$230,000 to \$373,000) and within 60 minutes of areas with very high net worth levels (\$373,000 to \$500,000). Source: Demographer ESRI (www.esri.com).
- **There is a limited supply of marina facilities nearby.** We have identified a total of 18 comparable boat marina facilities on five lakes in the Dallas-Ft. Worth CBSA. There are multiple marina facilities on each lake (typically three to five marinas per lake), with the exception of Ray Roberts Lake, with *only one existing marina on the opposite side of the lake from the Subject Site*—this lack of supply on Ray Roberts Lake bodes well for the success of Lone Star Marina. Sources: Google Maps for searching marina locations, and our own fieldwork to verify the existence of these marinas.
- **Occupancy is high at other marinas and boat/ RV storage facilities.** Comparable marinas in the Dallas-Fort Worth CBSA have high occupancy rates that range from a minimum of 85% to 100% for boat slips. Dry boat storage ranges from 90% to 100% occupancy, and RV storage ranges from 90% to 100% occupancy as well. Sources: Interviews with marina representatives and our own fieldwork.
- **Consumer spending on boat purchases, rentals, dock fees and camping total over \$300 million in the Dallas-Ft. Worth CBSA per year and are expected to increase.** The Dallas-Ft. Worth CBSA residents spent an estimated \$3.193 billion on all recreation activities in 2018 (\$1,191 per household). The categories that are relevant for Lone Star Marina (boat payments, camping fees, RV rentals, and dock fees) combine for a total of \$305 million in annual spending (\$113 per household). In Denton County, residents spent an estimated \$432 million on all recreation activities in 2018 (\$1,421 per household). The categories that are relevant for Lone Star Marina (boat payments, camping fees, RV rentals, and dock fees) combine for a total of \$41 million in annual spending (\$134 per household). Recreation spending is expected to increase in terms of both population growth and rising incomes and ultimately supports a new marina at the Subject location (see the following pages). Source: Demographer ESRI (www.esri.com).
- **A 50 year lease is reasonable for a marina facility.** Lone Star Marina is planning a 50 year lease term with a marina operator. This long term lease term is typical for a use such as a marina. Sources: Interviews with marina representatives.

HOUSEHOLD AND INCOME GROWTH INDICATES GROWING DEMAND FOR PROPOSED USES

Executive Summary

Population, households and income are growing in Dallas-Fort Worth, Denton County and a local 10-mile radius to indicate growing demand for the boat slips, boat/ RV storage, and RV campsites planned at Lone Star Marina. The table shown here details the population and income growth rates as well as boat and RV spending for the Dallas-Ft. Worth CBSA (excluding Denton County so as to not “double count”), Denton County (excluding a 10-mile radius so as to not “double count”), and the 10-mile radius surrounding the Site. Combined, residents are currently spending \$305 million annually on boat and RV purchases, Storage and Camping annually—this spending is expected to increase to \$374 million annually by 2023. The key categories that are relevant for Lone Star Marina are the Docking & Landing Fees and Camp Fees (in green)--this spending is at \$128 million per year currently expected to increase to \$157 million annually by 2023. See the following page for demand capture and revenue estimates for Lone Star Marina based on this growth.

	Dallas - Ft. Worth, TX (Excluding Denton County)				Denton County (Excluding 10-Mile Radius)				10-Mile Radius			
	2018	2023	5 Yr. Ch.	Annual Ch.	2018	2023	5 Yr. Ch.	Annual Ch.	2018	2023	5 Yr. Ch.	Annual Ch.
Population	6,667,108	7,267,707	600,599	120,120	825,141	953,498	128,357	25,671	23,788	26,583	2,795	559
Households	2,376,867	2,580,735	203,868	40,774	295,526	340,385	44,859	8,972	8,664	9,676	1,012	202
Per Capita Income	\$33,110	\$36,827	\$3,717	\$743	\$38,521	\$42,484	\$3,963	\$793	\$31,323	\$35,545	\$4,222	\$844
HH Income	\$64,460	\$72,373	\$7,913	\$1,583	\$81,357	\$88,875	\$7,518	\$1,504	\$66,121	\$75,351	\$9,230	\$1,846
Payments on Boats/Trailers/Campers/RVs	\$101,279,166	\$123,866,330	\$22,587,164	\$4,517,433	\$14,466,328	\$18,184,060	\$3,717,732	\$743,546	\$472,705	\$596,059	\$123,354	\$24,671
Payments on Boats/Trailers/Campers/RVs (Per Capita)	\$43.35	\$48.67	\$5.32	\$1.06	\$49.11	\$53.65	\$4.54	\$0.91	\$54.06	\$61.60	\$7.55	\$1.51
Rental of RVs or Boats	\$52,722,537	\$64,474,357	\$11,751,820	\$2,350,364	\$8,083,187	\$10,158,535	\$2,075,348	\$415,070	\$178,936	\$227,701	\$48,765	\$9,753
Rental of RVs or Boats (Per Capita)	\$22.75	\$25.54	\$2.79	\$0.56	\$27.16	\$29.67	\$2.51	\$0.50	\$20.65	\$23.53	\$2.88	\$0.58
Docking & Landing Fees for Boats & Planes	\$28,351,679	\$34,663,678	\$6,311,999	\$1,262,400	\$4,410,150	\$5,521,811	\$1,111,661	\$222,332	\$106,530	\$135,628	\$29,098	\$5,820
Docking & Landing Fees for Boats & Planes (Per Capita)	\$12.26	\$13.77	\$1.51	\$0.30	\$14.85	\$16.22	\$1.37	\$0.27	\$12.30	\$14.02	\$1.72	\$0.34
Camp Fees	\$81,919,062	\$100,137,052	\$18,217,990	\$3,643,598	\$13,291,763	\$16,249,370	\$2,957,607	\$591,521	\$280,511	\$357,044	\$76,533	\$15,307
Camp Fees (Per Capita)	\$35.51	\$39.87	\$4.36	\$0.87	\$43.70	\$47.74	\$4.04	\$0.81	\$32.38	\$36.90	\$4.52	\$0.90
TOTAL SPENDING	\$264,272,444	\$323,141,418	\$58,868,974	\$11,773,795	\$40,251,428	\$50,113,777	\$9,862,349	\$1,972,470	\$1,038,682	\$1,316,433	\$277,751	\$55,550
TOTAL SPENDING (PER CAPITA)	\$113.87	\$127.85	\$13.98	\$2.80	\$134.82	\$147.28	\$12.46	\$2.49	\$119.39	\$136.05	\$16.67	\$3.33

Source: ESRI, Meyers Research

DEMAND SUPPORTS REVENUES THAT EQUATE TO MARKET RATE BOAT AND RV STORAGE LEASE RATES

Executive Summary

There is sufficient demand in the Dallas-Ft. Worth CBSA, Denton County, and the local area to support expected revenues and market rate lease rates for the boat slips, boat/ RV storage, and RV campsites planned at Lone Star Marina. By applying reasonable capture rates to various uses, by geography, and by resident tenure (existing residents vs. new residents), we estimate that the Lone Star Marina can reasonably capture \$2.235 million in annual revenues from boat slips and boat/ RV storage, and \$445,000 in annual revenues from RV camping. These revenues equate to a monthly boat and RV slip/ storage revenue of \$391.31 and a nightly RV camping fee of \$40.65, and are consistent with supportable market rate rents for boat slips, boat/ RV storage, and RV camping spaces (see “Competitive Market Positioning” section).

Under “normal” circumstances where there is ample supply of competitive boat slips in a variety of different lakes and marina facilities, one could assume a lower demand capture—a “fair share” capture of 19 marinas (18 existing plus Lone Star) equates to only 5.26% capture per marina. But that would assume that all 19 marinas are fully vacant, of similar quality/reputation and lease up at the same time, which is not the case. Because occupancy is relatively high (85%-100%) at existing marinas, households that wish to rent a boat slip have very little choice but to locate at a new marina if the opportunity existed. Especially if an existing marina was fully occupied for a certain boat slip size or the very desirable covered boat slips (98%-100% were occupied at nearby Ray Roberts Marina at the time of our report). Thus a more aggressive absorption estimate is warranted. Further, the 50% capture of future residents in a 10-mile radius is logical considering those that choose to reside close to Ray Roberts Lake are prioritizing that location and that lake over other lakes, and would likely want to have their boat close to their home.

Household Capture & Revenues At Stabilization	Dallas - Ft. Worth, TX (Excl. Denton County)	Denton County (Excl. 10-Mile Radius)	10-Mile Radius	TOTAL
Dock & Landing Capture % Existing Households	2.5%	25.0%	30.0%	
Dock & Landing Capture % Future Households	25.0%	33.0%	50.0%	
Camp Fees Capture % Existing Households	0.33%	1.0%	5.0%	
Camp Fees Capture % Future Households	0.50%	1.5%	5.0%	
Dock & Landing Capture \$ Existing Households	\$708,792	\$1,102,538	\$31,959	\$1,843,288
Dock & Landing Capture \$ Future Households	\$315,600	\$73,370	\$2,910	\$391,879
Dock & Landing TOTAL	\$1,024,392	\$1,175,907	\$34,869	\$2,235,168
Camp Fees Capture \$ Existing Households	\$270,333	\$132,918	\$14,026	\$417,276
Camp Fees Capture \$ Future Households	\$18,218	\$8,873	\$765	\$27,856
Camp Fees TOTAL	\$288,551	\$141,790	\$14,791	\$445,132
LSM - Total Boat Slips, Boat Storage	560	560	560	
LSM - Total RV Camping/ Storage Spaces	100	100	100	
LSM Boat Slips, Boat Storage @ 85% Occ.	476	476	476	
LSM RV Camping/ Storage Spaces @ 30% Occ.	30	30	30	
Lone Star Marina - Annual Rev. Per Occ. Boat Slip	\$2,152	\$2,470	\$73	\$4,696
Lone Star Marina - Annual Rev Per Occ. RV Space	\$9,618	\$4,726	\$493	\$14,838
Lone Star Marina - Monthly Rev. Per Occ. Boat Slip	\$179.34	\$205.87	\$6.10	\$391.31
Lone Star Marina - Nightly Rev. Per Occ. RV Space	\$26.35	\$12.95	\$1.35	\$40.65

Source: ESRI, Meyers Research

II. Location Analysis

Marina & Boat/ RV Storage Analysis - Ray Roberts Lake, Texas

METHODOLOGY AND OBJECTIVES: This purpose of the Location Analysis is to show the location of the Subject Site relative to other areas of the Dallas-Ft. Worth CBSA in a series of map exhibits. These include a radius map and a drive-time map, to illustrate the distance from the Site to other notable areas of the CBSA.

DATA SOURCE:

ESRI - <https://www.esri.com/>

EXPLANATION AS TO THE INFORMATION THAT THESE SOURCES YIELDED:

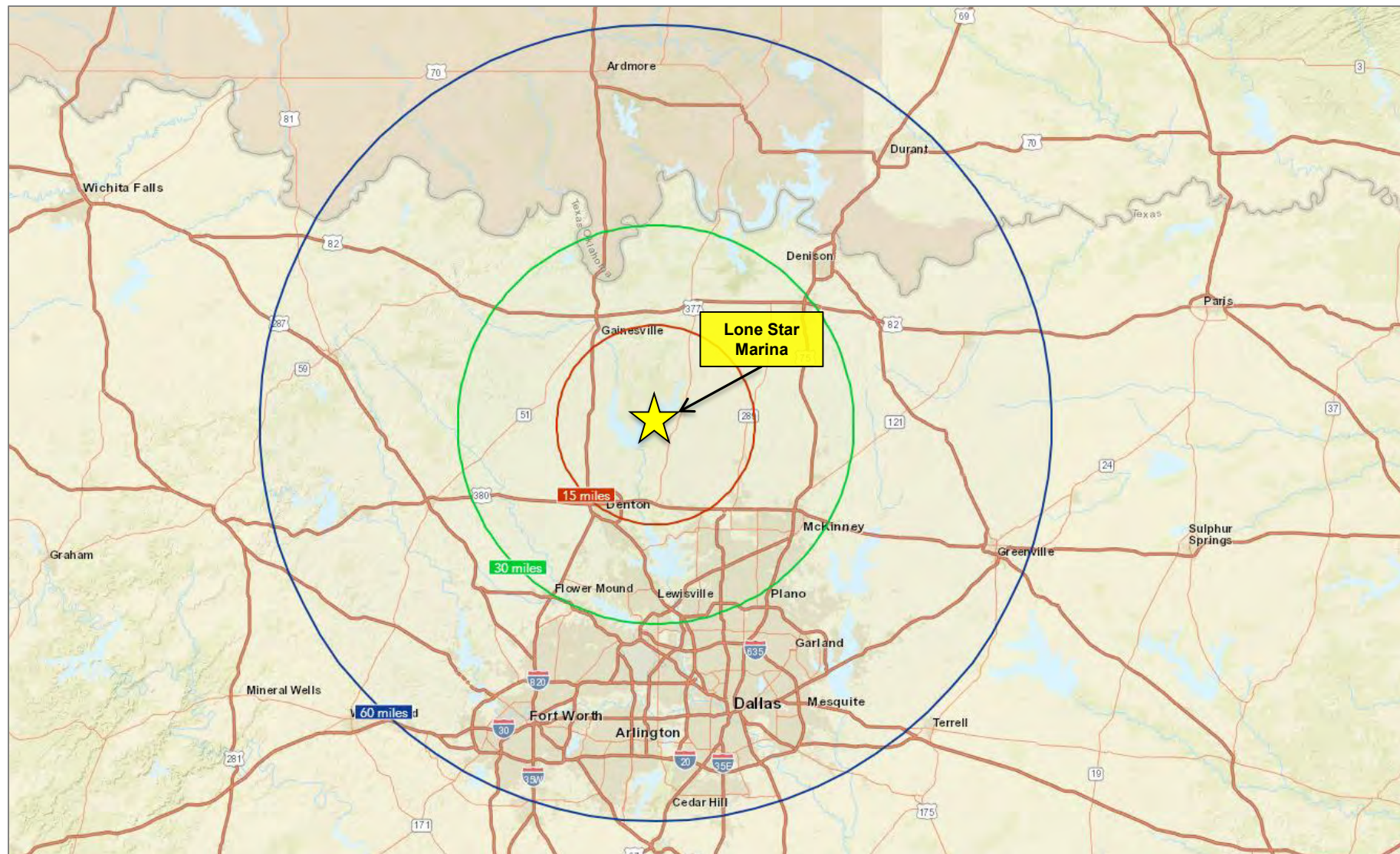
The population concentration map is a heat map with various shaded colors to show the areas with high population concentrations and low population concentrations, and the drive time overlay is included on this map.

Similarly, a population growth rate heat map is included that shows areas with high growth rate projections and low growth rate projections (2018 to 2023). The drive time overlay is included on this map.

The median household income heat map is included to show areas with high and low median incomes. This is important to consider for an analysis such as a boat marina and RV market study, since boats and RVs are typically purchased by higher income households and proximity to these households will benefit the proposed project.

The median net worth heat map is included to show areas with high and low levels of median net worth, or the value of all household assets. This is important to consider for an analysis such as a boat marina and RV market study, since boats and RVs are typically purchased by higher net worth households and proximity to these households will benefit the proposed project.

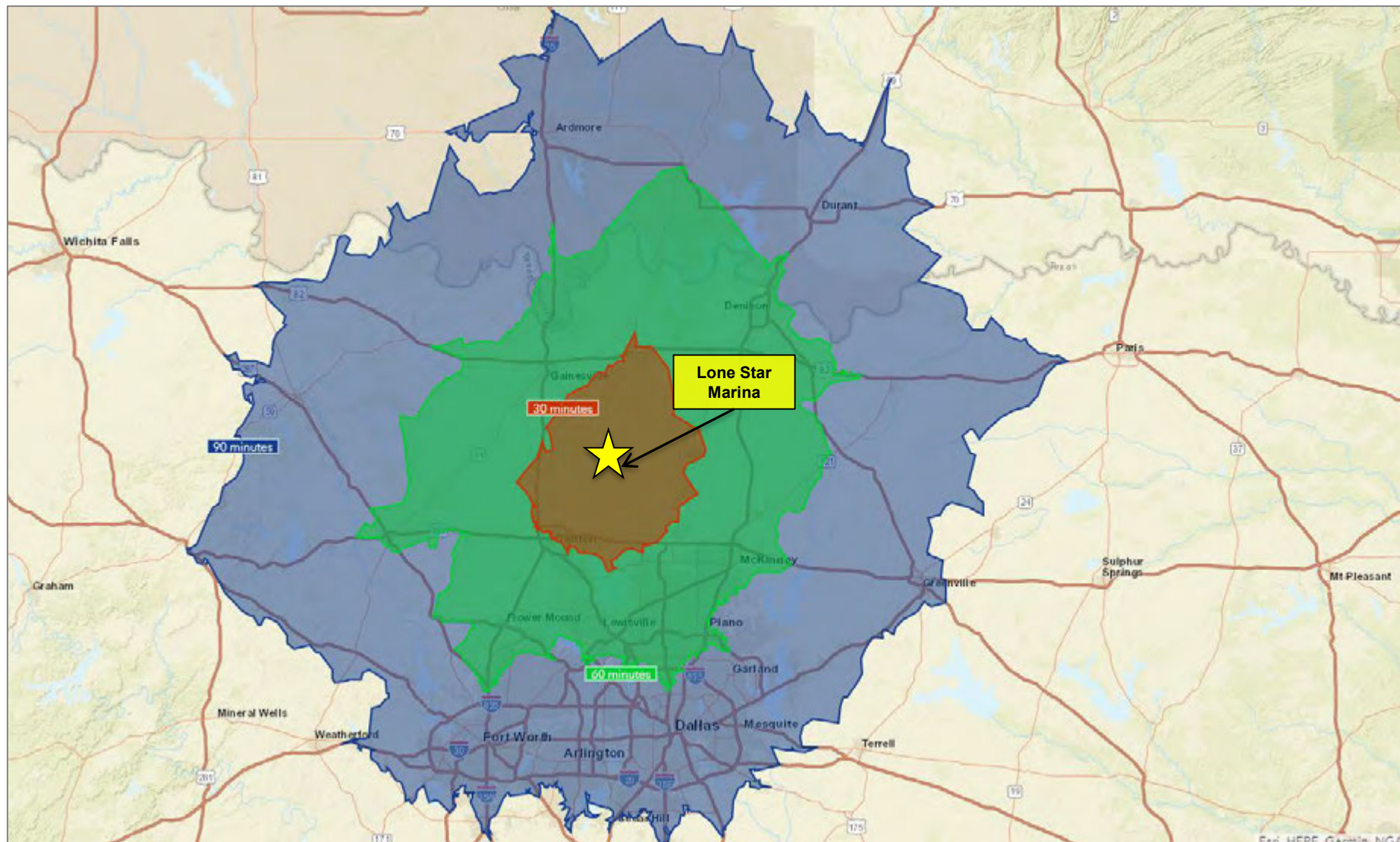
Lone Star Marina is located in Pilot Point, proximate to northern suburbs such as Denton, McKinney and Plano. These cities are within 30 miles from the Lone Star Marina Site, and most of the Dallas-Ft. Worth CBSA is within a 60 mile radius from the Site.



AREA COMMUTE TIMES

Location Overview

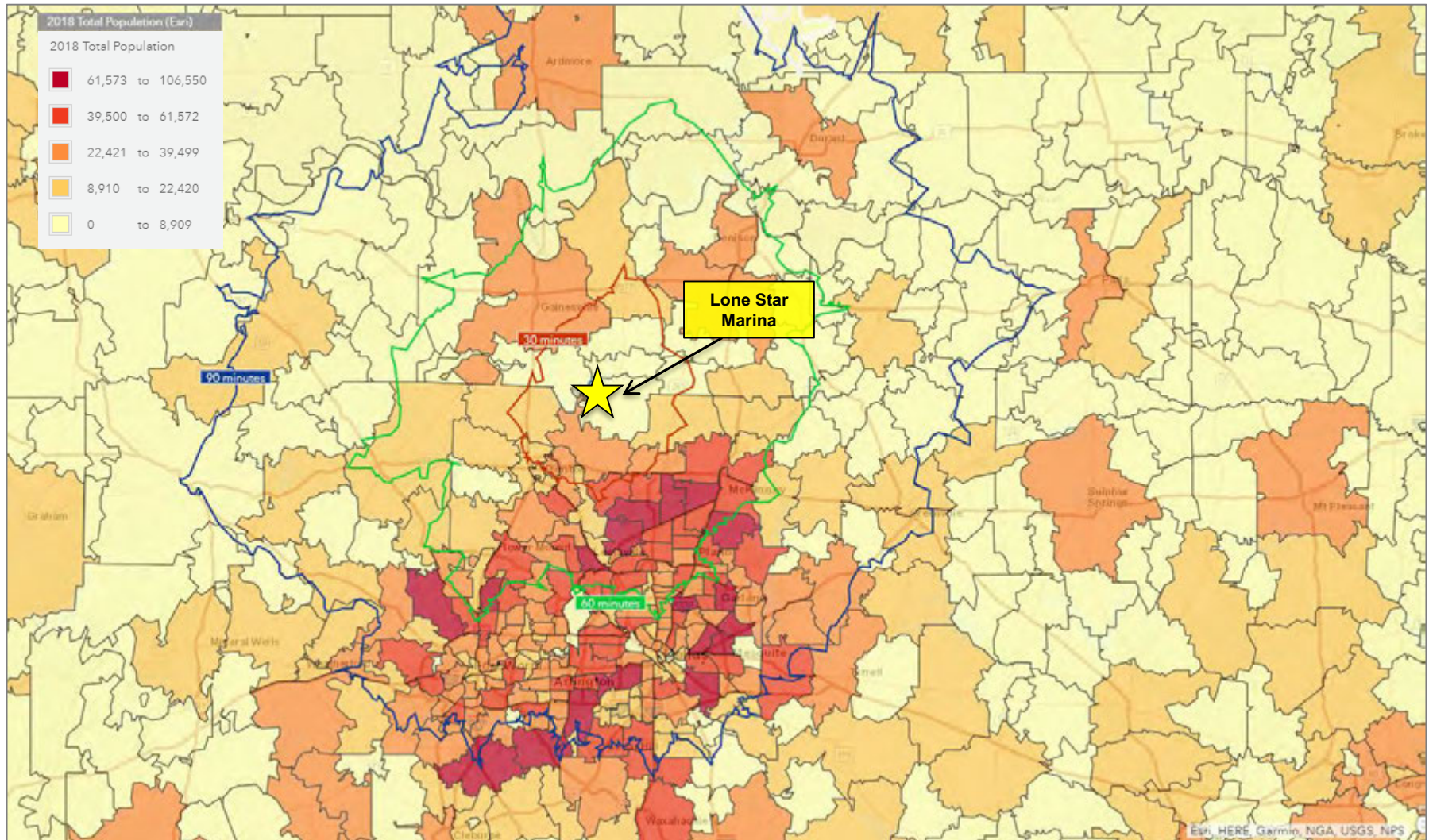
Lone Star Marina is within a 30 minute drive from Denton and within 60 minutes to northern suburbs such as Flower Mound, Lewisville, and McKinney. Most of the Dallas-Ft. Worth CBSA is within a 90 minute drive from the Site.



POPULATION CONCENTRAIONS

Location Overview

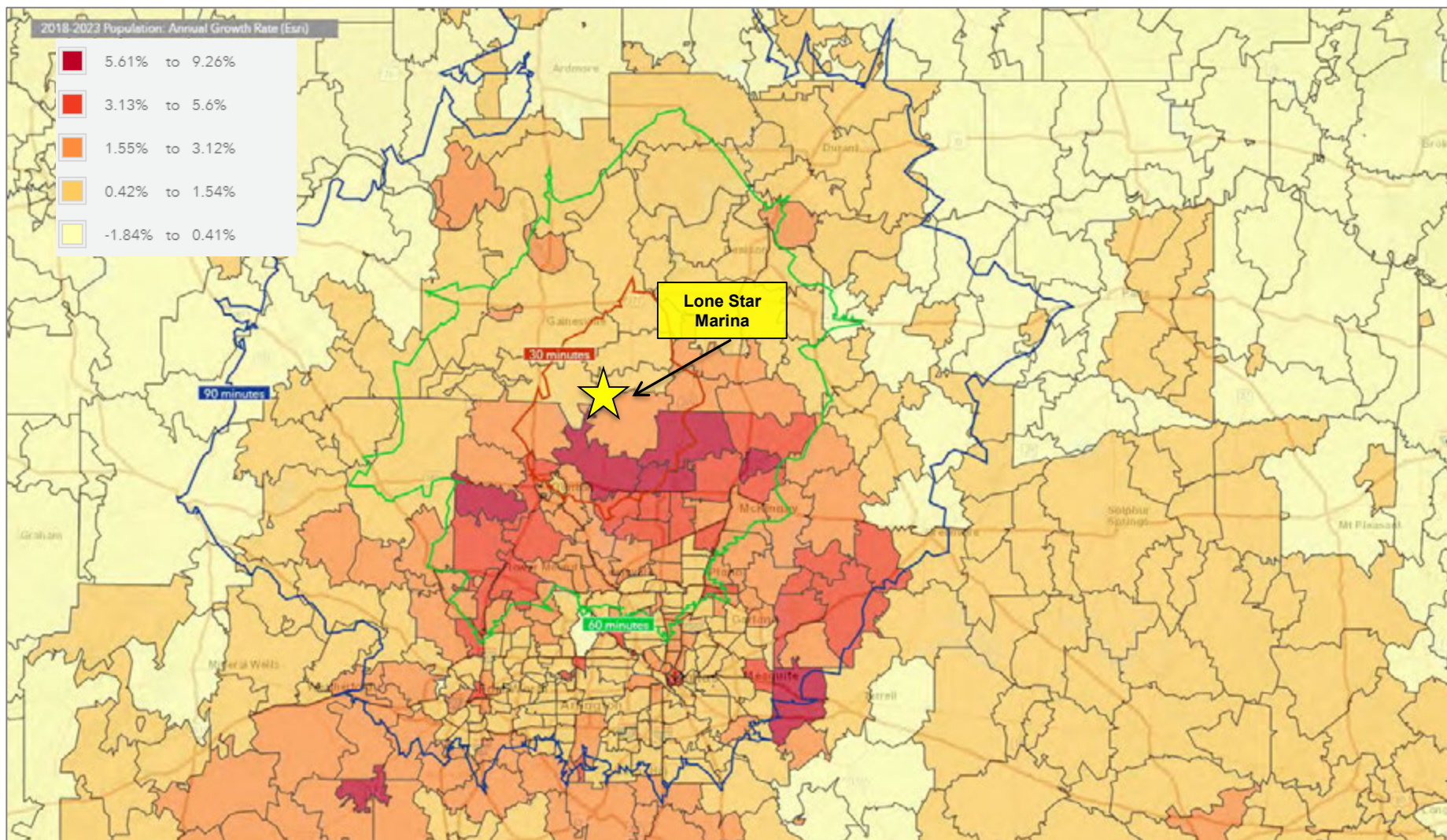
While Lone Star **Marina's** location is a significant drive to areas south of Dallas, it is a relatively easy commute to other high population concentrations to the north of Dallas. The dark red on the map below indicates zip codes with population levels over 60,000+, many within 30 to 60 minutes from the site. The proximity to population concentrations north of Dallas-Ft. Worth will enable Lone Star Marina to capture boat owners who want a relatively short distance to a marina facility.



POPULATION GROWTH RATE

Location Overview

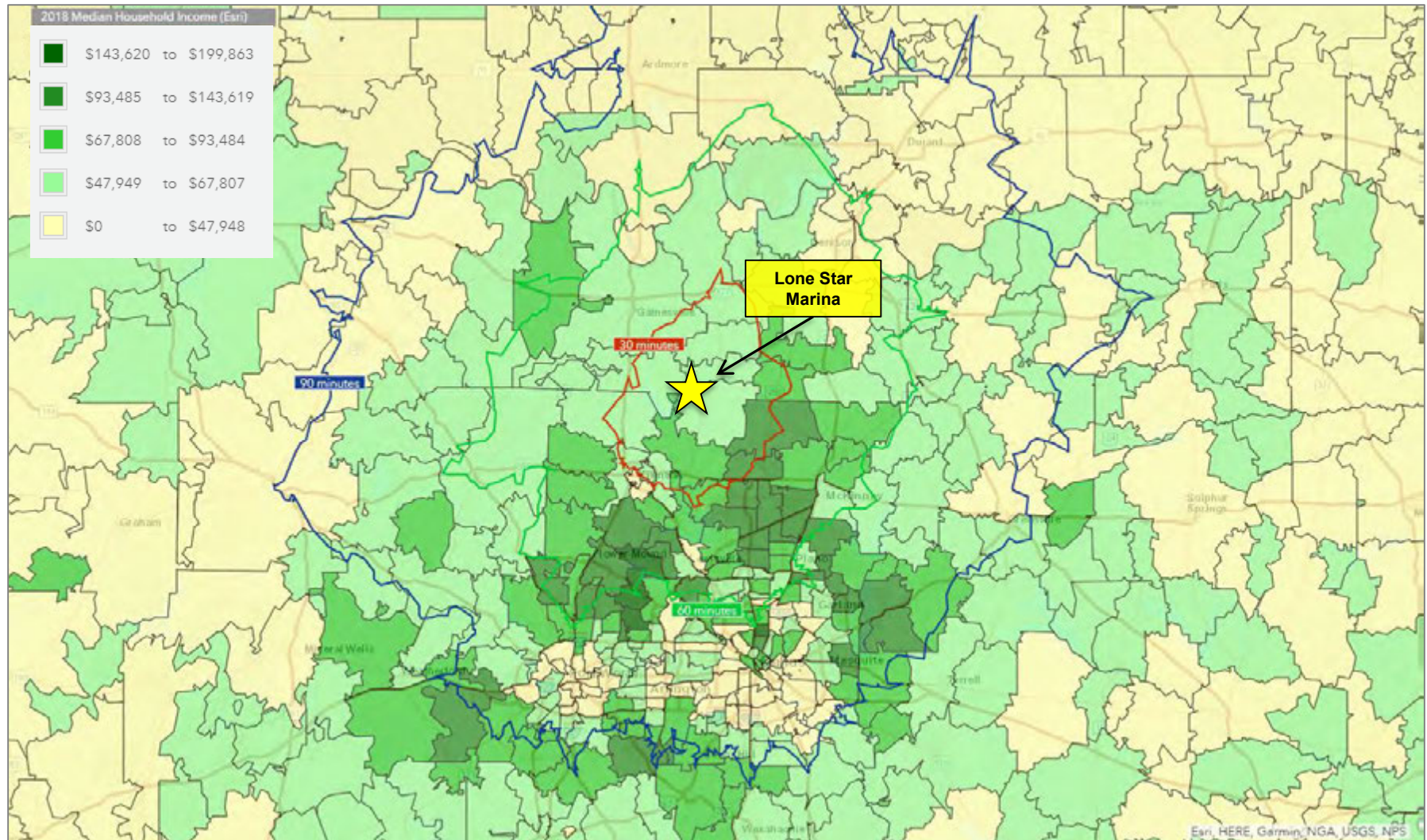
Lone Star Marina is close to high growth areas of the Dallas-Ft. Worth CBSA. The dark red on the map below indicates areas with projected growth rates over 5% annually, many within 30 minutes from the site. The proximity to high growth areas will allow Lone Star Marina to capture existing residents as well as new residents who demand a boat marina that is proximate to their residence.



HOUSEHOLD INCOME HEAT MAP

Location Overview

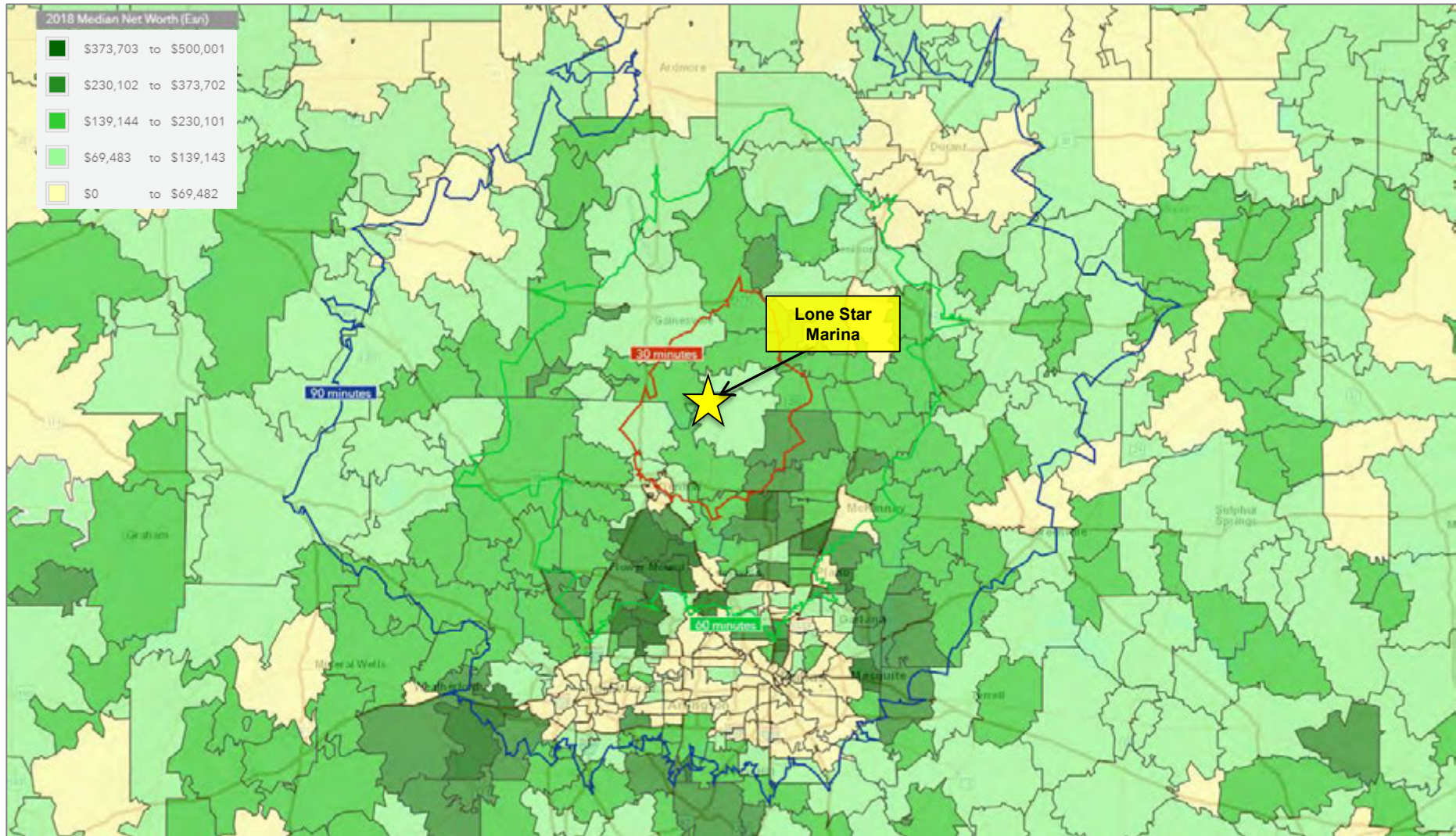
Lone Star **Marina's** location is proximate to high income areas of Dallas-Ft. Worth. This map illustrates 2018 median income by zip code in the greater Dallas-Ft. Worth CBSA area. Higher income areas (darker green) are located mostly on the north side of Dallas-Ft. Worth. Lone Star Marina is located within 30 minutes of areas with high incomes (\$93,000 to \$143,000) and within 60 minutes of areas with very high median incomes (\$143,000 to \$199,000).



NET WORTH HEAT MAP

Location Overview

Similarly, household net worth levels around the Lone Star Marina site are high. This map illustrates 2018 average net worth by zip code in the regional area. High net worth households are concentrated in the areas north of Dallas-Ft. Worth, which offer higher paying jobs and move-up housing. Lone Star Marina is located within 30 minutes of areas with median net worth (\$230,000 to \$373,000) and within 60 minutes of areas with very high net worth levels (\$373,000 to \$500,000).



III. Competitive Market Positioning

Marina & Boat/ RV Storage Analysis - Ray Roberts Lake, Texas

METHODOLOGY AND OBJECTIVES: This purpose of the Competitive Market Positioning section is to show the lease rates of competitive boat marinas and RV facilities relative to our recommended lease rates for the Subject Project. Each positioning chart includes the boat slip length or RV length on the X-axis and the monthly/ nightly lease rates on the Y-axis. Each competitor is shown with a series of plot points and a line connecting these points; competitors are color coded according to the lake they are located on.

EXPLANATION AS TO THE INFORMATION THAT THESE SOURCES YIELDED:

This section first includes a location map to show the location of the Subject relative to its competitors.

The boat slip rental rate exhibit compares our recommended lease rates for boat slips of various lengths with the monthly lease rates for boat slips at various competitors.

Similarly, the dry boat storage exhibit compares our recommended lease rates for dry storage for boats of various lengths with the monthly lease rates for dry boat storage at various competitors.

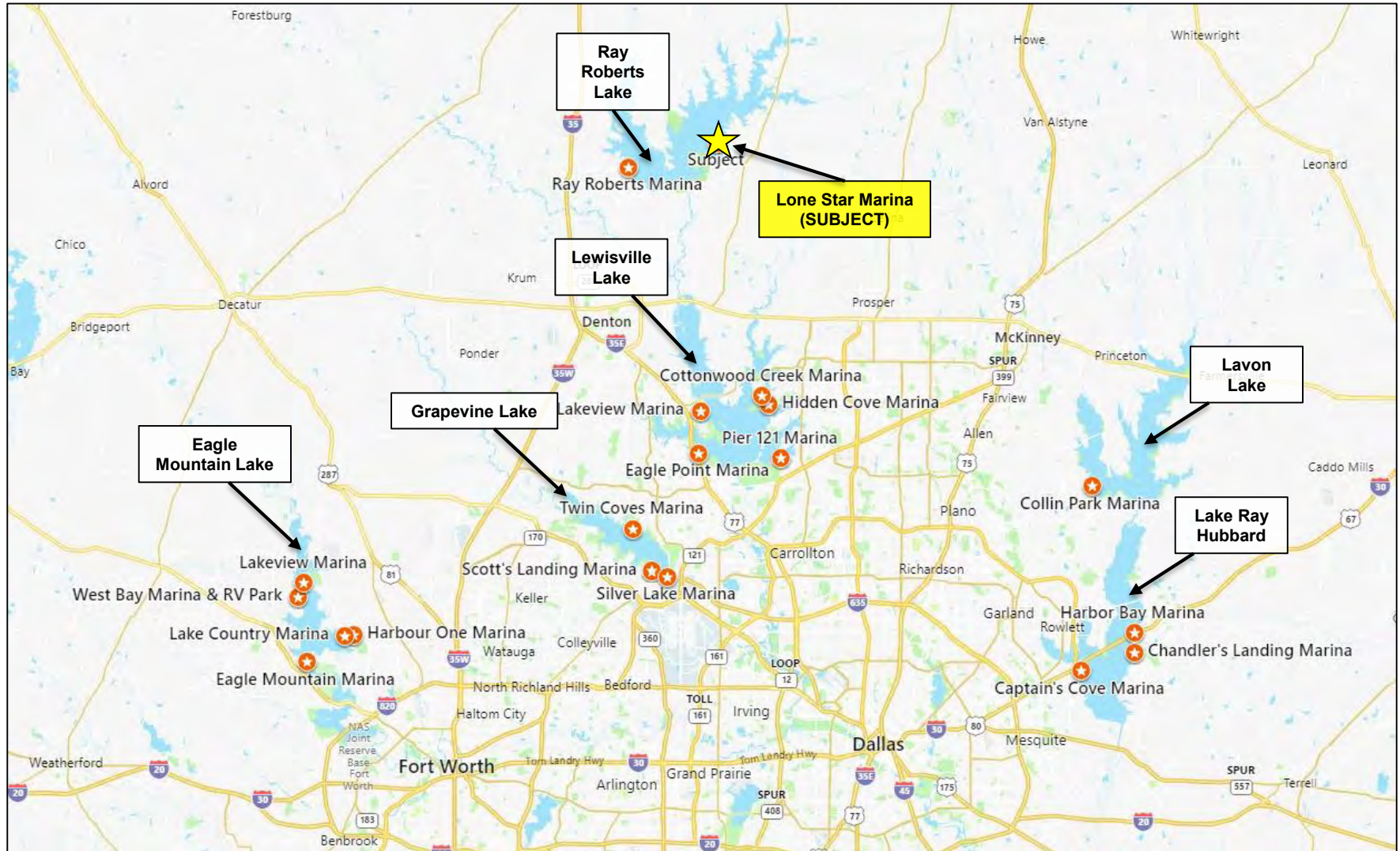
The RV storage exhibit compares our recommended lease rates for RV storage at the Subject with the monthly lease rates for RV storage at various competitors.

Similarly the RV nightly camping exhibit compares our recommended lease rates for RV camping at the Subject with the nightly lease rates for RV camping at various competitors.

DATA SOURCES:

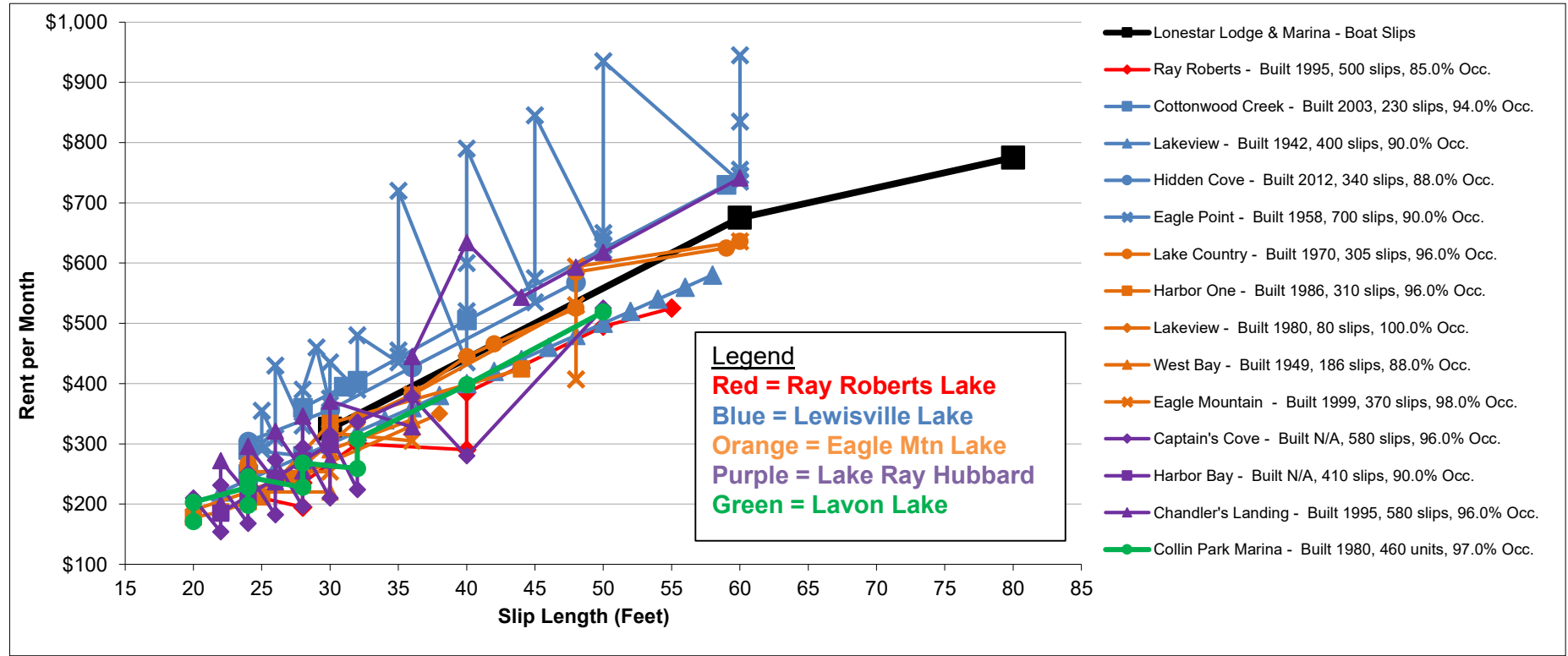
1. Meyers Research LLC - <http://www.meyersresearchllc.com/>
2. Various marina websites and management representatives including:
 - a) www.rayrobertsmarina.com
 - b) www.cottonwoodcreekmarina.com
 - c) www.ldbc-lakeview.com
 - d) www.hiddencovepark.net/marina
 - e) www.eaglepointmarina.com
 - f) www.pier121marina.com
 - g) www.twincovesmarina.com
 - h) www.silverlakemarina.com
 - i) www.scottslandingmarina.com
 - j) www.eaglemountain1.wpengine.com/lake-country-about
 - k) www.lakerayhubbardmarinas.com/slips (Captains Cove Marina)
 - l) www.lake-ray-hubbard.com/harbor-bay-marina
 - m) www.lakerayhubbardmarinas.com/annual-slips (Chandler's Landing Marina)
 - n) www.collinpark.com

We have identified a total of 18 comparable boat marina facilities on five lakes in the Dallas-Ft. Worth CBSA. There are multiple marina facilities on each lake, with the exception of Lavon Lake and Ray Roberts Lake, which has only one existing marina on the opposite side of the lake from the Subject Site—this lack of supply on Ray Roberts Lake bodes well for the success of Lone Star Marina.



Source: CartoDB

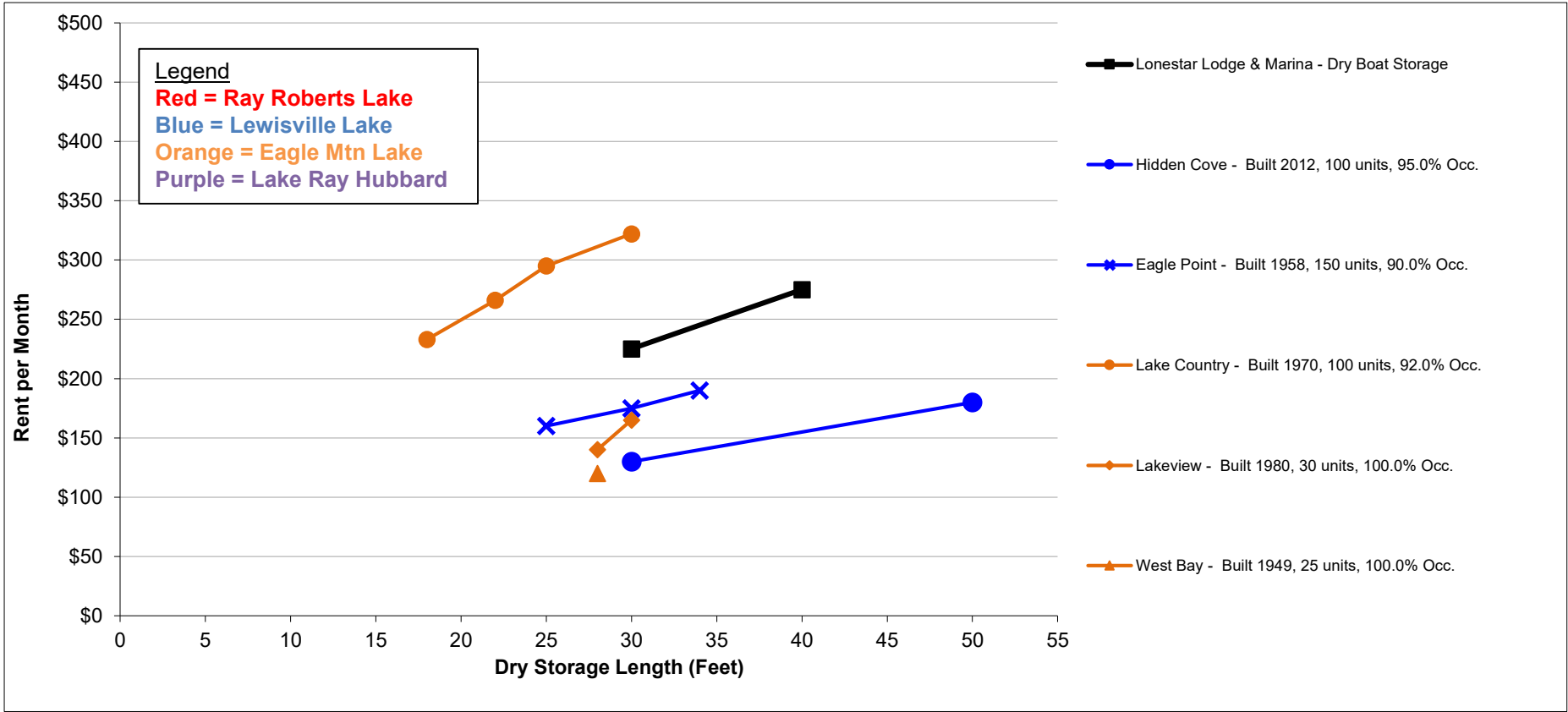
This positioning chart compares our suggested boat slip rental rates with the competitive market. Our suggested boat slip lease rates are generally in the middle of the market, lower than most marina facilities at Lewisville Lake (located closer to high income Dallas suburbs) but higher than Eagle Mountain Lake marinas to the northwest of Fort Worth and Lake Ray Hubbard marinas to the Northeast of Dallas. Note: Ray Roberts Marina is estimated at 85% occupancy, but most of the empty slips were uncovered slips (typically for sailboats), while the covered power boat slips were 98%-100% occupied.



COMMUNITY SPECIFICS				RECOMMENDATIONS							
Subject Property Name				Est. Mix	Size Dimensions	Size SF	Monthly Rent (Low)		Est. Avg. Premium	Monthly Rent (High)	
Location							Rent	\$/SF		Rent	\$/SF
Product Details		Lease Summary									
	Lonestar Lodge & Marina - Boat Slips			400	30x10	30	\$325	\$10.83	\$0	\$325	\$10.83
	Lake Ray Roberts			60	60x15	60	\$675	\$11.25	\$0	\$675	\$11.25
	Product:	Slips	Total Units: 500	40	80x18	80	\$775	\$9.69	\$0	\$775	\$9.69
	Year Built:	2020	Current Occupancy %: 0.0%								
			Stabilized Occ. %: 85.0%								
Summary Statistics:				500		38	\$403	\$10.79	\$0	\$403	\$10.79

Source: Various marina websites and management representatives.

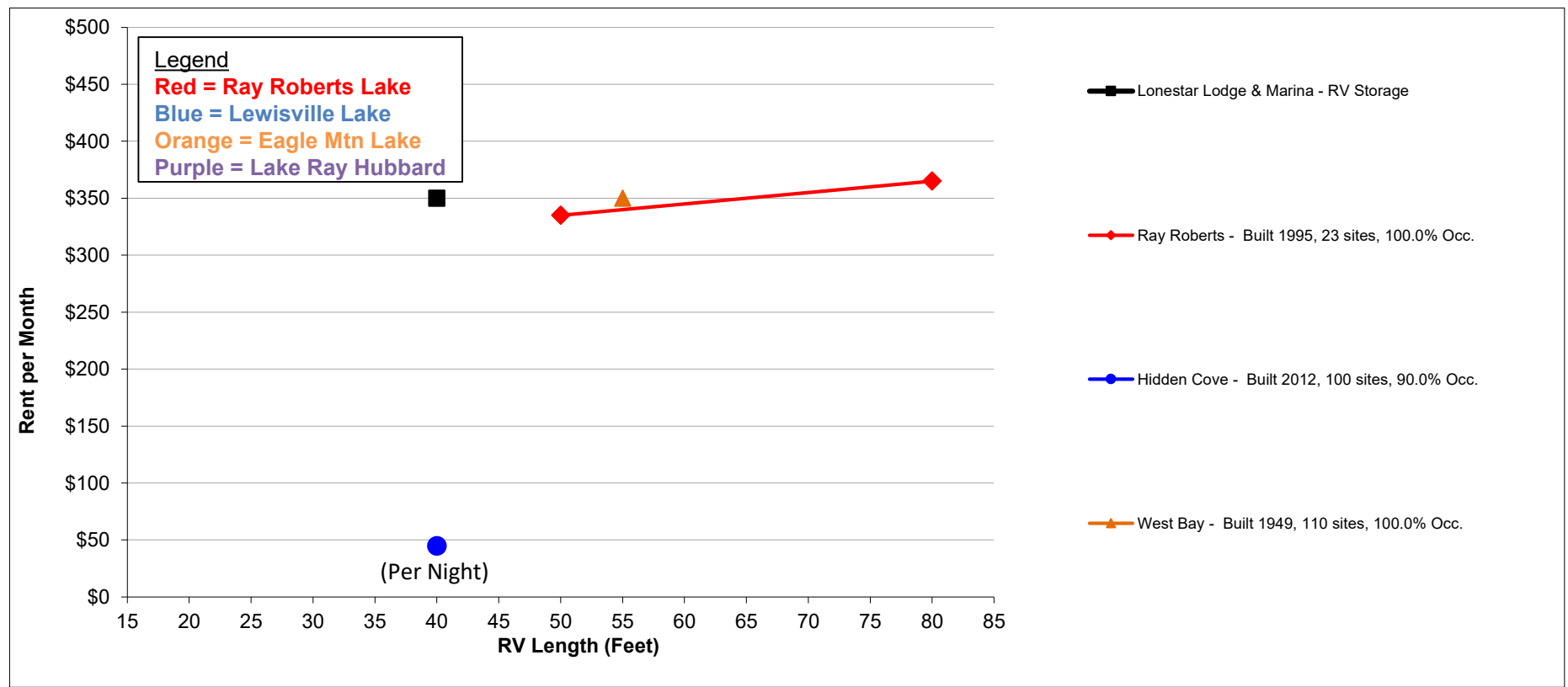
This positioning chart compares our suggested dry boat storage rates with the competitive market. Our suggested lease rates are generally in the middle of the market.



COMMUNITY SPECIFICS				RECOMMENDATIONS							
Subject Property Name					Size	Size	Monthly Rent (Low)		Est. Avg.	Monthly Rent (High)	
Location							FT	Rent		\$/SF	Premium
Product Details		Lease Summary		Mix	Dimensions						
Lonestar Lodge & Marina - Dry Boat Storage Lake Ray Roberts Product: Dry Storage Total Units: 80 Year Built: 2020 Current Occupancy %: 0.0% Stabilized Occ. %: 90.0%				30	30x10	30	\$225	\$7.50	\$0	\$225	\$7.50
				30	40x10	40	\$275	\$6.88	\$0	\$275	\$6.88
Summary Statistics:				60		35	\$263	\$7.19	\$0	\$263	\$7.19

Source: Various marina websites and management representatives.

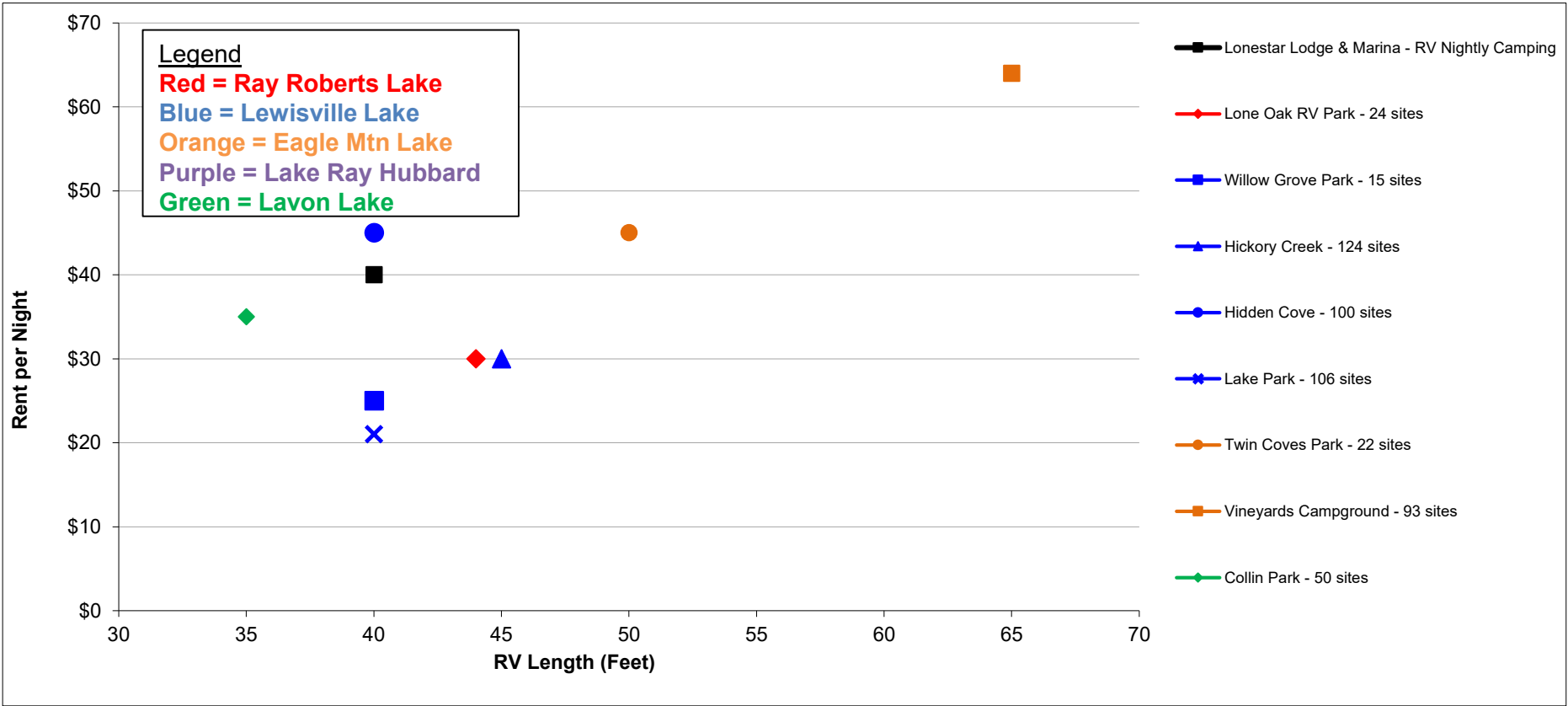
This positioning chart compares our suggested RV storage rates with the competitive market. Our suggested lease rates are generally near the top of the market, but consistent with lease rates for RVs at Ray Roberts Lake. It is reasonable to be aggressive with lease rates for RV spaces since 1) the number of RV storage spaces planned for Lone Star Marina is limited at only 20 spaces, and 2) competitive RV storage facilities are at 90% to 100% occupancy.



COMMUNITY SPECIFICS				RECOMMENDATIONS							
Subject Property Name					Size	Size	Monthly Rent (Low)		Est. Avg.	Monthly Rent (High)	
Location							FT	Rent		\$/SF	Premium
Product Details		Lease Summary		Mix	Dimensions						
<div>Lonestar Lodge & Marina - RV Storage</div> <div>Lake Ray Roberts</div> <div>Product: RV Total Units: 20</div> <div>Year Built: 2020 Current Occupancy %: 0.0%</div> <div>Stabilized Occ. %: 95.0%</div>				20	40x10	40	\$350	\$8.75	\$0	\$350	\$8.75
Summary Statistics:				20		40	\$350	\$8.75	\$0	\$350	\$8.75

Source: Various marina websites and management representatives.

This positioning chart compares our suggested RV nightly camping rates with the competitive market. Our suggested lease rates are generally near the top of the market, but consistent with nightly lease rates for RVs at other lake facilities.



COMMUNITY SPECIFICS				RECOMMENDATIONS												
Subject Property Name				Mix	Size Dimensions	Size SF	Nightly Rent (Low)		Est. Avg. Premium	Nightly Rent (High)		Rent Concessions				
Location							Rent	\$/SF		Rent	\$/SF	Direct	Indirect	Total		
Product Details		Lease Summary														
Lonestar Lodge & Marina - RV Nightly Camping Lake Ray Roberts				80	40x10	40	\$40	\$1.00	\$0	\$40	\$1.00	\$40	\$0	\$40		
				Product:	RV	Total Units:	80									
				Year Built:	2020	Current Occupancy %:	0.0%									
						Stabilized Occ. %:	30.0%									
Summary Statistics:				80		40	\$40	\$1.00	\$0	\$40	\$1.00	\$40	\$0	\$40		

Source: Various marina websites and management representatives.

IV. Local Recreation Expenditures

Marina & Boat/ RV Storage Analysis - Ray Roberts Lake, Texas

METHODOLOGY AND OBJECTIVES: This purpose of the Local Recreation Expenditures section is to highlight the amount of money that residents are spending on a variety of recreation-related goods and services annually. This section includes three charts as described above for three geographic areas: the Dallas-Ft. Worth CBSA, Denton County, and a 10-Mile radius surrounding the Site. The boat payments, camping fees, RV rentals, and dock fees annual spending amounts are highlighted on each page.

DATA SOURCES:

1. ESRI - <https://www.esri.com/>

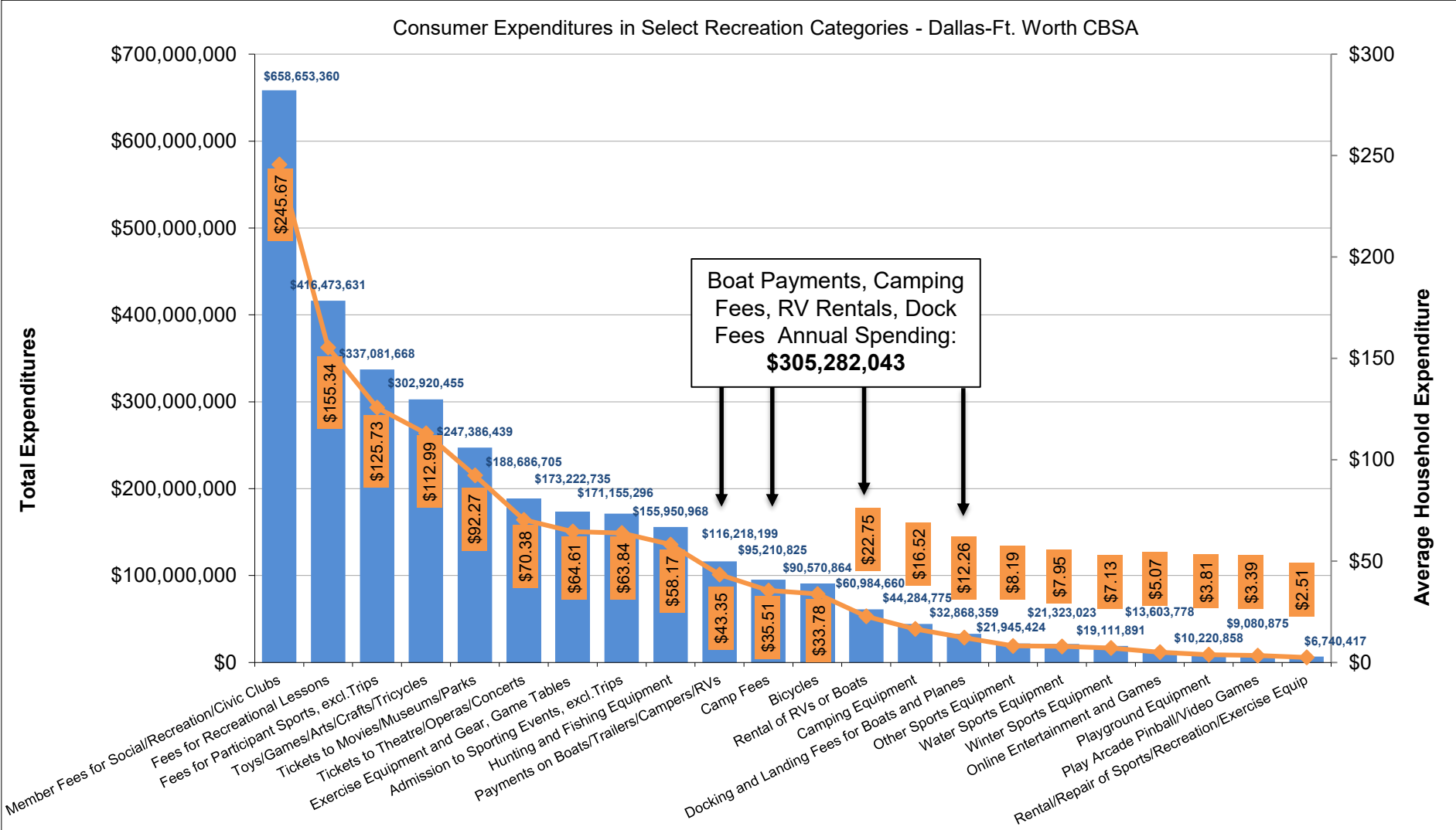
EXPLANATION AS TO THE INFORMATION THAT THESE SOURCES YIELDED:

This purpose of the Local Recreation Expenditures section is to highlight the amount of money that residents are spending on a variety of recreation-related goods and services annually. These expenditures are shown in a series of bar and line charts, with the bars depicting total spending by all residents, and the lines on each chart depicting the average amount spent per household. It is important to note that this average amount spent per household is the total spending per category divided by all households in a given area, regardless if they participate in that activity or not.

CONSUMER EXPENDITURES IN SELECT RECREATION CATEGORIES (DALLAS - FT. WORTH)

Local Recreation Expenditures

The Dallas-Ft. Worth CBSA residents spent an estimated \$3.193 billion on all recreation activities in 2018 (\$1,191 per household). Membership fees for clubs were the largest expenditure categories, followed by fees for recreational lessons and fees for participant sports. The categories that are relevant for Lone Star Marina (boat payments, camping fees, RV rentals, and dock fees) combine for a total of \$305 million in annual spending (\$113 per household).

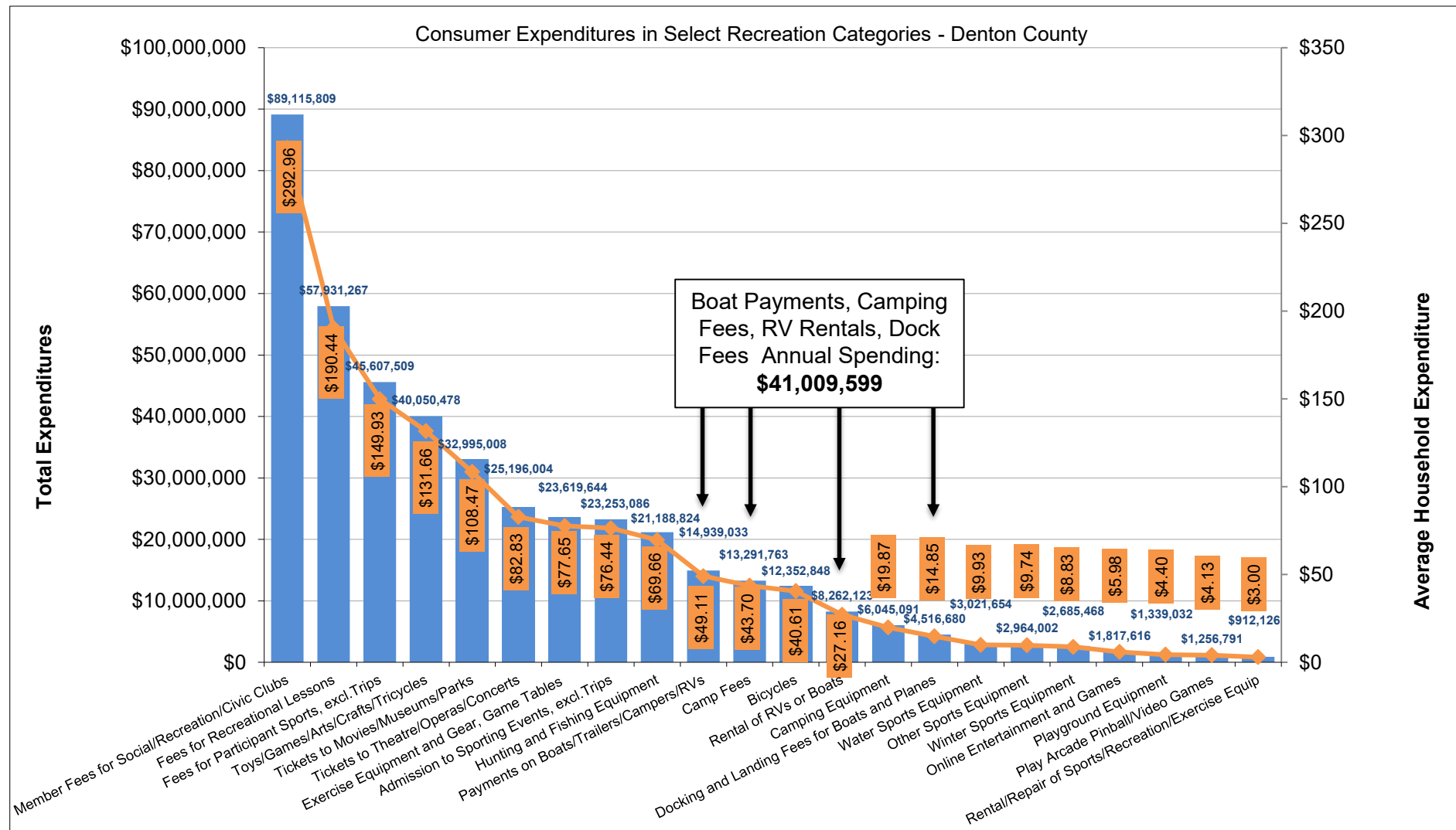


Source: ESRI; Meyers Research

CONSUMER EXPENDITURES IN SELECT RECREATION CATEGORIES (DENTON COUNTY)

Local Recreation Expenditures

Denton County residents spent an estimated \$432 million on all recreation activities in 2018 (\$1,421 per household). Membership fees for clubs were the largest expenditure categories, followed by fees for recreational lessons and fees for participant sports. The categories that are relevant for Lone Star Marina (boat payments, camping fees, RV rentals, and dock fees) combine for a total of \$41 million in annual spending (\$134 per household).

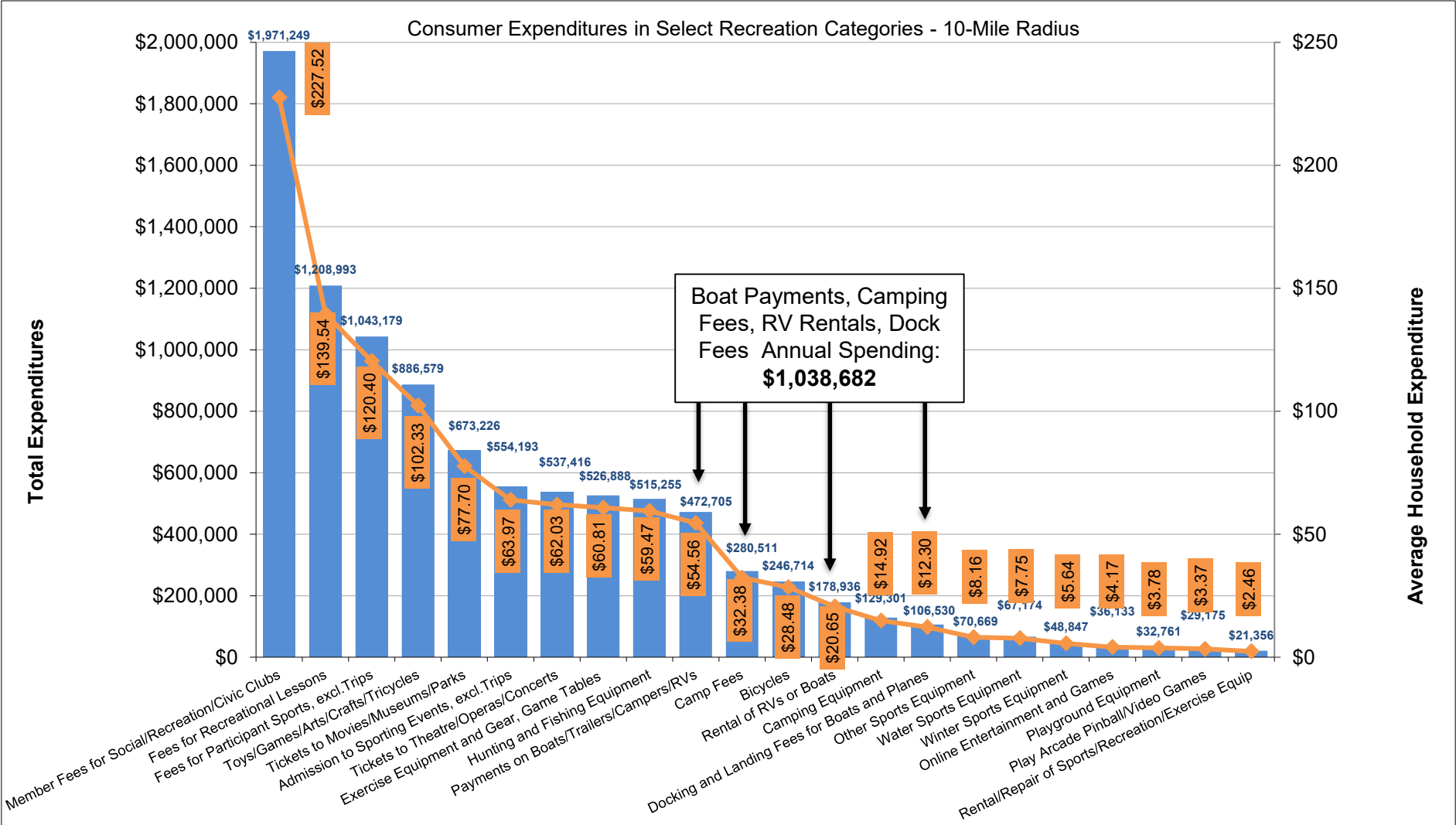


Source: ESRI; Meyers Research

CONSUMER EXPENDITURES IN SELECT RECREATION CATEGORIES (10-MILE RADIUS)

Local Recreation Expenditures

The residents of the 10-mile radius spent an estimated \$9.637 million on all recreation activities in 2018 (\$1,112 per household). Membership fees for clubs were the largest expenditure categories, followed by fees for recreational lessons and fees for participant sports. The categories that are relevant for Lone Star Marina (boat payments, camping fees, RV rentals, and dock fees) combine for a total of \$1.038 million in annual spending (\$119 per household).



Source: ESRI; Meyers Research

V. Economic & Demographic Overview

Marina & Boat/ RV Storage Analysis - Ray Roberts Lake, Texas

METHODOLOGY AND OBJECTIVES: This purpose of the Economic & Demographic Overview section is to show annual trends and growth projections for a number of economic and demographic indicators. This section includes charts as described above for three geographic areas: the Dallas-Ft. Worth CBSA, Denton County, and a 10-Mile radius surrounding the Site.

DATA SOURCES:

1. Current Employment Statistics - <https://www.bls.gov/ces/>
2. ESRI - <https://www.esri.com/>
3. Meyers Research LLC - <http://www.meyersresearchllc.com/>
4. Moody's Analytics - <https://www.moodyanalytics.com/>
5. US Bureau of Labor Statistics - <https://www.bls.gov/>
6. US Census Bureau - <https://www.census.gov/>

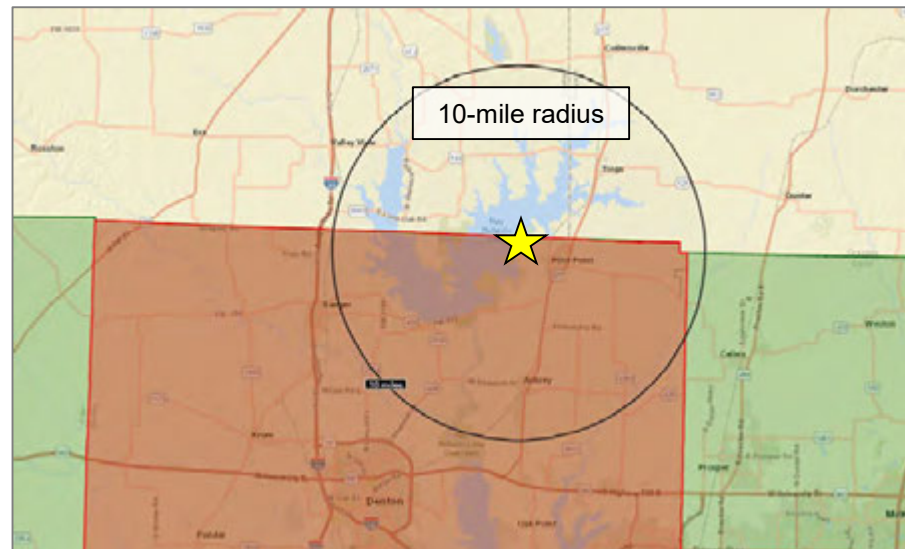
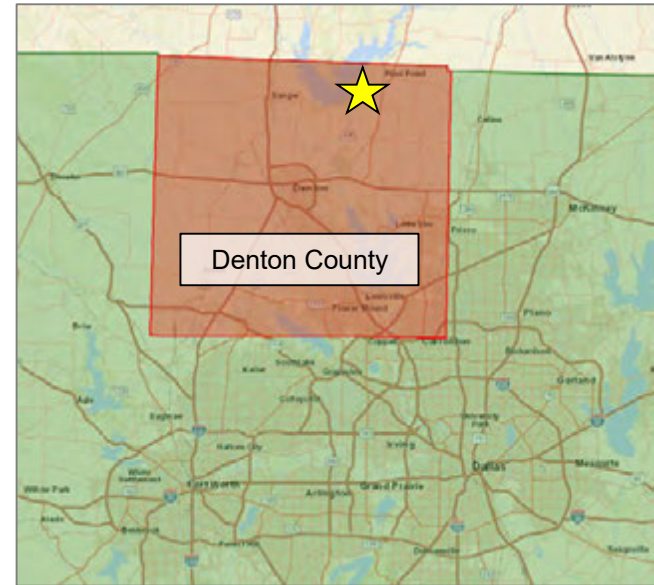
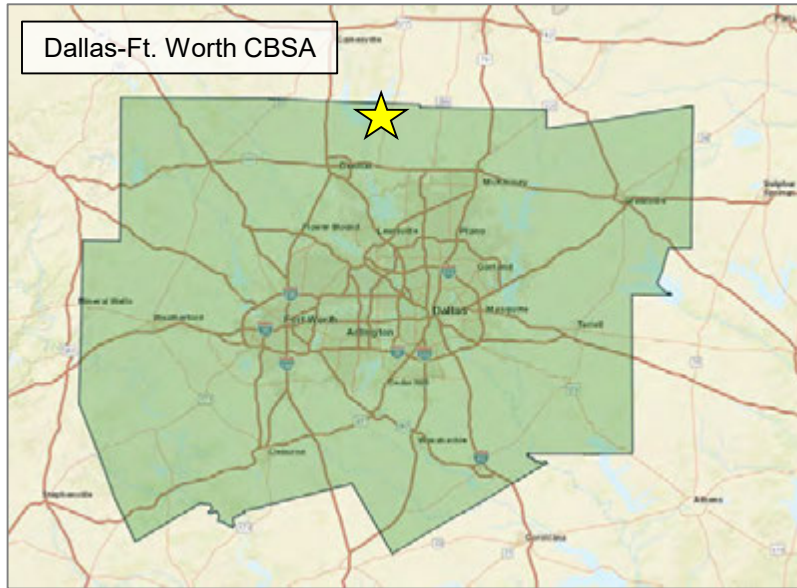
EXPLANATION AS TO THE INFORMATION THAT THESE SOURCES YIELDED:

These sources yielded household growth, job growth, recent job growth by industry, median household income trends, as well as average household age, persons per household, population by age and projected change in population by age. These factors help provide the framework to support an additional marina at the Subject Site due to increased population growth, income growth, and a growing population base in the 65-Plus segment, a demographic profile that is consistent with boat/ RV owners and marina patrons.

GEOGRAPHIES CONSIDERED FOR DEMOGRAPHIC ANALYSIS

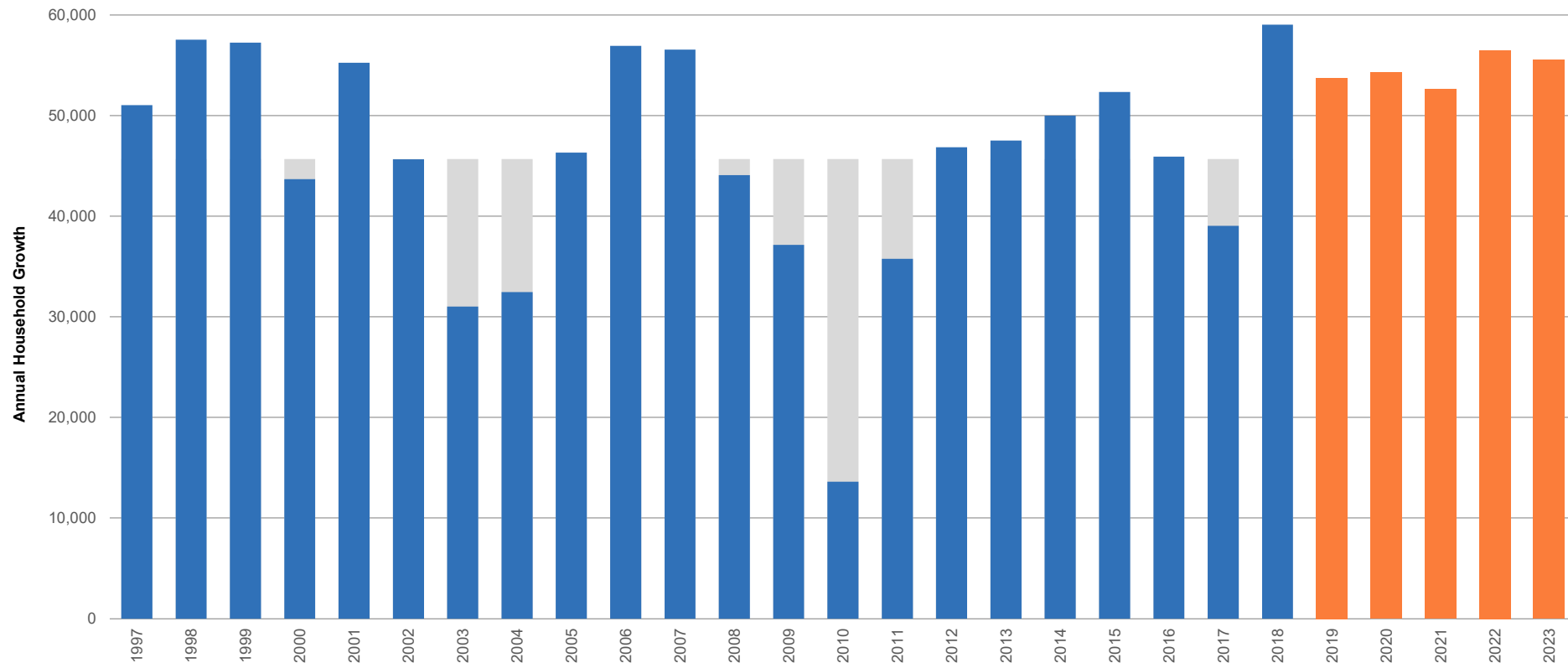
Economic & Demographic Overview

This analysis estimates the demand for housing in the Dallas-Ft. Worth CBSA, as well as two subsections of the region as it relates to the Subject: Denton County and a ten mile radius surrounding the Lone Star Marina site.



From 2010 through 2018, the number of new households added to the Dallas-Ft. Worth CBSA increased annually to peak at 59,042 new households in 2018. Growth is projected to remain relatively high going forward, with over 54,500 new households per year from 2019 through 2023 (+/- 2.0% annual growth).

Household History & Forecasts	Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Area - Ten Year History										Economy.com Five-Year Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Households	2,318,427	2,332,038	2,367,796	2,414,657	2,462,174	2,512,183	2,564,529	2,610,451	2,649,497	2,708,539	2,762,307	2,816,604	2,869,257	2,925,776	2,981,289
Prior Year Change	37,142	13,611	35,758	46,860	47,518	50,009	52,346	45,922	39,046	59,042	53,768	54,297	52,653	56,518	55,514
Annual %Change	1.6%	0.6%	1.5%	2.0%	2.0%	2.0%	2.1%	1.8%	1.5%	2.2%	2.0%	2.0%	1.9%	2.0%	1.9%



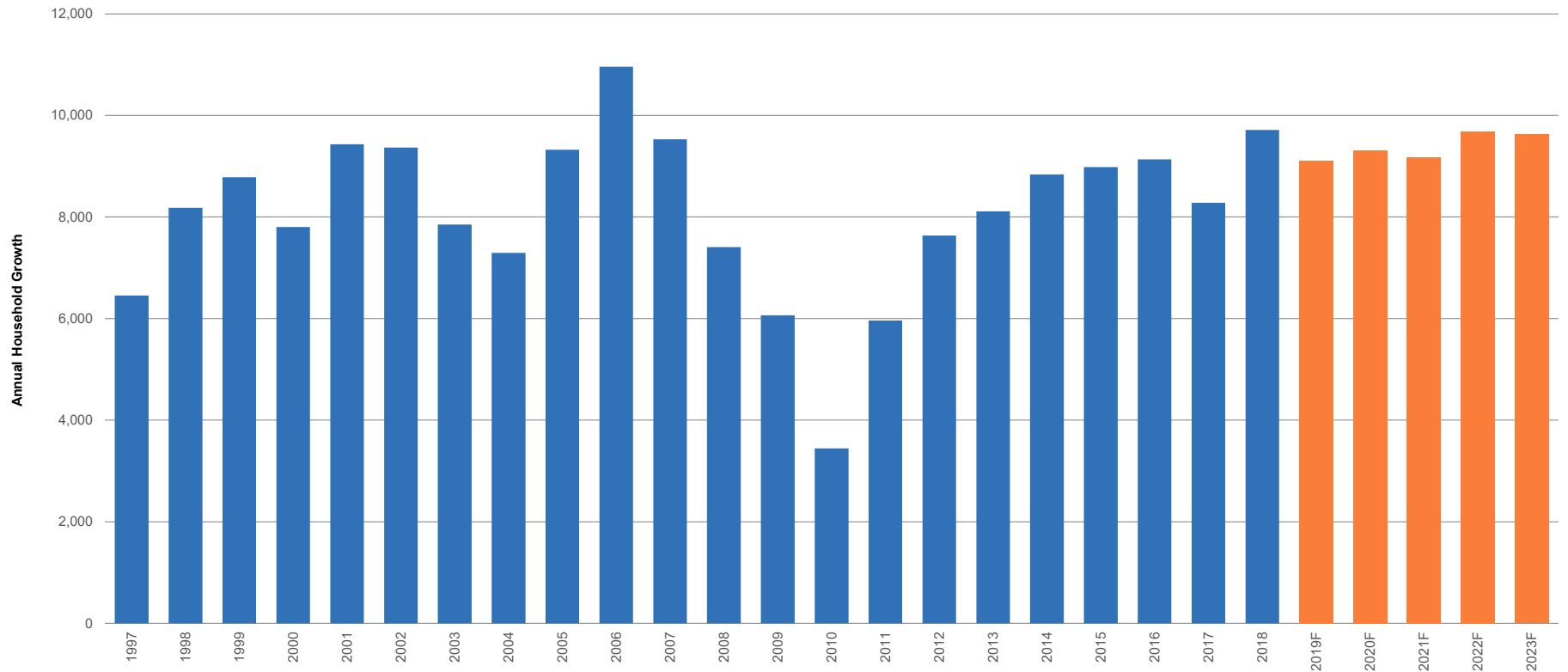
Source: Economy.com

DENTON COUNTY HOUSEHOLD HISTORY AND FORECASTS

Economic & Demographic Overview

Household growth in Denton County exceeded 9,000 new households in 2018, the highest growth since 2006. Similarly to the MSA overall, household growth is expected to continue in 2019 to 2023, with 9,105 new households in 2019 (2.9% annual growth).

Household History & Forecasts	Denton County, TX - Ten Year History										Economy.com Five-Year Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Total Households	238,606	242,049	248,009	255,642	263,754	272,590	281,573	290,706	298,986	308,697	317,802	327,113	336,291	345,975	355,599
Prior Year Change	6,067	3,444	5,960	7,633	8,112	8,835	8,984	9,133	8,279	9,712	9,105	9,311	9,179	9,684	9,624
Annual %Change	2.6%	1.4%	2.5%	3.1%	3.2%	3.3%	3.3%	3.2%	2.8%	3.2%	2.9%	2.9%	2.8%	2.9%	2.8%



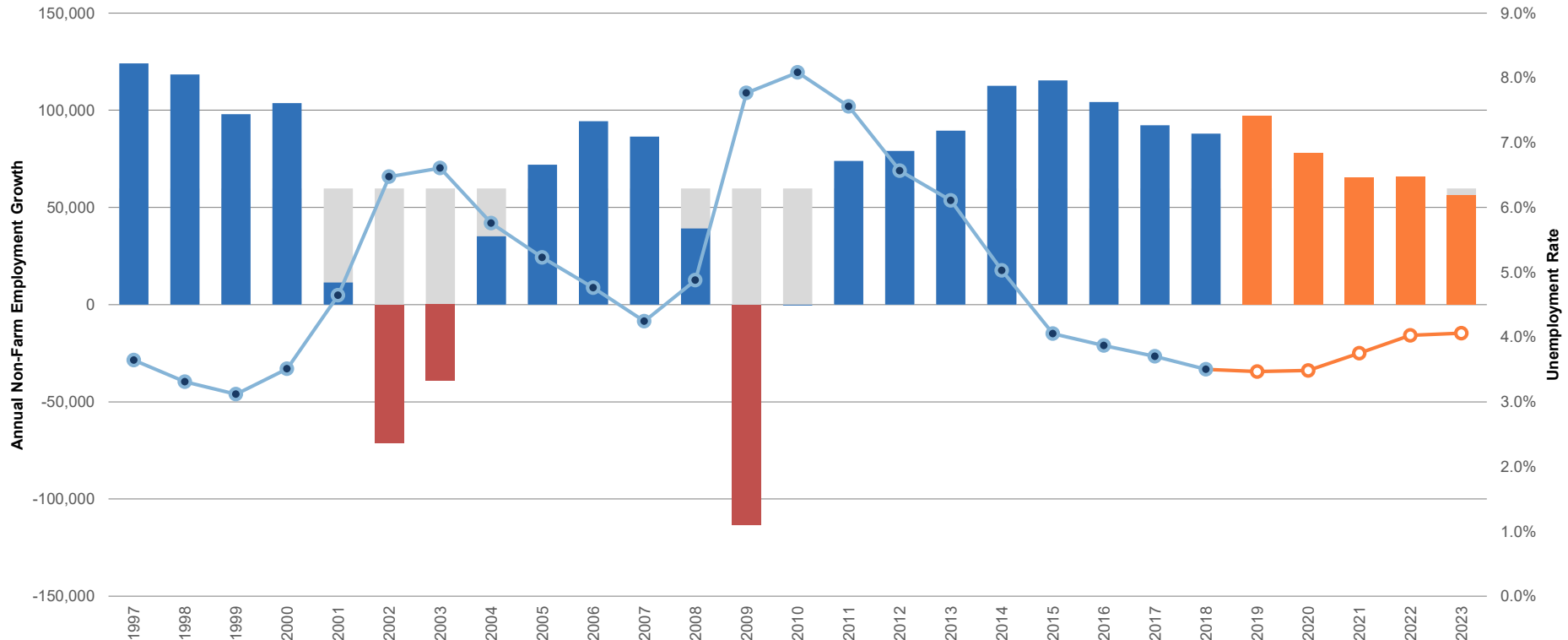
Source: Economy.com

EMPLOYMENT HISTORY AND FORECASTS – DALLAS - FT. WORTH CBSA

Economic & Demographic Overview

The Dallas-Ft. Worth CBSA has had eight consecutive years of positive growth with over 90,000 jobs added annually in four of the past five years, a significant gain over the +/-113,000 jobs lost during 2009 and 2010. The unemployment rate is at +/-3.5% and is projected to maintain this low level of unemployment through 2020, indicating a very solid economy and jobs market in Dallas.

Employment History & Forecasts	Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Area - Ten Year History										Five-Year Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Non-Farm Employment	2,929,583	2,929,217	3,003,175	3,082,275	3,171,708	3,284,283	3,399,617	3,503,817	3,596,075	3,683,983	3,781,002	3,858,775	3,923,976	3,989,815	4,046,215
Prior Year Change	(113,150)	(367)	73,958	79,100	89,433	112,575	115,333	104,200	92,258	87,908	97,019	77,773	65,201	65,839	56,401
Annual %Change	-3.7%	0.0%	2.5%	2.6%	2.9%	3.5%	3.5%	3.1%	2.6%	2.4%	2.6%	2.1%	1.7%	1.7%	1.4%
Unemployment Rate	7.8%	8.1%	7.6%	6.6%	6.1%	5.0%	4.1%	3.9%	3.7%	3.5%	3.5%	3.5%	3.8%	4.0%	4.1%



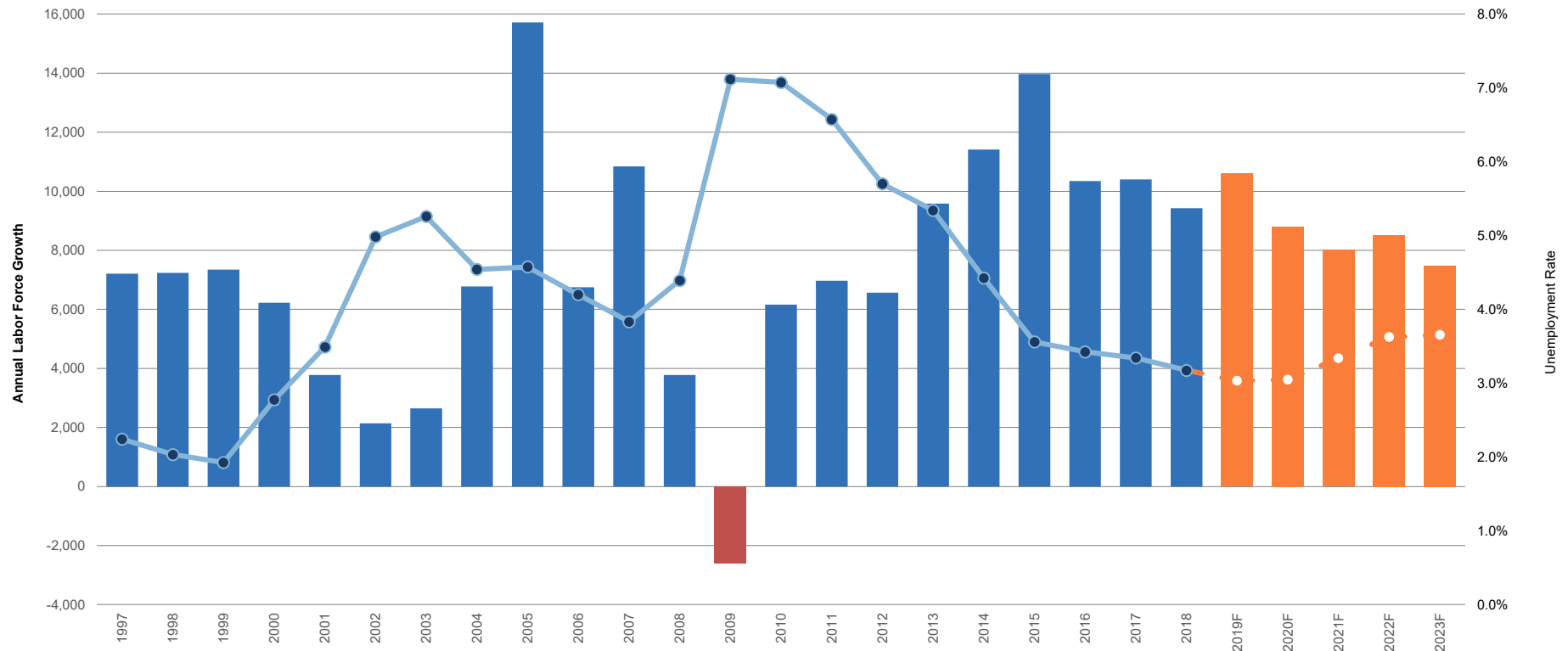
Source: Economy.com

EMPLOYMENT HISTORY AND FORECASTS – DENTON COUNTY

Economic & Demographic Overview

In Denton County, the job market has had nine consecutive years of positive growth, with +/-10,000 jobs gained annually for past five years, with only 2,600 jobs lost in the Great Recession. Job growth is projected to increase through 2019 at approximately 10,600 jobs gained annually, followed by slowing job gains in 2020 through 2023. The unemployment rate is expected to remain at or below 3.2% and reach a low of 3.0% in 2020.

Employment History & Forecasts	Denton County, TX - Ten Year History										Economy.com Five-Year Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Non-Farm Employment Total	172,234	178,392	185,359	191,925	201,503	212,919	226,886	237,232	247,631	257,057	267,656	276,463	284,473	292,983	300,470
Prior Year Change	(2,603)	6,158	6,966	6,567	9,578	11,415	13,967	10,346	10,399	9,426	10,600	8,807	8,009	8,511	7,486
Annual %Change	-1.5%	3.6%	3.9%	3.5%	5.0%	5.7%	6.6%	4.6%	4.4%	3.8%	4.1%	3.3%	2.9%	3.0%	2.6%
Unemployment Rate	7.1%	7.1%	6.6%	5.7%	5.3%	4.4%	3.6%	3.4%	3.3%	3.2%	3.0%	3.0%	3.3%	3.6%	3.7%



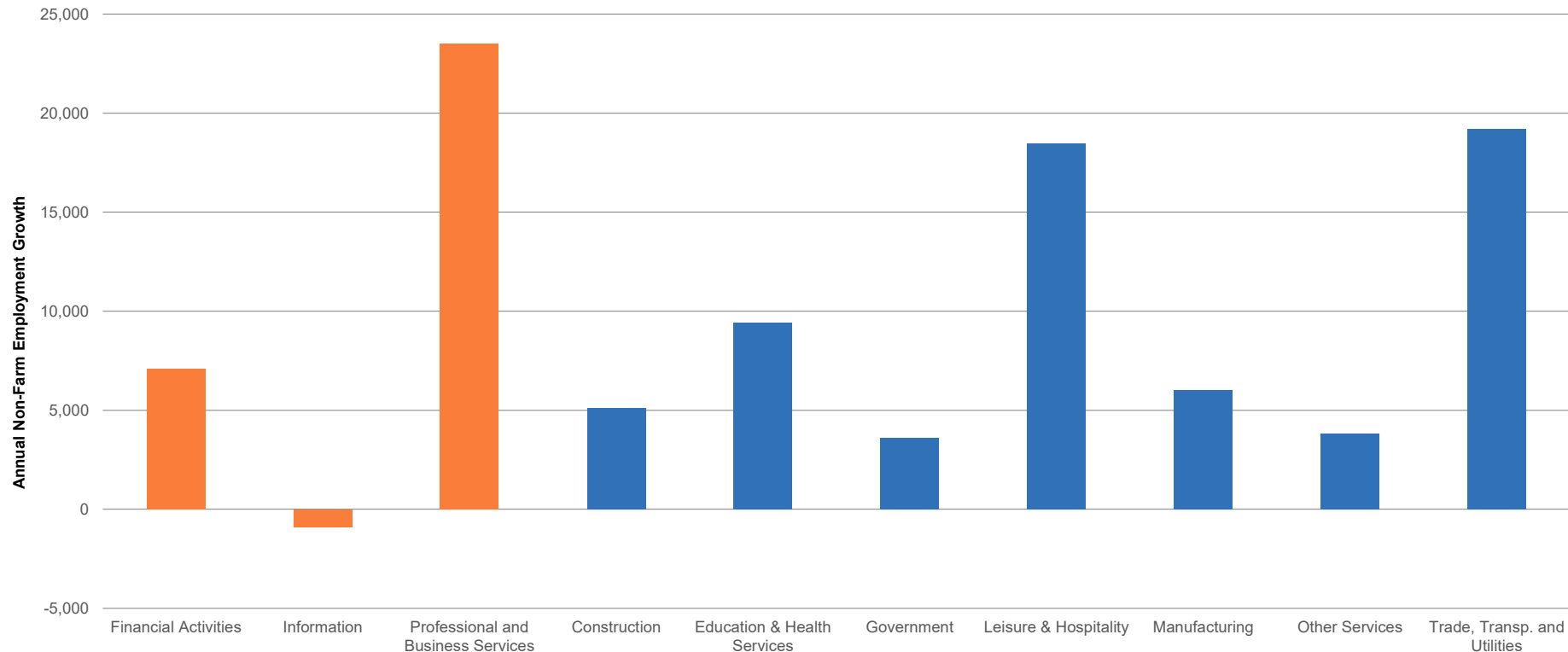
Source: Economy.com & Consensus of Third Party Forecasters

EMPLOYMENT GROWTH BY INDUSTRY (PAST 12 MONTHS) IN THE DALLAS-FT. WORTH CBSA

Economic & Demographic Overview

Job growth is occurring across almost all sectors. In particular, the higher-paying Professional and Business Services sector grew the fastest over the past 12 months, with 23,491 new jobs and the Leisure & Hospitality sector increased by approximately 18,000 jobs.

Employment by Sector	High Income Sectors			Other Sectors						
	Financial Activities	Information	Professional and Business Services	Construction	Education & Health Services	Government	Leisure & Hospitality	Manufacturing	Other Services	Trade, Transp. and Utilities
Current Month	306,814	82,611	631,202	197,502	457,471	440,403	397,902	281,812	126,410	796,896
Same Month Previous Year	299,711	83,496	607,711	192,380	448,038	436,806	379,451	275,777	122,572	777,695
12-Month Growth	7,103	-885	23,491	5,121	9,433	3,598	18,451	6,035	3,838	19,201



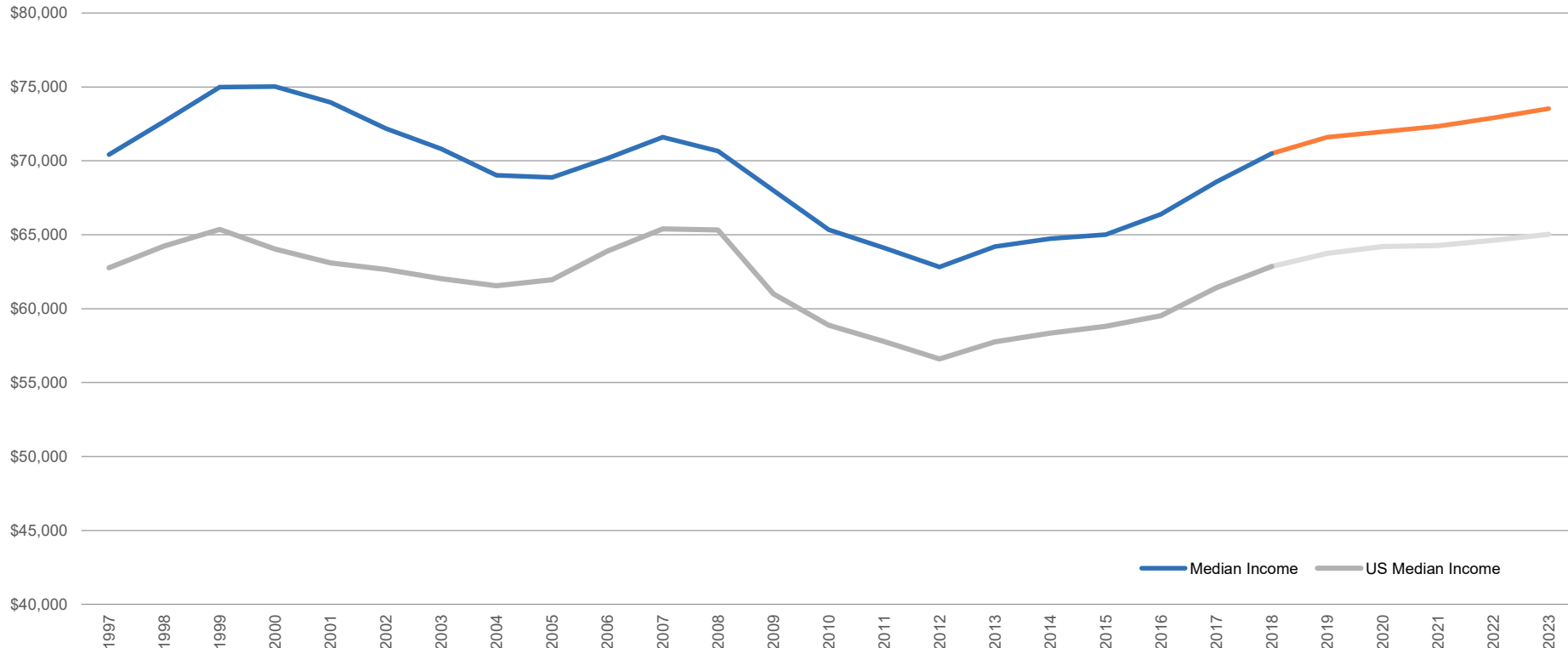
Source: Economy.com

HOUSEHOLD INCOMES AND FORECASTS – DALLAS-FT. WORTH CBSA

Housing and Economic Overview

Median incomes in the Dallas-Ft. Worth CBSA are consistently higher than the US median household income. This past year continued the trend of rising incomes, with a 2.8% increase in Dallas-Fort Worth versus a 2.3% increase in the US. Incomes are expected to continue to climb, albeit at slower rates going forward.

Median Income & Forecasts	Dallas-Fort Worth-Arlington, TX Metropolitan Statistical Area - Ten Year History										Economy.com Five-Year Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Median Income	\$67,989	\$65,347	\$64,115	\$62,813	\$64,197	\$64,732	\$65,014	\$66,396	\$68,586	\$70,496	\$71,605	\$71,974	\$72,328	\$72,896	\$73,531
Annual %Change	-3.8%	-3.9%	-1.9%	-2.0%	2.2%	0.8%	0.4%	2.1%	3.3%	2.8%	1.6%	0.5%	0.5%	0.8%	0.9%
Median Income - United States	\$60,997	\$58,887	\$57,765	\$56,600	\$57,753	\$58,351	\$58,807	\$59,514	\$61,414	\$62,856	\$63,731	\$64,206	\$64,270	\$64,627	\$65,027
Annual %Change	-6.6%	-3.5%	-1.9%	-2.0%	2.0%	1.0%	0.8%	1.2%	3.2%	2.3%	1.4%	0.7%	0.1%	0.6%	0.6%



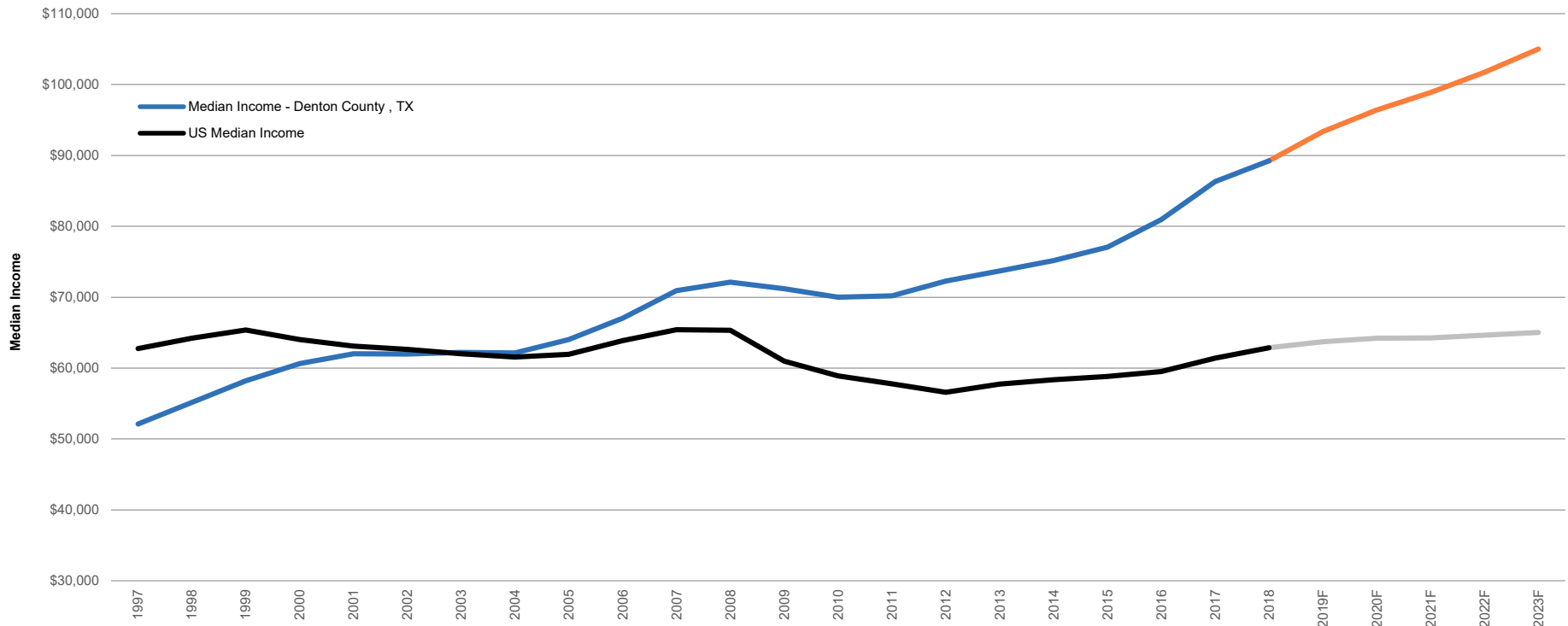
Source: Economy.com

HOUSEHOLD INCOMES AND FORECASTS – DENTON COUNTY

Housing and Economic Overview

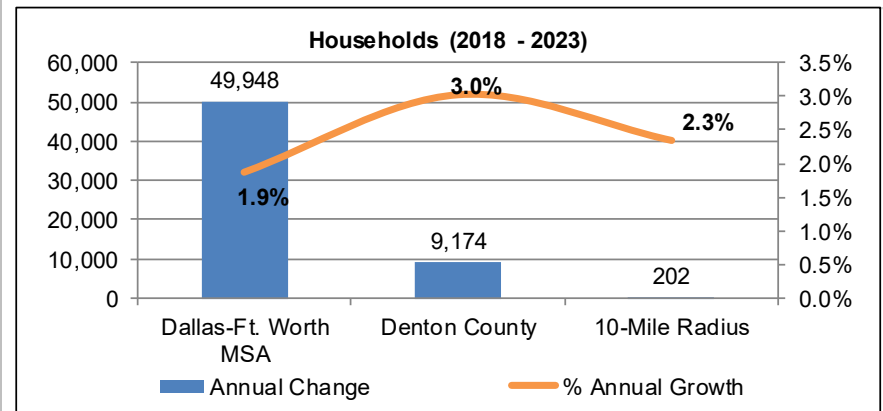
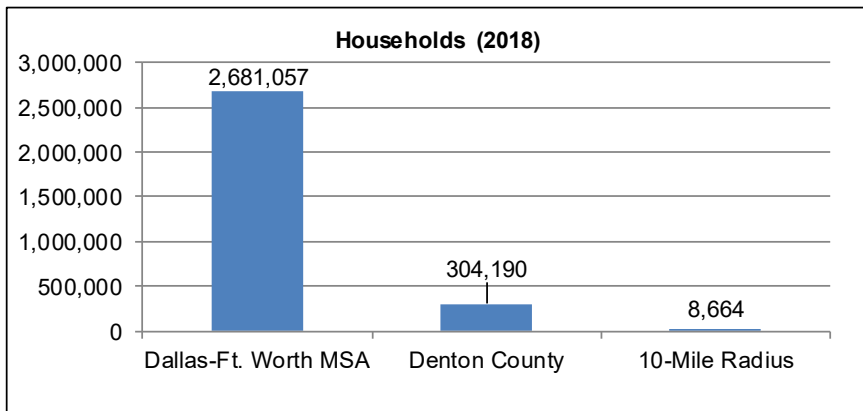
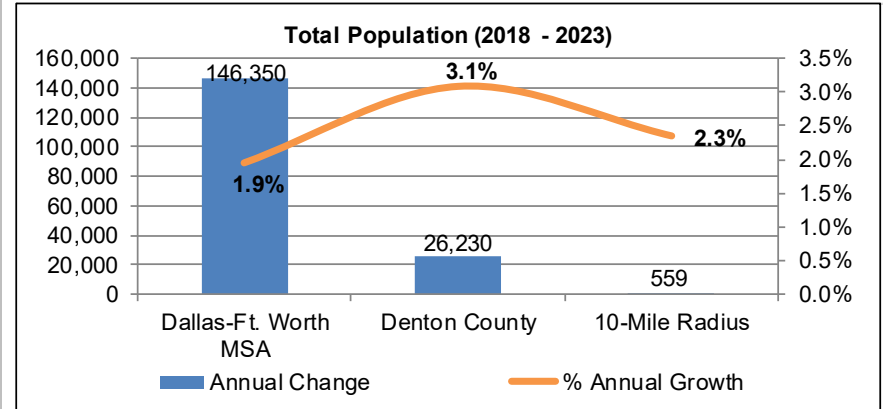
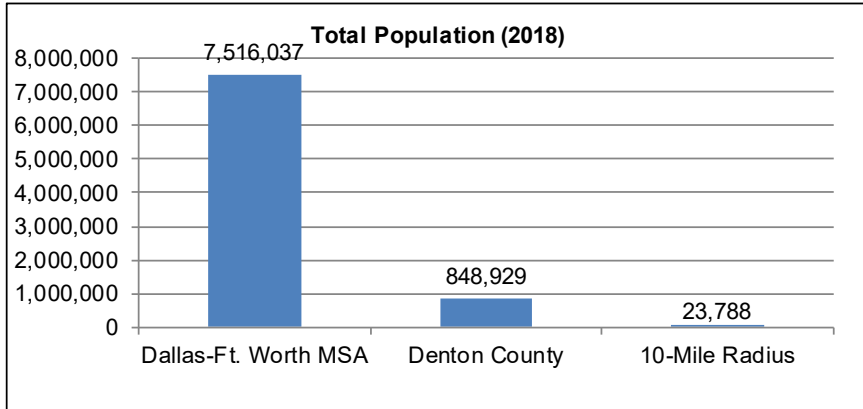
The Denton County median income is increasing at a rapid rate and projected to reach over \$100,000 by 2022. The year 2017 has a 6.6% increase in median income in Denton County, the highest gains in recent history, and 2018 continued this trend with a 3.4% increase in median income reaching \$89,224. Going forward, incomes are expected to continue to increase in the 2.5% to 4.7% range annually, indicating high income earners are residing in—and moving to—Denton County, which bodes well for the opportunity to introduce a new boat marina at the Subject Site.

Median Income & Forecasts	Denton County, TX - Ten Year History										Economy.com Five-Year Forecast				
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019F	2020F	2021F	2022F	2023F
Median Income - Denton County, TX	\$71,208	\$70,020	\$70,185	\$72,290	\$73,691	\$75,169	\$77,038	\$80,953	\$86,291	\$89,224	\$93,378	\$96,418	\$98,863	\$101,744	\$105,015
Annual %Change	-1.3%	-1.7%	0.2%	3.0%	1.9%	2.0%	2.5%	5.1%	6.6%	3.4%	4.7%	3.3%	2.5%	2.9%	3.2%
Median Income - United States	\$60,997	\$58,887	\$57,765	\$56,600	\$57,753	\$58,351	\$58,807	\$59,514	\$61,414	\$62,856	\$63,731	\$64,206	\$64,270	\$64,627	\$65,027
Annual %Change	-6.6%	-3.5%	-1.9%	-2.0%	2.0%	1.0%	0.8%	1.2%	3.2%	2.3%	1.4%	0.7%	0.1%	0.6%	0.6%



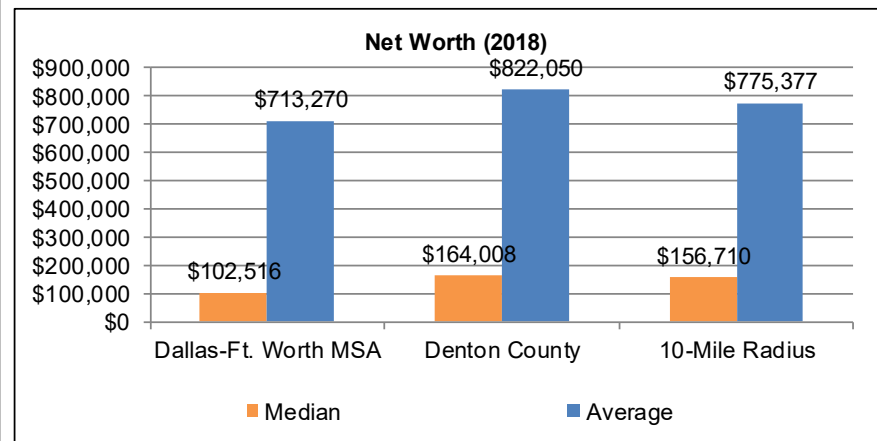
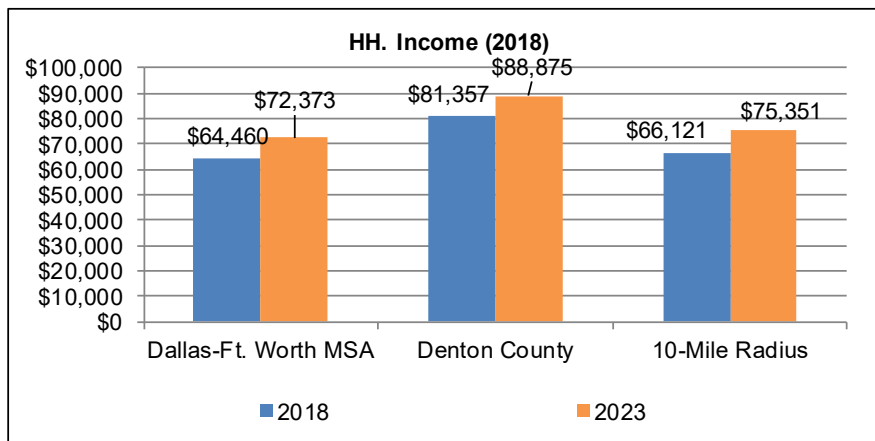
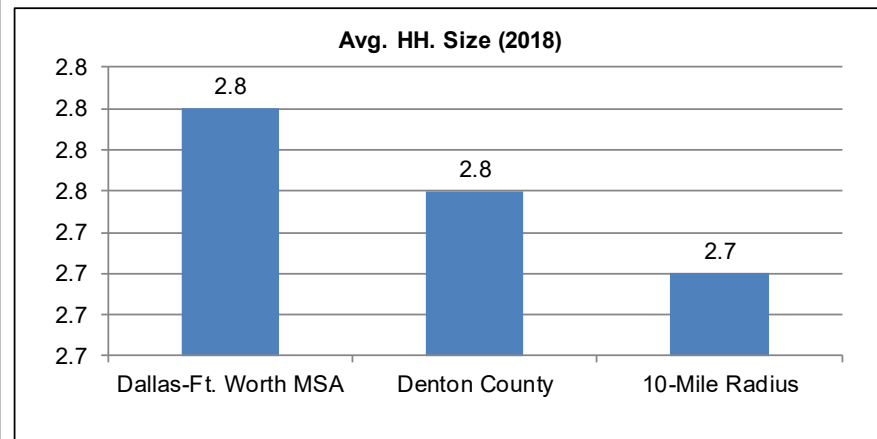
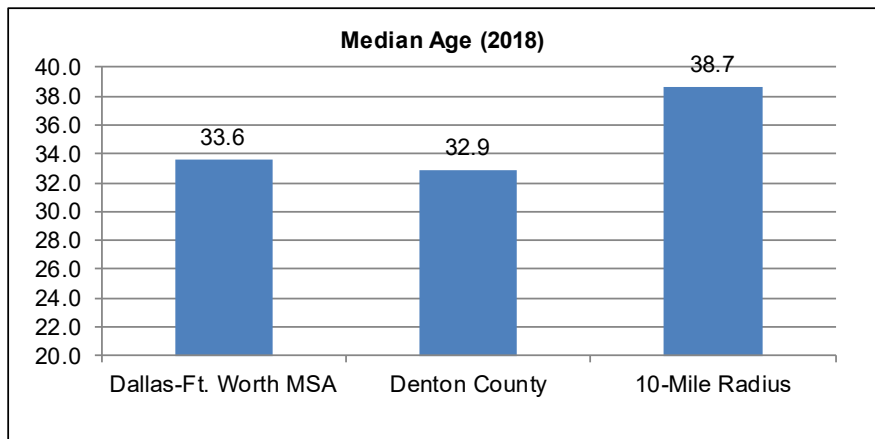
Source: Economy.com

While the local area (ten-mile radius) and Denton County represent a small segment of the population base in of Dallas-Ft. Worth CBSA overall, the County is poised for greater population and household growth than the county and MSA, with 3.1% annual growth through 2023.

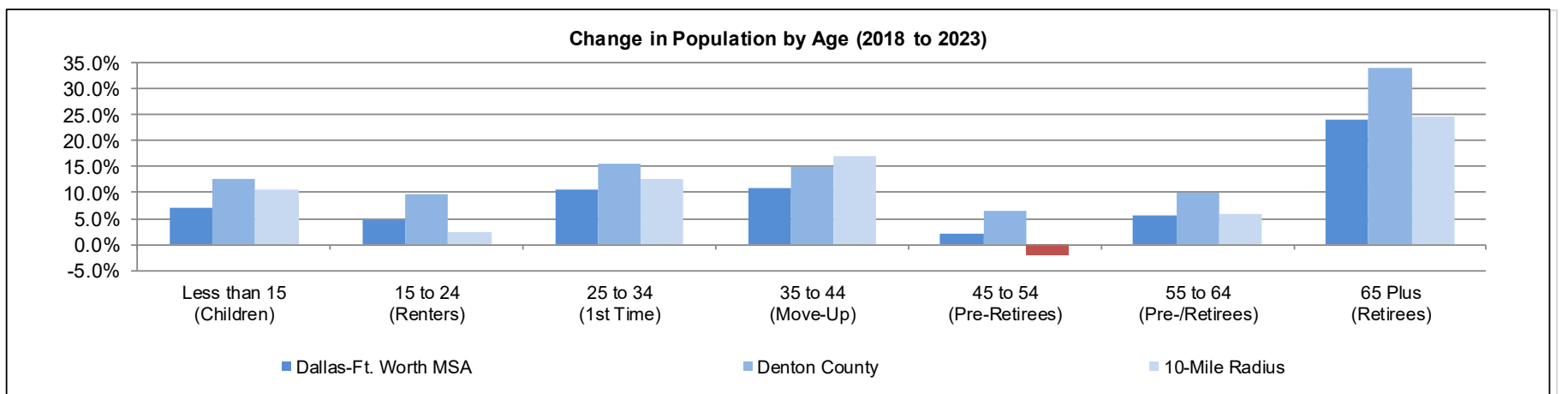
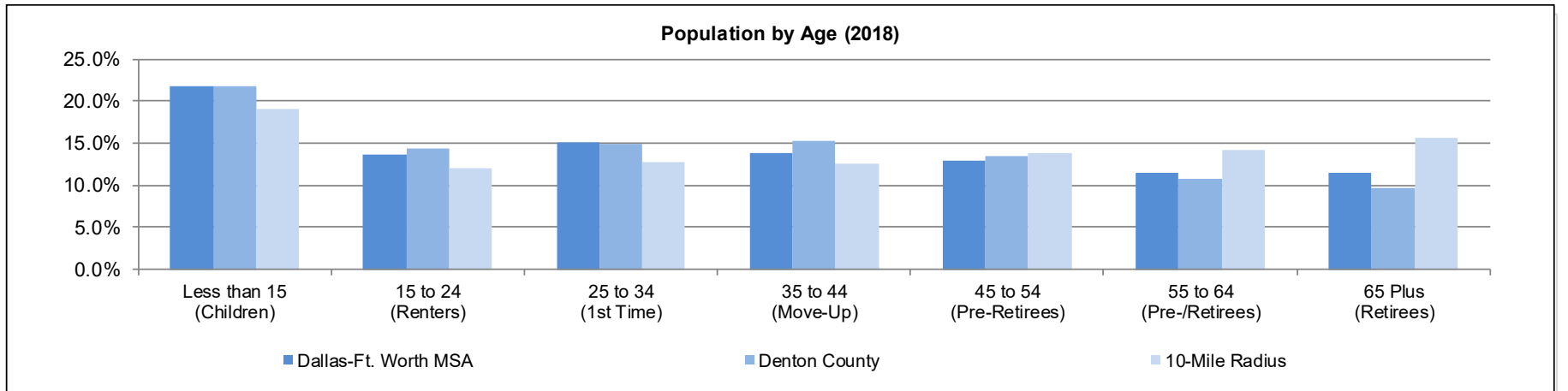


Source: ESRI

The local area has a lower household size and higher median age than Denton County or the Dallas-Ft. Worth CBSA, while Denton County boasts higher median income and net worth levels than the MSA overall. The median age is higher in the local area (38.7) versus the MSA (33.6), and Denton County (32.9). Incomes are higher in Denton County (\$81,357 average) versus the local area (\$66,121 average), and average net worth is relatively high in Denton County and in the ten mile radius—this data suggests a concentration of mature families and retired/ semi-retired couples with good incomes and high net worth levels. This demographic profile is consistent with boat owners and marina patrons.



The local area has a higher percentage of retirees and pre-retirees than the county or MSA. Over the next five years, all three areas will experience the strongest growth in the 65 Plus (Retirees) age segments, with significant growth among 65 Plus in Denton County on a percentage basis (over 30%). It is also worth noting that growth in the Age 35 to 44 segment is relatively strong in the ten mile radius in particular, indicating a growing demand base for young professionals. This data further suggests a concentration of mature families and retired/ semi-retired couples live in Denton County and the ten-mile radius. This demographic profile is consistent with boat owners and marina patrons.



VI. Appendix

Marina & Boat/ RV Storage Analysis - Ray Roberts Lake, Texas

The data sources for this report are shown below:

1. Current Employment Statistics - <https://www.bls.gov/ces/>
2. ESRI - <https://www.esri.com/>
3. Meyers Research LLC - <http://www.meyersresearchllc.com/>
4. **Moody's Analytics** - <https://www.moodyanalytics.com/>
5. US Bureau of Labor Statistics - <https://www.bls.gov/>
6. US Census Bureau - <https://www.census.gov/>
7. Various marina websites and management representatives including:
 - a) www.rayrobertsmarina.com
 - b) www.cottonwoodcreekmarina.com
 - c) www.ldbc-lakeview.com
 - d) www.hiddencovepark.net/marina
 - e) www.eaglepointmarina.com
 - f) www.pier121marina.com
 - g) www.twincovesmarina.com
 - h) www.silverlakemarina.com
 - i) www.scottslandingmarina.com
 - j) www.eaglemountain1.wpengine.com/lake-country-about
 - k) www.lakerayhubbardmarinas.com/slips (Captains Cove Marina)
 - l) www.lake-ray-hubbard.com/harbor-bay-marina
 - m) www.lakerayhubbardmarinas.com/annual-slips (Chandler's Landing Marina)
 - n) www.collinpark.com

Ray Roberts Marina is the sole marina on Ray Roberts Lake and is a short drive from the Dallas Metroplex, located five minutes off I-35, east of Sanger, Texas. Ray Roberts Lake has 29,000 acres of water and is larger than Lewisville Lake, Grapevine Lake and Eagle Mountain Lake. Open water activities include wake boarding, tubing, sailing and there are several coves for boaters to enjoy. In addition, Ray Roberts Lake hosts several major bass tournaments. The Lighthouse Cove RV Park is adjacent to the marina complex.



Address	1399 Marina Circle, Sanger, TX 76266
Distance to Subject	15.4 miles
Year Built	1995
Storage	500 wet slips
Slip Rental Rates	\$195 - \$525 per month
Occupancy	85%



Cottonwood Creek Marina is located on the northeast shore of Lewisville Lake in Little Elm, Texas. Cottonwood Creek Marina is surrounded by 160 acres formerly known as Cottonwood Park. This award winning marina was named the 2004/2007/2010 Marina of the Year by the Marina Association of Texas, is a Certified Clean Texas Marina, and is the 2005 Little Elm Chamber of Commerce Business of the Year.



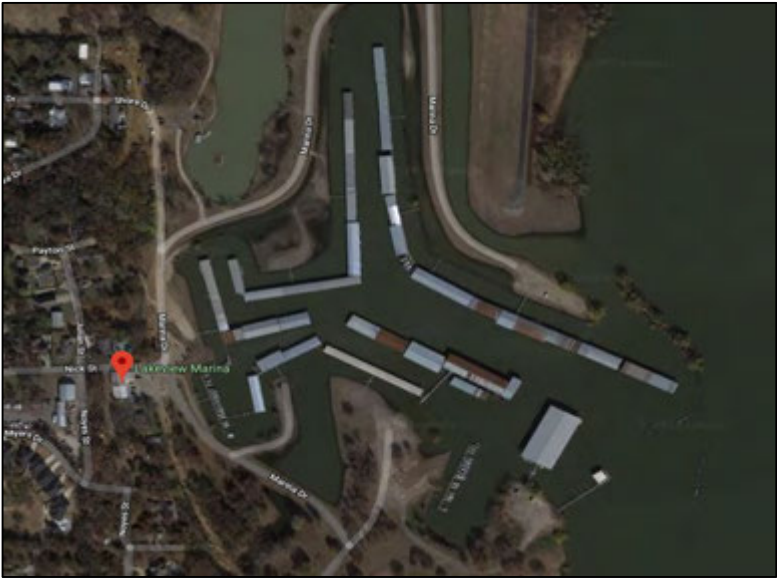
Address	900 Lobo Ln., Little Elm, TX 75068
Distance to Subject	22.7 miles
Year Built	2003
Storage	230 wet slips
Slip Rental Rates	\$250 - \$730 per month
Occupancy	94%



Lakeview Marina is the oldest marina still operating in the Dallas MSA. The original fishing camp provided guide service, boat and cabin rentals. Th business has grown into a full service marina with moorage, boat repairs, and sales. The marina is now operated by the third generation of the Drozd family. It is now the oldest continually operating business in Lake Dallas (Lewisville Lake).



Address	300 Marina Dr., Lake Dallas, TX 75065
Distance to Subject	25.6
Year Built	1942
Storage	400 wet slips
Slip Rental Rates	\$220 - \$580 per month
Occupancy	90%



Hidden Cove Marina is located roughly 25 miles away from the center of Dallas and proximate to Frisco and The Colony communities. At Hidden Cove, RV Campers are welcome to make use of the 40 foot concrete RV sites positioned throughout the 700 acre park. There are plenty of recreational opportunities such as boating, fishing, camping, hiking and skiing. The marina also includes the Rockin' S Bar and Grill restaurant.



Address	20400 Hackberry Creek Park Rd., Frisco, TX 75034
Distance to Subject	27.9 miles
Year Built	2012
Storage	340 wet / 100 dry slips
Slip Rental Rates	\$304 - \$568 per month
Occupancy	88%



Eagle Point Marina is located 30 minutes from Dallas and Fort Worth on Lewisville Lake. Eagle Point Marina provides high quality boat slips and other boat storage options, including dry storage and boat lifts. The marina provides maximum security for boats by using a state of the art electronic gate system. Boat repair services are offered on site as well as other amenities such as a gas dock, restaurant, boat rentals, and the Dallas Yacht Club is located right at the marina.



Address	1 Eagle Point Rd., Lewisville, TX 75077
Distance to Subject	29.1 miles
Year Built	1958
Storage	700 wet / 150 dry slips
Slip Rental Rates	\$290 - \$945 per month
Occupancy	90%



Pier 121 Marina is proudly owned and operated by Safe Harbor Marinas, the largest marina company in the world. The Marina is located in a protected arm of Lake Lewisville and sheltered from most severe storms. Pier 121 provides wet slips and dry storage is offered in enclosed-gated units or in an open gravel lot.



Address	1481 E. Hill Park Rd., Lewisville, TX 75056
Distance to Subject	32.6 miles
Year Built	N/A
Storage	1,000 wet / 400 dry slips
Slip Rental Rates	N/A
Occupancy	N/A



Twin Coves Marina is located on the southeast side of Lake Grapevine. The marina is a world-class recreational boating destination and a haven for Dallas and Fort Worth residents. Storage options at Twin Coves include covered and uncovered wet boat storage in a variety of sizes and boat trailer storage. Rockin' S Bar & Grill and Buoy's Ships Store are available at the marina as well.



Address 4500 Murrell Park Rd.,
Flower Mound, TX 75022

Distance to Subject 39.2

Year Built 1991

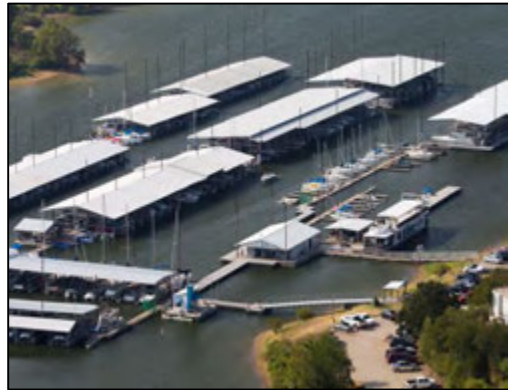
Storage 300 wet slips

Slip Rental Rates N/A

Occupancy N/A



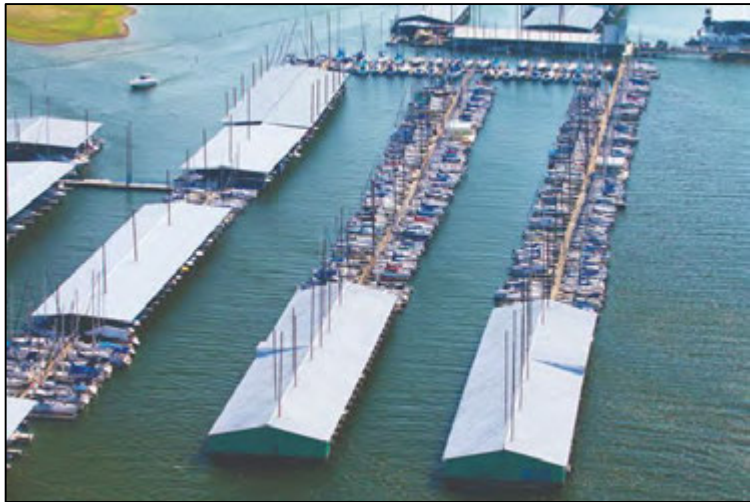
Silver Lake Marina is tucked in a quiet cove along the shores of Grapevine Lake. The marina is managed by Safe Harbor Marinas, offering services such as boat maintenance and customizations to boat slips. Gated wet slips are provided along with dry boat and trailer storage that only member can access. The Ship Store on site has everything a customer might need for the lake.



Address	2500 Fairway Drive #1, Grapevine, TX 76051
Distance to Subject	43.9 miles
Year Built	1960
Storage	450 wet / 100 dry slips
Slip Rental Rates	N/A
Occupancy	95%



Lake Grapevine is home to **Scott's** Landing Marina, a retreat for boaters and sailors near the heart of the municipal ballparks. Wet and dry storage is alleviable for renters in various sizes. A new boat dock has been recently open and is ready for lease, providing even more options. Big **Daddy's Ship's** Store and Galley offers food and live music with excellent views of the lake.



Address	2500 Oak Grove Loop, Grapevine, TX 76051
Distance to Subject	47.2 miles
Year Built	1960
Storage	625 wet / 75 dry slips
Slip Rental Rates	N/A
Occupancy	95%



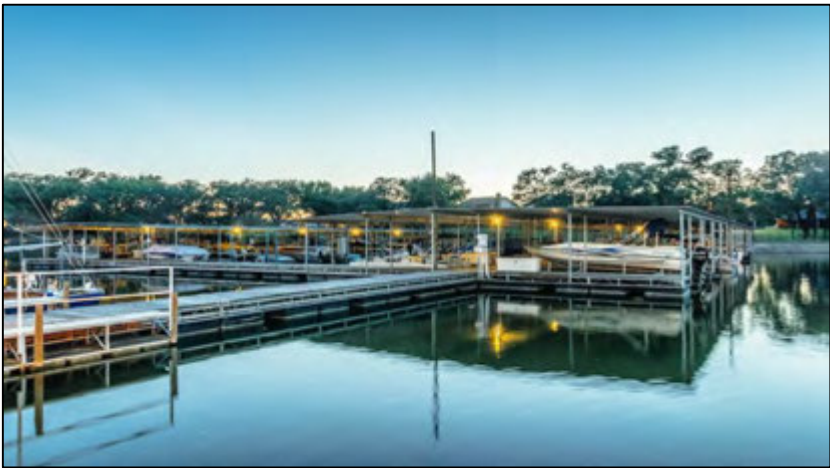
Lake Country Marina offers a full-service marina on Eagle Mountain Lake. The scenic landscape and abundant wildlife make Eagle Mountain Lake a popular destination for outdoor enthusiasts. There are many recreational opportunities for weekend visitors and residents alike including boating, fishing, waterskiing, wakeboarding, and swimming.



Address	9290 Live Oak Ln., Fort Worth, TX 76179
Distance to Subject	58.4 miles
Year Built	1970
Storage	305 wet / 100 dry slips
Slip Rental Rates	\$223 - \$636 per month
Occupancy	96%



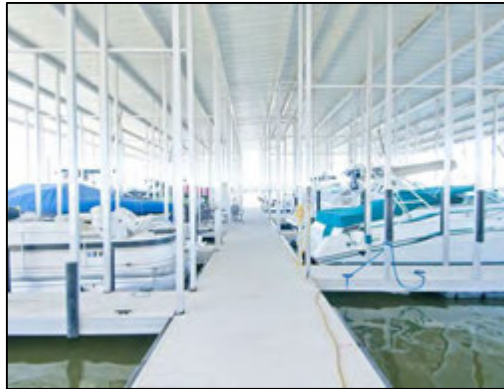
Harbor One Marina is a full-service marina on Eagle Mountain Lake. The Marina has a sailboat community, as well as covered slips that will accommodate boats of various sizes. Harbor One sailboat slips range from 20 to 25 feet, with covered sizes ranging from 24 to 44 feet. Boat trailer storage is offered at a monthly rate.



Address	9315 Boat Circle Rd., Fort Worth, TX 76179
Distance to Subject	58.5 miles
Year Built	1986
Storage	310 wet slips
Slip Rental Rates	\$178 - \$424 per month
Occupancy	96%



Lakeview Marina is a family owned and operated marina on the Northeast side of Eagle Mountain Lake in Fort Worth. The marina facility and ship store offers premium fuel, boating supplies, live bait and fishing supplies, fishing licenses, food and drinks, and the restaurant, Texas Pit BBQ. Wet slips, dry storage options and trailer storage are all provided at Lakeview Marina.



Address	6600 E. Peden Rd., Fort Worth, TX 76179
Distance to Subject	59.2 miles
Year Built	1980
Storage	80 wet / 30 dry slips
Slip Rental Rates	\$190 - \$350 per month
Occupancy	100%



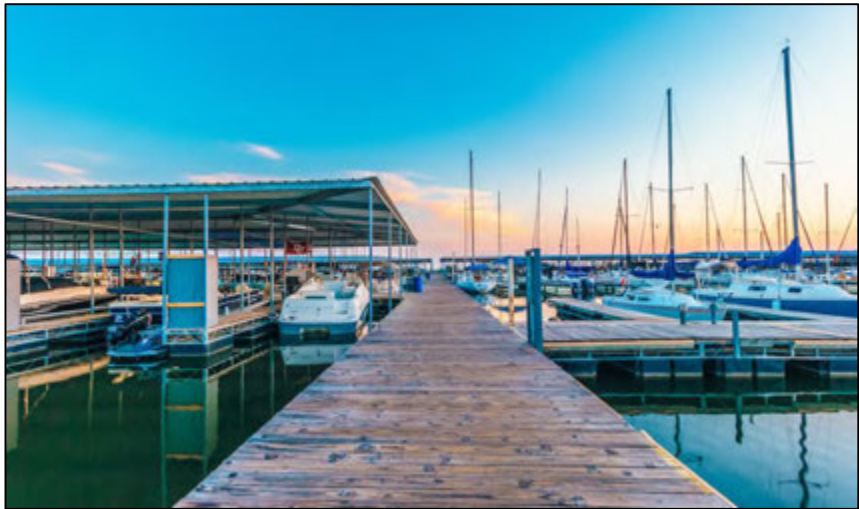
West Bay Marina offers plenty of covered and uncovered boat slips and a RV Park that is nestled in the shady trees on Eagle Mountain Lake. The Ship Store offers boating supplies such as sunscreen, snacks, ice, Beer, Soft Drinks and much more. West Bay grill will cook to order any of our menu items for Breakfast, Lunch or Dinner.



Address	6925 Liberty School Tap Rd., Azle, TX 76020
Distance to Subject	68.4 miles
Year Built	1949
Storage	310 wet slips
Slip Rental Rates	\$220 - \$340 per month
Occupancy	88%



Eagle Mountain Marina offers boat and watercraft rentals through **Suntex Boat Club** and **Suntex Watersports**. Covered and uncovered wet slips of multiple sizes are available for rent. Amenities include fuel dock, public boat launch, marine center, and a picnic area. Pontoon boats, ski boats and PWC rentals are available, and an outdoor boat trailer storage is offered as well.



Address	6500 Wells Burnett Rd., Fort Worth, TX 76135
Distance to Subject	67.3 miles
Year Built	1999
Storage	370 wet slips
Slip Rental Rates	\$254 - \$636 per month
Occupancy	98%



CAPTAIN'S COVE MARINA

Lake Ray Hubbard

Captain's Cove is located on Lake Ray Hubbard, east of Dallas. Slip amenities include covered slips for power boats, night time security personal, and easy parking access. **Captain's Cove Ship Store** is a fully-stocked floating **ship's** store that has almost everything you might need for a day out on the lake, including ice, snacks, souvenirs, swimwear and more.



Address	5965 Marina Dr., Garland, TX 75043
Distance to Subject	63.2 miles
Year Built	N/A
Storage	580 wet slips
Slip Rental Rates	\$154 - \$525 per month
Occupancy	96%



Harbor Bay Marina is located right off of interstate 30 on the east shores of Lake Ray Hubbard. The marina offers covered boat slips with electric and water accessible at each slip. The **Ship's** Store at Harbor Bay Marina is stocked with snacks, gas, cold drinks, ice, picnic supplies, and boating supplies. Uncovered dry storage is also available.



Address	3701 Windjammer Ln., Rockwall, TX 75087
Distance to Subject	67.6 miles
Year Built	N/A
Storage	410 wet slips
Slip Rental Rates	\$185 - \$299 per month
Occupancy	90%



Chandler's Landing is professionally managed by Suntex Marinas. The marina is located south of Interstate 30, on the east side of Lake Ray Hubbard. Covered and uncovered slips offered at the marina range in size from 22 to 60 feet. Many amenities are provided such as multiple type of rentals and the **Chandler's** Landing Ship Store, offering anything a boater might need for the lake.



Address	1 Harborview DR., Rockwall, TX 75032
Distance to Subject	69.3 miles
Year Built	1995
Storage	410 wet slips
Slip Rental Rates	\$200 - \$741 per month
Occupancy	96%



Collin Park Marina is professionally managed by Suntex Marinas and is located on Lavon Lake, 49 miles southeast of Lake Ray Hubbard. Lavon Lake offers 121 miles of shoreline and over 21,000 acres of surface water. Covered and uncovered slips offered at the marina range in size from 20 to 50 feet. Collin Park Marina has been awarded Marina of the Year and Clean Marina of the Year. Amenities include sand volleyball courts, covered picnic areas with grills, a sandy beach, and the Harbor House Restaurant.



Address	2200 St Paul Rd., Wylie, TX 75098
Distance to Subject	49.2 miles
Year Built	1980
Storage	460 wet slips
Slip Rental Rates	\$171 - \$519 per month
Occupancy	97%



OBJECTIVE. This analysis was prepared by Meyers Research, a market research and consulting firm specializing in the real estate industry. Lone Star Lodge & Marina engaged Meyers Research, LLC to provide an analysis of market opportunity for a boat marina and storage facility development in Pilot Point, Texas. The purpose of our work is to provide you with a clear action plan regarding the opportunity for an additional marina on Ray Roberts Lake in general and the proposed Site specifically.

CONTACT INFORMATION. The following key team members participated on this analysis:

Kimberly Byrum, Managing Principal, oversees our Advisory practice. With over 25 of experience, Ms. Byrum is an expert in residential and mixed use feasibility studies, strategic planning and product development, and regularly conducts market analyses around the United States and internationally.

Shaun McCutcheon Senior Manager, directed this analysis based on his commercial market expertise in the Southeast United States. Mr. McCutcheon has 17 years of research experience, specializing in market analysis for our commercial and residential consulting assignments.

Other support staff members participated in the fieldwork and market research for the study, including Sam Landess, Research Associate.

LIMITING CONDITIONS. Lone Star Lodge & Marina is responsible for representations about the development plans, marketing expectations and for disclosure of any significant information that might affect the ultimate realization of the projected results.

There will usually be differences between projected and actual results because events and circumstances frequently do not occur as expected, and the differences may be material.

We have no responsibility to update our report for events and circumstances occurring after the date of our report.

Payment of any and all of our fees and expenses is not in any way contingent upon any factor other than our providing services related to this report.

COMPANY EXPERIENCE

Appendix

Meyers Research is a nation-wide research firm guiding real estate investors throughout the country. Our highly educated and experienced consulting staff believes in providing the highest quality service possible to our clients, which means completing the exact analysis they need. Based in Beverly Hills, we are home to over 140 experts in 10 offices across the country.

Our company offers a unique research tool known as Zonda that offers an edge to our research with easy access real-time data at a local level across the United States. Our local Zonda database provides our team with a history of new and resale housing information, maps, comprehensive data, and many other metrics we use in our analyses to begin the reporting process with greater accuracy -- quickly, accurately and cost-effectively -- with on the ground and in person research. Zonda provides access to over 275 metrics influencing the housing industry including monthly and annual historical trends, future projections and real-time narrative reported by seasoned analysts across the country.

Our senior executive team are thought leaders that individually have more than 30 years of experience in housing and real estate research. With our advisory services, we have navigated builders through different housing cycles and have a deep understanding of local markets. Our consulting team has a broad range of housing expertise and experience spanning the country including consumer research, feasibility studies, portfolio valuation, business planning, and custom research designed to make better decisions related to any real estate investment.

Zonda and Our Research

- Competitive Analysis throughout the Country
- Exclusive Access to our Research & Consulting Executives
- Metro Analysis & Housing Trends
- Apartment Analysis & Forecast
- Exclusive Client Events
- Presentations & Webinars
- Proprietary Surveys

Advisory

- For-Sale, Apartment, Commercial & Mixed Use
- Resort & International Development
- Strategic Direction & Planning
- Home Builder Operations Assessment
- Demand Analysis
- Consumer Research & Focus Groups
- Custom Economic Analysis & Forecasting
- Litigation Support & Expert Witness
- Financial Modeling
- Project & Product Positioning

Consumer and Product Strategy

- Consumer and Product Insights
- Tactical and Marketing Strategies
- Product Design Advisory
- Custom Consumer Research
- Customer Shop Research

Thank you!

This analysis was prepared by Meyers Research, LLC

APPENDIX C

**Feasibility Study for Lone Star Lodge Resort and Marina, a Planned Marina
Facility in Pilot Point, Texas**



Three Energy Square, 6688 North Central Expressway, Suite 550
Dallas, Texas 75206
Tel: (469) 513-8490 * Fax: (469) 513-8491

DATE: November 19, 2019

TO: Mr. Ross Garrett
LONE STAR LODGE AND MARINA, LLC

FROM: Kimberly Byrum
Shaun McCutcheon
MEYERS RESEARCH, LLC

SUBJECT: **Feasibility Study for Lone Star Lodge Resort and Marina, a Planned Marina Facility in Pilot Point, Texas**

Meyers Research LLC ("Meyers") is pleased to present this independently conducted financial modeling report to Lone Star Lodge and Marina, LLC pertaining to your proposed marina project of the same name in Pilot Point, Texas. The site is located on Ray Roberts Lake at 2200 FM 1192, 15 miles north of Denton, Texas. Proposed uses include 500 wet boat slips, 80 spaces for dry boat storage (and/ or Recreational Vehicles, or RVs) in two covered buildings, a boat maintenance/ repair building, and 80 RV spaces for weekend use and extended stays. The facility will provide Pontoon and cruiser day rentals, jet ski rentals, wave boards, and kayak rentals. The marina will also include a ship's store and for-sale merchandise such as canned/bottled drinks and pre-packaged food. Meyers completed a market study and demand analysis for the project in June 2019 (with revisions in September 2019).

This study was prepared to comply with the requirements of USACE Engineering Regulation (ER) 1130-2-550 (Appendix D-1, Feasibility Study), which includes demonstrating that a proposed recreational facility "can make a reasonable return of profit on a yearly basis" and that it is "economically viable" (USACE, 2013).

The study provides construction cost estimates as well revenue estimates from boat slip rentals, boat and RV storage. In addition, we consider additional cost detail and revenue detail from several other categories to reach an annual net operating income (NOI), or cash flow analysis over the next five years (through 2024) as well as a hypothetical sale of the property after 10 years of operations (through 2030) and Internal Rate of Return (IRR) from annual cash flow as well as sale proceeds.

Our report includes the following information:

- I. Project Overview & Location
- II. Construction Cost Estimates
- III. Marina, Boat/ RV Storage and RV Resort Revenues
- IV. Net Operating Income (NOI) Analysis
- V. Internal Rate of Return (IRR) Analysis
- VI. References

Included in this report is a brief series of exhibits depicting the research completed in our analysis.

I. PROJECT OVERVIEW & LOCATION

Lone Star Marina is located in Pilot Point, Texas and is proximate to northern suburbs of the Dallas-Ft. Worth core-based statistical area (CBSA) such as Denton, McKinney and Plano. These cities are within 30 miles from the Lone Star Marina Site, and most of Dallas-Ft. Worth is within a 60-mile radius from the Site. Lone Star Marina is close to high growth areas of Dallas-Ft. Worth including areas with projected growth rates over 5% annually, many within 30 minutes from the site. Lone Star Marina's location is proximate to high income areas of Dallas-Ft. Worth, within 30 minutes of areas with high median incomes (\$93,000 to \$143,000) and within 60 minutes of areas with very high median incomes (\$143,000 to \$199,000). Further, Lone Star Marina is located within 30 minutes of areas with median net worth (\$230,000 to \$373,000) and within 60 minutes of areas with very high net worth levels (\$373,000 to \$500,000).

The local area has a higher percentage of retirees and pre-retirees than the county or CBSA. Over the next five years, all three areas will experience the strongest growth in the 65 Plus (Retirees) age segments, with significant growth among 65 Plus in Denton County on a percentage basis (over 30%). It is also worth noting that growth in the Age 35 to 44 segment is relatively strong in the ten-mile radius in particular, indicating a growing demand base for young professionals. This data further suggests a concentration of mature families and retired/ semi-retired couples live in Denton County and the ten-mile radius. This demographic profile is consistent with boat owners and marina patrons. The image below shows the location of the Site:



In addition to positive demand indicators, there are supply-side elements that favor the development opportunity for Lone Star Lodge Resort and Marina. We have identified a total of 18 comparable boat marina facilities on five lakes in the Dallas-Ft. Worth CBSA. There are multiple marina facilities on each lake, with the exception of Lavon Lake and Ray Roberts Lake, which has only one existing marina on the opposite side of the lake from the Subject Site—this lack of supply on Ray Roberts Lake bodes well for the success of Lone Star Marina. See our market study entitled “Marina & Boat/ RV Storage Analysis” for details.

II. CONSTRUCTION COSTS ESTIMATES

The purpose of this section is to estimate construction costs for the improvements planned at Lone Star Lodge Resort and Marina. The number of boat slips, RV camping spaces and building sizes planned were provided by Lone Star Lodge Resort and Marina, LLC and KJE Engineering. The construction costs were estimated by considering cost estimates from CBRE and Marshall and Swift for a comparable marina development known as Lake Murray Marina in Ardmore, Oklahoma (CBRE, 2017) building cost estimates were adjusted upward for locational considerations and inflation, while boat slip costs were adjusted downward for efficiencies associated with a higher boat slip count at Lone Star Marina. RV camping space cost was estimated based on per square foot concrete costs of approximately \$8.00 per square foot, using estimates from a number of sources such as Concrete Network (CN, 2019) and Remodeling Expense (RE, 2019).

The total building costs are estimated at \$1,838,400 for the Marina office/ shop/ restrooms, maintenance building, boat/ RV storage building, and RV Resort facility building for bathrooms and showers. The boat slip cost estimate is \$7.5 million, and the RV camping spaces is estimated at \$307,000. Additional costs such as water, electricity, retaining walls, parking area, roads, walkways and fencing to \$1.8 million. All these improvements combine for a total direct cost of \$11.495 million. We estimate indirect costs (engineering, planning, permits, administrative, etc.) to total 15% of direct costs, or \$1.724 million. The total project costs are estimated at \$13,219,940 (in today's dollars), as detailed on the table on the following page:

Lone Star Marina - Construction Cost Estimates			
Number of Wet Slips:	500		
RV Camping spaces	80		
Gross Buildable Area of all Buildings:	43,360		
	<u>Square Feet</u>	<u>Cost/ SF</u>	<u>Total Cost</u>
Base Building Cost - Office/ Shop/ Restrooms	4,000	\$100.00	\$400,000
Base Building Cost - Maintenance Building	15,760	\$40.00	\$630,400
Base Building Cost - Boat/ RV Storage Buildings	21,600	\$30.00	\$648,000
Base Building Cost - RV Park Bathroom/ Showers	2,000	\$80.00	\$160,000
Fuel Dock 1-5,000 Gallon Storage Tank			\$50,000
		<u>Cost/ Slip</u>	
Boat Slips	500	\$15,000	\$7,500,000
		<u>Cost/ Space</u>	
RV Camping spaces	80	\$3,840	\$307,200
Additional Costs			
Dredging, Water, Electricity, Retaining Walls			\$1,500,000
Parking Area, Roads, Walkways, Fencing			\$300,000
Total Direct Costs			\$11,495,600
Indirect Costs (15% of Direct Building Cost)			\$1,724,340
Direct and Indirect Costs			\$13,219,940

Sources: CBRE, Marshall and Swift, LLC, KJE Engineering, Meyers Research

III. MARINA, BOAT/ RV STORAGE AND RV RESORT REVENUES

The purpose of this section is to detail our revenue expectations for the major sources of revenues at Lone Star Lodge and Marina—specifically the boat slips’ rental revenue, the boat and RV dry storage revenue, and the RV resort nightly revenue. Monthly and nightly lease rates as well as occupancy rates are directly from our own market research conducted in the “Marina & Boat/ RV Storage Analysis” from June 2019. Revenue estimates are provided over the next five years (2020 through 2024) and assume construction occurs in 2020, with lease-up and marina operations beginning in January 2021.

Based on our market research, we assume the boat slips will lease up to 85% and dry boat storage will lease up to 90% by 2024. RV storage is expected to lease up to 95% by 2024, and RV resort (nightly camping) is expected to average 20% occupancy in 2021 and increase to 30% by 2024. In addition, there are boat rentals and jet ski rentals associated with the project, with an increasing number of boat and jet skis over time. This results in total revenue for these uses of \$1,959,027 in 2021 and \$3,741,297 by 2024 (in today’s dollars), or \$2,017,798 in 2021 and \$3,853,536 in 2024 with 3% annual increases. All boat and RV storage revenues, rental revenues and occupancy are detailed on the following table:

Lone Star Marina - Boat and RV Storage Revenue Estimates							
Occupancy Rate		2019	2020	2021	2022	2023	2024
Boat Slips		0%	0%	50%	70%	80%	85%
Dry Boat Storage		0%	0%	50%	70%	80%	90%
RV Storage		0%	0%	50%	70%	80%	95%
RV Camping		0%	0%	20%	25%	30%	30%
Boat Rentals (No. of boats)		0	0	15	25	35	45
Jet ski rentals (No. of Jet skis)		0	0	3	4	5	6
Occupied Units	Units	2019	2020	2021	2022	2023	2024
Boat Slips	500	0	0	250	350	400	425
Dry Boat Storage	60	0	0	30	42	48	54
RV Storage	20	0	0	10	14	16	19
RV Camping	80	0	0	16	20	24	24
Boat Rentals (No. of boats)	60	0	0	15	25	35	45
Jet Ski Rentals (No. of Jet skis)	6	0	0	3	4	5	6
Annual Revenues	Lease Rate	2019	2020	2021	2022	2023	2024
Boat Slips	\$4,836	\$0	\$0	\$1,209,000	\$1,692,600	\$1,934,400	\$2,055,300
Dry Boat Storage	\$3,150	\$0	\$0	\$94,500	\$132,300	\$151,200	\$170,100
RV Storage	\$4,200	\$0	\$0	\$42,000	\$58,800	\$67,200	\$79,800
RV Camping	\$14,600	\$0	\$0	\$233,600	\$292,000	\$350,400	\$350,400
Boat Rentals	\$21,723	\$0	\$0	\$325,843	\$543,071	\$760,300	\$977,528
Jet ski rentals	\$18,028	\$0	\$0	\$54,084	\$72,112	\$90,140	\$108,169
TOTAL		\$0	\$0	\$1,959,027	\$2,790,884	\$3,353,640	\$3,741,297
Annual Revenues (w/ 3%)		2019	2020	2021	2022	2023	2024
Boat Slips		\$0	\$0	\$1,245,270	\$1,743,378	\$1,992,432	\$2,116,959
Dry Boat Storage		\$0	\$0	\$97,335	\$136,269	\$155,736	\$175,203
RV Storage		\$0	\$0	\$43,260	\$60,564	\$69,216	\$82,194
RV Camping		\$0	\$0	\$240,608	\$300,760	\$360,912	\$360,912
Boat Rentals		\$0	\$0	\$335,618	\$559,363	\$783,109	\$1,006,854
Jet ski rentals		\$0	\$0	\$55,707	\$74,276	\$92,845	\$111,414
TOTAL		\$0	\$0	\$2,017,798	\$2,874,610	\$3,454,249	\$3,853,536

Source: Meyers Research

IV. NET OPERATING INCOME (NOI) ANALYSIS

We considered a total of 35 revenue sources at Lone Star Lodge and Marina, including the six revenue sources noted in the previous section. These revenue sources are line items that the project operator has experienced in another other marina: Beavers Bend Marina in Broken Bow, Oklahoma. Most of the revenue estimates were applied from actual revenues at Beavers Bend Marina but adjusted upward based on the larger scale of Lone Star (Beavers Bend has a total of 263 boat slips versus the +/-580 boat slips and dry storage planned for Lone Star Marina). Our revenue estimates start in 2019 (today's dollars) and are extended through 2024 at a rate of 3% annual increase. The revenues for 2019 and 2020 are shown for reference on the following table (shaded numbers) but are not actual revenues since the project will be under development in 2019/2020. The revenue sources from the previous section are highlighted in green.

Lone Star Marina - Cash Flow Estimates						
	Current Year	Construction	Completion			Stabilization
	2019	2020	2021	2022	2023	2024
Income						
Annual Lift Income	\$18,000	\$18,115	\$18,659	\$19,218	\$19,795	\$20,389
Annual Boat Slip Rental Revenue	\$0	\$0	\$1,245,270	\$1,743,378	\$1,992,432	\$2,116,959
Attachment Fee	\$4,000	\$4,543	\$4,679	\$4,820	\$4,964	\$5,113
BBM Electric	\$131,000	\$135,401	\$139,463	\$143,647	\$147,956	\$152,395
Boat Lift Sales	\$136,000	\$139,781	\$143,974	\$148,293	\$152,742	\$157,324
Boat Rentals	\$0	\$0	\$335,618	\$559,363	\$783,109	\$1,006,854
Boat Sales	\$65,000	\$67,201	\$69,217	\$71,294	\$73,433	\$75,636
Boat Storage Revenue (Dry)	\$0	\$0	\$97,335	\$136,269	\$155,736	\$175,203
Booking Fee Income	\$205,000	\$210,703	\$217,024	\$223,535	\$230,241	\$237,148
Booking/Processing Fee	\$0	\$0	\$0	\$0	\$0	\$0
Cancellation Fee	\$1,000	\$852	\$877	\$904	\$931	\$959
Cancellation/Refund	\$0	\$0	\$0	\$0	\$0	\$0
Cleaning Fee	\$3,000	\$2,726	\$2,808	\$2,892	\$2,979	\$3,068
Concession Fee	\$259,000	\$267,192	\$275,208	\$283,464	\$291,968	\$300,727
Customer Repair/Maint Labor	\$7,000	\$7,224	\$7,441	\$7,664	\$7,894	\$8,131
Damage Expense Collected	\$33,000	\$33,629	\$34,638	\$35,677	\$36,748	\$37,850
Damage Waiver Fee	\$0	\$0	\$0	\$0	\$0	\$0
Environmental Fee	\$287,000	\$296,047	\$304,928	\$314,076	\$323,498	\$333,203
Houseboat Rental	\$37,000	\$38,250	\$39,397	\$40,579	\$41,796	\$43,050
Internet Availability Charge	\$6,000	\$6,476	\$6,670	\$6,870	\$7,076	\$7,288
Jet Ski Rentals	\$0	\$0	\$55,707	\$74,276	\$92,845	\$111,414
Labor (Charged to customers for repairs)	\$54,000	\$55,141	\$56,796	\$58,499	\$60,254	\$62,062
Late Fee	\$7,000	\$7,054	\$7,266	\$7,484	\$7,708	\$7,939
Late/Service Fees	\$7,000	\$7,383	\$7,604	\$7,832	\$8,067	\$8,309
Parking Recovery Fee	\$48,000	\$49,321	\$50,800	\$52,324	\$53,894	\$55,511
Pet Fee	\$15,000	\$15,560	\$16,026	\$16,507	\$17,002	\$17,513
Pumpout	\$8,000	\$8,700	\$8,961	\$9,230	\$9,506	\$9,792
RV Storage Revenue	\$0	\$0	\$43,260	\$60,564	\$69,216	\$82,194
RV Camping Revenue	\$0	\$0	\$240,608	\$300,760	\$360,912	\$360,912
Sales Tax Income	\$15,000	\$15,122	\$15,576	\$16,043	\$16,525	\$17,020
Service Income	\$23,000	\$23,448	\$24,152	\$24,876	\$25,622	\$26,391
Services	\$2,000	\$2,306	\$2,375	\$2,446	\$2,520	\$2,595
Slip Construction	\$50,000	\$51,345	\$52,885	\$54,471	\$56,106	\$57,789
Store Income	\$1,048,000	\$1,079,244	\$1,111,621	\$1,144,970	\$1,179,319	\$1,214,698
Towing Charge	\$6,000	\$5,849	\$6,025	\$6,205	\$6,391	\$6,583
Total Income	\$2,474,000	\$2,548,611	\$4,642,867	\$5,578,431	\$6,239,185	\$6,722,019
Cost of Goods Sold						
Cost of Goods Sold	\$944,000	\$972,476	\$1,001,650	\$1,031,700	\$1,062,651	\$1,094,530
Cost of Goods Sold - Service Income	\$52,000	\$53,412	\$55,014	\$56,665	\$58,365	\$60,116
Inventory change	\$12,000	\$11,934	\$12,292	\$12,661	\$13,041	\$13,432
Total Cost of Goods Sold	\$1,008,000	\$1,037,822	\$1,068,957	\$1,101,026	\$1,134,056	\$1,168,078
Gross Profit	\$1,467,000	\$1,510,788	\$3,573,910	\$4,477,405	\$5,105,129	\$5,553,941

Sources: Beavers Bend Marina, CBRE, Meyers Research

We estimate the total income to be \$4.642 million in 2021 (assuming the project is completed in January 2021), and increasing to \$6.722 million by 2024. After considering the estimated cost of goods sold of \$1.068 million in 2021 and \$1.168 million by 2024, the gross profit (before operating expenses) totals \$3.573 million in 2021 and \$5.553 million in 2024.

We considered a total of 34 expenses at Lone Star Lodge and Marina. Similar to the revenue estimates on the previous pages, these expenses are line items that the project operator has experienced at Beavers Bend Marina in Broken Bow, Oklahoma. Most of the expense estimates were applied from actual expenses at Beavers Bend Marina but adjusted upward based on the larger scale of Lone Star Marina. These expense estimates start in 2019 (today's dollars) and are extended through 2024 at a rate of 3% annual increase). The expenses for 2019 and 2020 are shown for reference on the following table (shaded numbers) but are not actual expenses since the project will be under development in 2019/2020.

Lone Star Marina - Cash Flow Estimates (Continued)						
	Current Year	Construction	Completion			Stabilization
	2019	2020	2021	2022	2023	2024
Expenses						
Advertising Expense	\$46,000	\$47,001	\$48,411	\$49,864	\$51,360	\$52,900
Authorize.net Booking	\$150,000	\$154,500	\$159,135	\$163,909	\$168,826	\$173,891
Automobile Expense	\$35,000	\$35,987	\$37,067	\$38,179	\$39,324	\$40,504
Bank Service Charges	\$130,000	\$133,577	\$137,584	\$141,711	\$145,963	\$150,342
Boat Purchases for Rentals	\$0	\$0	\$420,000	\$280,000	\$288,400	\$297,052
Boat Rental Maintenance	\$0	\$0	\$4,500	\$7,500	\$10,500	\$13,500
Computer & Internet Expenses	\$30,000	\$30,609	\$31,527	\$32,473	\$33,447	\$34,451
Contract Labor	\$12,000	\$12,834	\$13,219	\$13,616	\$14,024	\$14,445
Dock Supplies	\$0	\$273	\$282	\$290	\$299	\$308
Dues and Subscriptions	\$9,000	\$9,235	\$9,512	\$9,797	\$10,091	\$10,394
Equipment Rental	\$2,000	\$2,434	\$2,507	\$2,583	\$2,660	\$2,740
Filing Fees	\$0	\$331	\$341	\$351	\$361	\$372
Insurance	\$396,000	\$407,710	\$419,941	\$432,539	\$445,515	\$458,881
Interest Expense	\$4,000	\$4,126	\$4,249	\$4,377	\$4,508	\$4,644
Jet Ski Purchases	\$0	\$0	\$27,000	\$9,000	\$9,000	\$9,000
Jet Ski Maintenance	\$0	\$0	\$900	\$1,200	\$1,500	\$1,800
Licenses and Permits	\$28,000	\$28,885	\$29,751	\$30,644	\$31,563	\$32,510
Management Fees	\$195,000	\$200,850	\$206,876	\$213,082	\$219,474	\$226,058
Meals & Entertainment	\$6,000	\$5,756	\$5,928	\$6,106	\$6,289	\$6,478
Miscellaneous	\$1,000	\$617	\$636	\$655	\$674	\$695
New Construction & Repair	\$249,000	\$256,819	\$264,523	\$272,459	\$280,633	\$289,052
Office Expense	\$61,000	\$63,108	\$65,001	\$66,951	\$68,960	\$71,029
Payroll Expenses	\$1,200,000	\$1,236,000	\$1,273,080	\$1,311,272	\$1,350,611	\$1,391,129
Postage and Delivery	\$8,000	\$8,483	\$8,738	\$9,000	\$9,270	\$9,548
Professional Fees	\$80,000	\$82,515	\$84,991	\$87,541	\$90,167	\$92,872
Reimbursements	\$2,000	\$2,490	\$2,565	\$2,642	\$2,721	\$2,803
Rent	\$200,000	\$206,000	\$212,180	\$218,545	\$225,102	\$231,855
Supplies	\$30,000	\$31,106	\$32,039	\$33,000	\$33,990	\$35,010
Taxes	\$20,000	\$20,441	\$21,054	\$21,685	\$22,336	\$23,006
Telephone	\$39,000	\$40,553	\$41,770	\$43,023	\$44,314	\$45,643
Training and Seminars	\$1,000	\$890	\$917	\$944	\$973	\$1,002
Transportation Expense	\$120,000	\$123,600	\$127,308	\$131,127	\$135,061	\$139,113
Travel Expenses	\$38,000	\$38,725	\$39,887	\$41,084	\$42,316	\$43,585
Utilities	\$220,000	\$226,600	\$233,398	\$240,400	\$247,612	\$255,040
Total Expenses	\$ 3,313,000	\$ 3,412,054	\$ 3,966,816	\$3,917,549	\$4,037,844	\$4,161,649

Sources: Beavers Bend Marina, CBRE, Meyers Research

We estimate the total expenses to be \$3.966 million in 2021 (assuming the project is completed in January 2021), and increasing to \$4.161 million by 2024. After considering the total revenues as shown on the previous pages, the net operating income is negative in 2021 (-\$392,906) and increases to \$1.392 million in 2024.

V. INTERNAL RATE OF RETURN (IRR) ANALYSIS

In addition to revenue and cost estimates, we considered a 10-year hold of the development, followed by a hypothetical sale to estimate sale proceeds, operating income, a net present value of the completed project and an Internal Rate of Return (IRR).

Sales proceeds in the year 2030 are estimated by applying a 7.5% cap rate to NOI in that year of \$1.669 million, resulting in a value/ sale price of \$22.262 million. After paying sales and marketing commissions and paying off the debt service (construction loan) results in net sale proceeds of \$13.623 million. The net present value of sale proceeds is \$7.185 million, and the net present value of all operating income over the next ten years is \$7.687 million, for a total of \$14.872 million. Subtracting the construction loan from this total results in a net present value of \$1.652 million and an IRR of 11.2% unlevered (not including annual debt service) or an IRR of 18.5% levered (including debt service). An IRR of +/-10-13% unlevered or +/-18-22% levered is considered an acceptable rate of return that an investor/ developer would expect in a project such as Lone Star Lodge and Marina and represents a solid opportunity for Lone Star Lodge and Marina, LLC.

Lone Star Marina - Sale Proceeds and Internal Rate of Return												
	Current Year 2019	Construction 2020	Completion 2021	2022	2023	Stabilization 2024	2025	2026	2027	2028	2029	2030
Net Operating Income	\$(1,846,000)	\$ (1,901,266)	(\$392,906)	\$559,857	\$1,067,285	\$1,392,292	\$1,438,990	\$1,481,262	\$1,526,294	\$1,572,677	\$1,620,451	\$1,669,659
Sales Proceeds (Assumes 10-Year Hold)	-	-	-	-	-	-	-	-	-	-	-	\$22,262,117
Sales Price (at 7.5% Cap Rate)	-	-	-	-	-	-	-	-	-	-	-	(\$1,335,727)
Sales Expense (6% Sales and Marketing)	-	-	-	-	-	-	-	-	-	-	-	(\$7,302,495)
Debt Repay	-	-	-	-	-	-	-	-	-	-	-	-
Net Sales Proceeds	-	-	-	-	-	-	-	-	-	-	-	\$13,623,895
Total FCF	-	(\$13,219,940)	(\$392,906)	\$559,857	\$1,067,285	\$1,392,292	\$1,438,990	\$1,481,262	\$1,526,294	\$1,572,677	\$1,620,451	\$22,596,049
Levered FCF	-	(\$3,965,982)	(\$989,033)	(\$36,270)	\$471,158	\$796,165	\$842,863	\$885,135	\$930,167	\$976,550	\$1,024,324	\$14,697,427
Reversion FCF	-	-	-	-	-	-	-	-	-	-	-	\$13,623,895
Operating FCF	-	-	(\$392,906)	\$559,857	\$1,067,285	\$1,392,292	\$1,438,990	\$1,481,262	\$1,526,294	\$1,572,677	\$1,620,451	\$1,669,659
Total FCF	-	-	(\$392,906)	\$559,857	\$1,067,285	\$1,392,292	\$1,438,990	\$1,481,262	\$1,526,294	\$1,572,677	\$1,620,451	\$15,293,554
Construction Loan Interest (Debt)	-	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127	\$596,127
Equity Cash Flow	-	(\$2,643,988)	(\$989,033)	(\$36,270)	\$471,158	\$796,165	\$842,863	\$885,135	\$930,167	\$976,550	\$1,024,324	\$12,204,590
Debt Service Coverage Ratio (DSCR)	-	-3.19	-0.66	0.94	1.79	2.34	2.41	2.48	2.56	2.64	2.72	2.80
Cash-On-Cash	-	-	-3.0%	4.2%	8.1%	10.5%	10.9%	11.2%	11.5%	11.9%	12.3%	12.6%

Present Value of Sale Proceeds	\$7,185,309	48.3%
Present Value of Operating Income	\$7,687,026	51.7%
Total	\$14,872,335	100.0%
CF0	(\$13,219,940)	
Net Present Value	\$1,652,395	
IRR (Unlevered)	11.2%	
IRR (Levered)	18.5%	

Sources: Beavers Bend Marina, CBRE, Meyers Research

VII. REFERENCES

1. USACE Engineering Regulation (ER) 1130-2-550. Appendix D-1, Feasibility Study (USACE, 2013). URL: https://www.publications.usace.army.mil/Portals/76/Publications/EngineerRegulations/ER_1130-2-550.pdf. Accessed 11/19/2019.
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* * * * *

We appreciate the opportunity to conduct this analysis on your behalf and welcome any questions or comments you may have.

COMMERCIAL EXPERTISE AND EXPERIENCE

Meyers Research combines experienced real estate and technology advisors with leading data to provide our clients with a clear perspective and a strategic path forward. Our commercial expertise includes the following land uses and product types:

- **Retail** development including stand-alone restaurants, in-line shops, ground floor retail, neighborhood/ community shopping centers, regional malls, outlet centers, other specialty centers and repositioning of existing retail product.
- **Office** development including Class A and Class B product in urban and suburban locations as well as medical office product and repositioning of existing office product.
- **Industrial** development including warehouse/ distribution and flex/ R&D product in urban and suburban locations as well as repositioning of existing industrial product.
- **Other Commercial Uses** such as self-storage, education (day care), boat marinas, RV resorts, and religious facilities.
- **Hotel** development including independent and branded (“flag”) hotels, resorts and multi phased hotel opportunities in domestic and international locations.

Our analytical approach for commercial studies includes the following processes:

- **Locational Analysis:** we consider access, traffic levels, nearby uses, transportation linkages, location of services, etc.
- **Market Trends:** we include market conditions in the regional and local submarkets by compiling and analyzing statistics such as annual deliveries, leasing activity, lease rates, vacancy, absorption, etc.
- **Supply Assessment:** we identify and inventory existing competition including building size, access and location, special features/attractions, quality of facilities, age and reputation, tenant mix/types, rental rates, vacancy rates, etc. We also summarize relevant planned commercial developments in the local area.
- **Demand Analysis:** our methodology for commercial uses vary. For retail analysis, we estimate demand for retail space in various trade areas by understanding annual revenues at existing retailers in the local market (supply), as compared to resident consumer expenditures (demand) to determine the level of potential demand for additional retail uses. For office and industrial analysis, we estimate demand for space in the greater market and at the Subject with an analysis that is based on job growth projections. For hotel analysis, we forecast room rates and occupancy rates along with hotel deliveries in the pipeline to determine the opportunity for additional hotel(s) at a given subject property.
- **Product Recommendations:** we summarize our findings from our research in a concise market report that addresses the most ideal mix of uses for a given site, what specific tenants may be good targets for this demand, and what can be expected in terms of lease rates/ room rates, occupancy, and absorption expectations.

SELECT COMMERCIAL EXPERIENCE

Meyers provides detailed assistance with the planning for and implementation of commercial and mixed-use development. Our services include integrating sustainability into the mainstream development using macroeconomic analysis, coordination with the development and sales team, competitive analysis and strategic planning for proposed developments. The following is a selection of commercial properties our combined team has assessed:

Meyers Research Representative Commercial Studies				
Client Name	Engagement Description	Product Type	City	State
The Westervelt Company	Lake Tamaha	SFA/Apt/Retail/Office	Tuscaloosa	AL
Chamberlain Development LLC	Deep Well Ranch	Retail	Prescott	AZ
St. Clair Partners	Country Club Village	Mixed Use	Calimesa	CA
WORLDMAKER	Town Center Retail	Retail	Cathedral City	CA
McCaffrey Homes	Tesoro Viejo Commercial Analysis	Mixed Use	Fresno	CA
Western Land Strategies	Quay Valley	Mixed Use	Kings County	CA
River Islands Development	River Islands	Office, Retail, Flex/ R&D	Lathrop	CA
Mana Investments, Inc.	Sunset Plaza	Office/retail	Livermore	CA
MBS Dynamic LLC	LA County Industrial Valuation	Industrial	Los Angeles	CA
Specialty Construction, Inc.	Monarch Dunes	Retail	Nipomo	CA
Western Alliance Bank	Plaza La Media	Commercial	Otay Mesa	CA
Shopoff Advisors, LP	Richmond Campus Bay	SFA, APT, Office, Retail	Richmond	CA
AFG LLC	60/91 Freeway	Retail	Riverside	CA
Seritage Growth Properties	Montclair	SFA/Office	San Bernardino	CA
Seritage Growth Properties	San Bruno	SFA/Office	San Bruno	CA
Resmark Companies	La Jolla Village Prof. Center	Commercial	San Diego	CA
ARES	Distrito La Novia	SF/APT/Commercial	San Juan Capistrano	CA
Kennedy Wilson	38 North	Retail	Santa Rosa	CA
Seritage Growth Properties	Montclair	SFA/Office	Westminster	CA
H.G. Fenton Company	Chino Hills Employment Center	Mixed Use	Chino Hills	CA
City of San Marcos/David Taussig	Fenton-Discovery Village	Mixed Use	San Marcos	CA
Westside Investment Partners	High Point Aurora	Apt/Retail/Off/Hosp	Aurora	CO
Front Range Investment Holdings	Wilson Ranch	SFD/Apt/Commercial	Berthoud	CO
Colorado Crossing Metro District	Victory Ridge	SFA/Apt/Retail/Office/Hotel	Colorado Springs	CO
Oakwood Homes	Reunion Center	Office/Retail/Apt/SFA/SFD	Commerce City	CO
Colorado International District	High Point Denver	SFA/Apt/Retail/Office/Hotel	Denver	CO
Invent Development Partners	Train Denver	SFA/Apt/Retail/Office/Hotel	Denver	CO
J-25 Land Holdings	Villages at Johnstown	SFA/SFD/Apt/Retail/Ind/Office	Johnstown	CO
McWhinney	Centerra	Retail, Office, Self Storage	Loveland	CO
Redbarre Media	Redbarre Media Mixed Use	Mixed Use	Parker	CO
Kamehameha Schools	Mo'ili'ili & Kapalama Sites	Condo/Apt/Retail/Office	Honolulu	HI
PBR/ DHHL	Kapalama Site	Condo/Apt/Retail/Office	Honolulu	HI
A&B Properties Hawaii, LLC	Puunene Mill Redevelopment	Retail/ Ind	Kahului, Maui	HI
Localconstruct	Boise Retail	Retail	Boise	ID
Daiwa House Texas	Rockville Town Center Phase II	Apt/Retail	Rockville	MD
Settlers Landing Development, LLC	Settlers Landing	Retail, Office, Self Storage	Concord	NC
Western Albuquerque Land Holdings	Santolina	Mixed Use	Bernalillo County	NM
Gardner Tanenbaum Holdings	West Oklahoma City	Mixed Use	Oklahoma City	OK
Newland Communities	Reed's Crossing	SFA/SFD/Apt/Retail/Office	Hillsboro	OR
Newland Communities	Nexton	SFA/SFD/Apt/Industrial/Office	Charleston	SC
Cocke County Partnership	Fruit Jar Alley	Mixed Use	Fruit Jar Alley	TN
Brookfield Residential	Easton Park Commercial	Mixed Use	Austin	TX
HFF/ Hines	Deep Ellum Creative Office	Office	Dallas	TX
City of Dallas	Lancaster Corridor/ VA Hospital	APT/Hotel/Retail	Dallas	TX
Brookfield Residential	Kissing Tree	Mixed Use	San Marcos	TX
Oakwood Homes	Daybreak	SFA/SFD/Apt/Retail/Office	South Jordan	UT
Newland Communities	Tahalea	SFA/SFD/Apt/Retail/Office	Bonney Lake	WA
Tarragon Advisors	Orting Mixed Use Site	Retail	Orting	WA
Seritage Growth Properties	Redmond Redevelopment Site	SFA/Office	Redmond	WA
Wood Mountain, LLC	Woodinville Wine Village	SFA/Retail/Office	Woodinville	WA

MEYERS RESEARCH

Meyers Research combines experienced real estate and technology advisors with leading data to provide our clients with a clear perspective and a strategic path forward.

Our expertise includes:

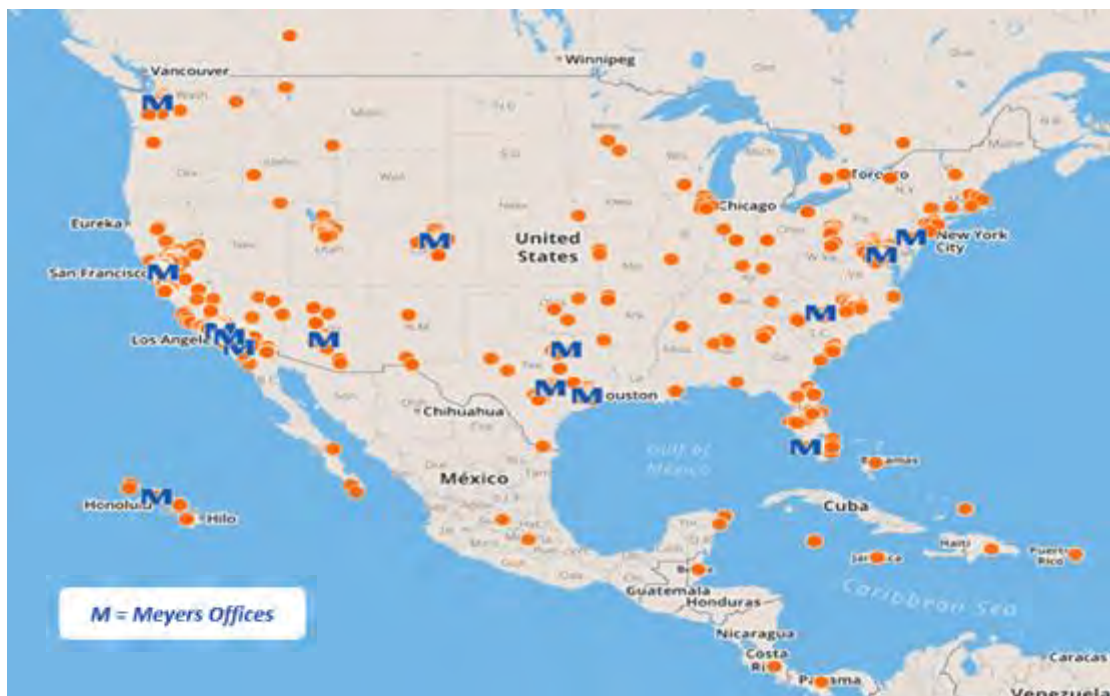
- Community Development
- Resort & International Development
- Litigation Support & Expert Witness
- Institutional Advisory & Portfolio Analysis
- Multi-Family, Urban & Mixed-Use
- Commercial Analysis
- Capital Investments



Our Advantage: The combination of deep real estate knowledge and cutting-edge technology backed by the most comprehensive data.

We are pleased to announce that our firm recently merged with Hanley Wood/Metrostudy. This enhances our array of information and the Advisory team.

*THE ADVISORY TEAM COMPLETED
APPROXIMATELY 900 STUDIES THROUGHOUT
THE U.S. IN THE LAST YEAR*



APPENDIX D

Supporting Documents

Section #	Description
D1.	Delineation of Waters of the United States (61 pages)
D2.	USFWS List of Federally-Protected Species that May Occur in the Project Area(7 pages)
D3.	TXNDD Element Occurrence Record (4 pages)
D4.	EDR Radius Map™ Report with GeoCheck® (70 pages)
D5.	Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation Score Sheets (13 pages)

Lone Star Lodge and Marina

Delineation of Waters of the United States

Lone Star Lodge and Marina

Ray Roberts Lake State Park - Jordan Unit
Denton County, Texas

December 10, 2019





Lone Star Lodge and Marina Site Delineation

Delineation of Waters of the United States
Lone Star Lodge and Marina
Ray Roberts Lake State Park - Jordan Unit
Denton County, Texas

Prepared for:
Ross Garrett
Lone Star Lodge and Marina
2303 Hillside Court
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Prepared by:
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GES Project:
4300171

Date:
December 10, 2019

A handwritten signature in blue ink, appearing to read "Joseph Schwartz", is written over a horizontal line.

Joseph Schwartz
Principal Environmental Scientist

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Exhibits

- Exhibit 1 – Vicinity Map
- Exhibit 2 – FEMA Flood Hazard Zones Map
- Exhibit 3 – USGS Topographic Map
- Exhibit 4 – National Wetlands Inventory Map
- Exhibit 5 – USDA Soils Map
- Exhibit 6 – Jurisdictional Waters Map



Appendices

Appendix A – Data Forms

Appendix B – Site Photographs

1 Introduction

Groundwater and Environmental Services, Inc. (GES) performed a delineation of wetlands and other potential "waters of the United States" (as defined by the Clean Water Act) for a proposed development. The proposed project is located within the south portion of Ray Roberts Lake State Park – Jordan Unit (**Exhibit 1**). Ray Roberts Lake State Park – Jordan Unit is located on the southeast quadrant of Ray Roberts Lake at the terminus of FM 1192. "Waters of the U.S." are referred to herein as "jurisdictional" waters, as they are potentially subject to federal regulation pursuant to Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act of 1899 under the jurisdiction of the U.S. Army Corps of Engineers (USACE). The field assessments were performed by Kirsten Ward, Jared Cobb, and Ryan Cohen on November 14, 2018 and February 7, 2019.

1.2 Study Area

The study area is an approximately 232-acre area located in southeast quadrant of Ray Roberts Lake at the terminus of FM 1192 (**Exhibit 2**). The majority of the site consists of maintained parkland with occasional forested areas. The site presently is used for recreational activities. The site is adjoined by rural residential development and Ray Roberts Lake.

2 Desktop Data Gathering and Analysis

Prior to the field assessment, background data were gathered and reviewed to preliminarily identify surface aquatic features within the study area. The data gathered and reviewed are described below.

2.1 Federal Emergency Management Agency - Flood Insurance Rate Map

Based upon the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels No. 48121C0115G (revised April 18, 2011) and 48121C0095G (revised April 18, 2011); the majority of the site is located in Zone AE (100-year floodplain based on flood elevation determinations). Portions of the shoreline are designated as Zone X shaded (areas of 0.2% annual chance flood). Small portions of the west and east preferred action area are located in Zone X unshaded (areas determined to be outside the 0.2% annual chance floodplain). The FEMA Flood Hazard Zones Map is provided as **Exhibit 2**.

2.2 United States Geologic Survey - Topographic Map

The 2019 Pilot Point and the 2019 Mountain Springs United States Geologic Survey (USGS) 7.5-Minute Topographic Maps of the study area were reviewed. Elevation is depicted to be between 630-680 feet above mean sea level (**Exhibit 3**). The majority of the study area is depicted as unimproved land (no shading). Ray Roberts Lake is depicted in the west portions of the study area. An unnamed intermittent tributary of Ray Roberts Lake is depicted in the east portion of the study area. A perennial lake/pond is depicted in the central portion of the study area.

2.3 United States Fish and Wildlife Service - National Wetlands Inventory

The United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) Wetlands Mapper depicts surface waters regardless of their federal or state jurisdiction. The USFWS National Wetlands Inventory Map is provided as **Exhibit 4**. NWI features mapped within the study area are summarized in the following.

Feature Type	Description	Location(s)
R4SBC	Riverine, intermittent streambed that is seasonally flooded.	Northeast-southwest oriented transecting the east portion of the study area and continuing beyond the and eastern site boundary.
PUBHh	Palustrine, unconsolidated bottom, permanently flooded, diked/impounded.	Central portion of the study area.
PUSCh	Palustrine, unconsolidated shore, seasonally flooded, diked/impounded.	South central portion of the study area.

2.4 United States Department of Agriculture – Web Soil Survey

The study area's soil data descriptions from the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS) were reviewed. The USDA Soils Map is provided as **Exhibit 5**. Seven soil units were mapped within the study area and are summarized below.

Map Unit Symbol	Map Unit Name	Landform	Natural Drainage Class	Frequency of Ponding	Frequency of Flooding	Depth to Water Table	Hydric Soil Rating
13	Birome-Rayex-Aubrey complex, 2 to 15 percent slopes	Ridges	Well Drained	None	None	More than 80 inches	No
24	Callisburg fine sandy loam, 3 to 5 percent slopes	Ridges	Well Drained	None	None	More than 80 inches	No
35	Gasil fine sandy loam, 1 to 3 percent slopes	Ridges	Well Drained	None	None	More than 80 inches	No
36	Gasil fine sandy loam, 3 to 8 percent slopes	Ridges	Well Drained	None	None	More than 80 inches	No
46	Justin fine sandy loam, 1 to 3 percent slopes	Ridges	Well Drained	None	None	More than 80 inches	No
60	Navo clay loam, 1 to 3 percent slopes	Ridges	Moderately well drained	None	None	More than 80 inches	No
83	Wilson clay loam, 0 to 1 percent slopes	Stream terraces	Moderately well drained	None	None	About 5 to 36 inches	No
W	Water	NA	NA	NA	NA	NA	NA

2.5 Texas Water Development Board

Ray Roberts Lake is a managed and owned by the USACE. The lake was formed/impounded on January 1, 1987. The lake's capacity and storage is managed during varying climatic conditions. Pertinent lake information is summarized below:

Service spillway crest elevation	Flood pool elevation	Top of dam elevation	Conservation pool elevation
645.5 ft above NGVD29	640.5 ft above NGVD29	665.0 ft above NGVD29	632.5 ft above NGVD29

2.6 Agriculture Applied Climate Information System - Climatic Hydrology Index

NRCS Agriculture Applied Climate Information System (AgACIS) data was downloaded and reviewed using the Direct Antecedent Rainfall Evaluation Method (DAREM). The DAREM provided a wetland hydrology index of climatic conditions. Rainfall data were obtained from the Denton 2 SE, TX weather station; which is the nearest weather station to the study area with the range of historic data available to calculate the DAREM. The DAREM indicated the study area experienced a wetter than normal hydrologic condition during the November 14, 2018 field assessment and a normal hydrologic condition during the February 7, 2019 field assessment. The DAREM index data during the field assessments are summarized in the following.

November 14, 2018 Field Assessment:

Month Ranking	Month	WETS Percentile		Measured Rainfall ¹	Condition ²	Weight ³	Month Score
		30 th	70 th				
1st	October	1.91	5.80	10.6	3	3	9
2nd	September	1.33	3.83	9.5	3	2	6
3rd	August	1.05	2.79	6.68	3	1	3
Total:							18

¹ Measured rainfall recorded at the weather station.

² Condition: 1 = monthly rainfall totals less than the 30-year Extreme Rainfall Distribution 30th percentile, 2 = monthly rainfall totals between the 30th and 70th percentile for the 30-year Extreme Rainfall Distribution, 3 = monthly rainfalls totals greater than the 70th percentile for the 30-year Extreme Rainfall Distribution.

³Monthly weights equal 3 for the prior month, 2 for the second prior month, and 1 for the third prior month.

DAREM Score (Observed Score)	6	7	8	9	10	11	12	13	14	15	16	17	<u>18</u>
DAREM Wetland Hydrologic Condition	Drier than normal				Normal				<u>Wetter than normal</u>				



February 7, 2019 Field Assessment:

Month Ranking	Month	WETS Percentile		Measured Rainfall ¹	Condition ²	Weight ³	Month Score
		30 th	70 th				
1st	January	1.00	2.49	1.46	2	3	6
2nd	December	1.10	2.96	4.30	3	2	6
3rd	November	1.21	3.28	1.17	1	1	1
Total:							13

¹ Measured rainfall recorded at the weather station.

² Condition: 1 = monthly rainfall totals less than the 30-year Extreme Rainfall Distribution 30th percentile, 2 = monthly rainfall totals between the 30th and 70th percentile for the 30-year Extreme Rainfall Distribution, 3 = monthly rainfalls totals greater than the 70th percentile for the 30-year Extreme Rainfall Distribution.

³ Monthly weights equal 3 for the prior month, 2 for the second prior month, and 1 for the third prior month.

DAREM Score (Observed Score)	6	7	8	9	10	11	12	<u>13</u>	14	15	16	17	18
DAREM Wetland Hydrologic Condition	Drier than normal				<u>Normal</u>				Wetter than normal				

3 Field Methodology

3.1 General

After reviewing background data, the field delineation was performed in accordance with the USACE Wetland Delineation Manual (USACE 1987), as later amended by USACE memoranda, and the Regional Supplement for the Great Plains Region (USACE 2010).

The study area was traversed along the Ray Roberts Lake's shoreline, via a transect, and additional vegetated communities were assessed. The transect was selected to run perpendicular to the hydrological gradients and intercept suspected wetland areas and other jurisdictional features, based on the aforementioned review of available documents. A minimum of one sample point was evaluated for each community type that was evidenced by a change in dominant vegetation type or hydrology. Visual observations of hydrology and vegetation were used to further characterize the size and extent of onsite jurisdictional features. Changes in community types denoting boundaries of jurisdictional features were mapped with the collection of GPS coordinates. The USACE Lewisville website was used to identify the OHWM elevation of Ray Roberts Lake (<http://www.swf-wc.usace.army.mil/rayroberts/>). Ray Roberts Lake "Normal Elevation" is recorded at 632.5 feet.

Field observations were recorded on a Corps of Engineers Wetland Determination Data Form – Great Plains Region (forms taken from USACE, 2010) (**Appendix B**). Photographs were taken from various positions at the site (**Appendix C**). Jurisdictional waters and delineation transects are shown on **Exhibit 6**.

3.2 Streams

Streams are identified as channels that have regular flow at a frequency and duration resulting in the formation of ordinary high water marks (OHWM). The OHWM is defined as "the line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (33 CFR § 328.3(e)).

3.3 Wetlands

Wetlands are defined as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include but are not limited to swamps, marshes, bogs, and similar areas. Wetlands have the following three diagnostic environmental characteristics: hydrophytic (or wetland) vegetation, wetland hydrology, and hydric soils. Evidence of all three parameters must be found in order to make a positive wetland determination.

3.4 Vegetation

The plant species in each vegetation stratum in the immediate vicinity of the plot were identified and recorded. The plot radius for each stratum is indicated on the Wetland Determination Data Form. For rapid delineations in relatively simple plant communities, dominant species were selected visually using the 50/20 Rule as a general guide. Dominant species were chosen independently from each stratum of the community. In general, dominant species were the most abundant species that individually or collectively account for more than 50 percent of the total coverage of vegetation in the stratum, plus any other species that, by itself, accounts for at least 20 percent of the total. Absolute percent cover is the recommended abundance measure for plants in all vegetation strata.

Hydrophytic vegetation decisions were based on the wetland indicator status (Lichvar, et al 2016) of species that make up the plant community. The indicator status for vegetation in USDA Land Resource Great Plains subregion was recorded for each of the species listed. The following abbreviations were used on the data forms:

OBL:	Obligate wetland plants
FACW:	Facultative wetland plants
FAC:	Facultative plants
FACU:	Facultative upland plants
UPL:	Upland plants

The dominance test is the basic hydrophytic vegetation indicator, and is used in most situations. This test indicates that hydrophytic vegetation is present at the observation point when more than 50 percent of the dominant species have an indicator status of OBL, FACW, and/or FAC. If indicators of hydric soil and wetland hydrology are present on the site, but the vegetation initially fails the dominance test, then the prevalence index is used. The prevalence index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is given a numeric code and weighting is by absolute percent cover.

For species listed as NI (reviewed but given no regional indicator) or NO (no known occurrence in the region at the time the list was compiled), the indicator status assigned to the species in the nearest adjacent region is applied. If the species is listed but no adjacent regional indicator is assigned, the species is not used to calculate hydrophytic vegetation indicators. Species that are not listed on the wetland plant list are considered to be UPL species.

3.5 Soils

Information regarding soils was recorded for each community at the site. A soil sample of at least the upper 16 inches was examined. The color of the matrix and any redox features in the sample were determined for each apparent layer in the sample using a soil color chart (Munsell, 1994). Indicators of iron and manganese reduction, translocation, or accumulation, sulfate reduction, or organic matter accumulation were recorded. Soil characteristics were reported on the data form and checked against the mapped soil type to determine if the mapped soil type appeared to be

accurate for the plot. A hydric soil indicator was chosen for the plot if the observed characteristics matched the conditions of the listed indicators for the Great Plains Region.

3.6 Hydrology

At each plot, visual indications of wetland hydrology were recorded. Wetland hydrology indicators fall into four groups:

1. Group A – Observation of surface water or saturated soils
2. Group B – Evidence of recent inundation
3. Group C – Evidence of current or recent soil saturation
4. Group D – Evidence from other site conditions or data

Additionally, the result of the FAC-neutral test was recorded. The FAC-neutral test is determined by first eliminating all FAC species from consideration. The FAC-Neutral test is positive if the number of remaining dominant species wetter than FAC (OBL, FACW) are greater than the number of dominant species drier than FAC (UPL, FACU). The FAC-neutral test is a Group D indicator.

3.7 Other Observations

Other observations pertinent to the outcome of the wetland delineation were recorded. Primarily, these observations were directed to land alterations that would impact hydrology, such as dams or other blockages, man-made drainage channels, or changes to on site or offsite topography that modify drainage patterns.

4 Results

During the field delineation, GES observed two wetlands and Ray Roberts Lake. A summary of delineated areas is provided below. A map of waters of the U.S. and delineation transects for the site is provided as **Figure 6**. Routine Wetland Determination Data Forms for each observation location are included in **Appendix B** and photographs of site features are provided in **Appendix C**. Five communities and site features are further described below:

Community Type A represents the lake riparian emergent wetland RRREW-1 located along the shoreline of the southern portion of the peninsula of the study area. RRREW-1 appears to be sustained by surrounding sheet flow and incoming flow from Ray Roberts Lake. RRREW-1 appears to drain into Community E, down-gradient. RRREW-1 was delineated to be approximately 7.374 ac in size. See data sheets SP2 and SP14.

Community Type B represents the lake riparian forested wetland RRRFW-1, located in the central portion of the study area. RRRFW-1 appears to be sustained by surrounding sheet flow and incoming flow from Ray Roberts Lake. RRRFW-1 appears to drain into Ray Roberts Lake, down-gradient. RRRFW-1 was delineated to be approximately 0.991 ac in size. See data sheet SP10.

Community Type C represents the maintained grasslands located in the western portion of the site. These areas are determined to be upland areas that do not meet all three wetland criteria, and lack any canopy cover from woody vegetative species. See data sheets SP1 and SP8.

Community Type D represents the majority of the site and was classified as Crosstimbers Post Oak Woodlands. These areas are determined to be upland areas that do not meet all three wetland criteria, and typically dominated by post oak (*Quercus stellata*) with a closed canopy resulting in a reduced herbaceous layer. See data sheets SP4 through SP7, SP9, SP11 through SP13, and SP15.

Community Type E represents the open water feature on site. Ray Roberts Lake is an impoundment of the Elm Fork Trinity River, a traditionally navigable water. The shoreline / high flow appeared above the OHWM and the adjoining banks appeared to have been washed out. See adjoining banks communities sample points SP3, SP16, and SP17.

5 Summary and Conclusions

RRREW-1 and RRRFW-1 are located within the 100-year floodplain and convey surface water to Ray Roberts Lake. Ray Roberts Lake is an impoundment of the Elm Fork Trinity River. The USACE considers the Trinity River to be a traditionally navigable water. Therefore, it is GES's opinion RRREW-1, RRRFW-1, and Ray Roberts Lake would be considered waters of the United States and subject to USACE jurisdiction under Section 404.

A map of waters of the U.S. and delineation sample points for the study area are provided as **Figure 6**. The area measurements provided herein are estimates based on GIS and Garmin eTrex 30x handheld GPS measurements. Jurisdictional waters of the U.S. summarized in the following.

WOUS Name	Elevation of OHWM (feet)	Area (acres)
Open Water		
Ray Roberts Lake	632.5	>45
OPEN WATER TOTAL	-	>45
Wetlands		
RRREW-1	-	7.374
RRRFW-1	-	0.991
WETLANDS TOTAL	-	8.365

7 References Cited

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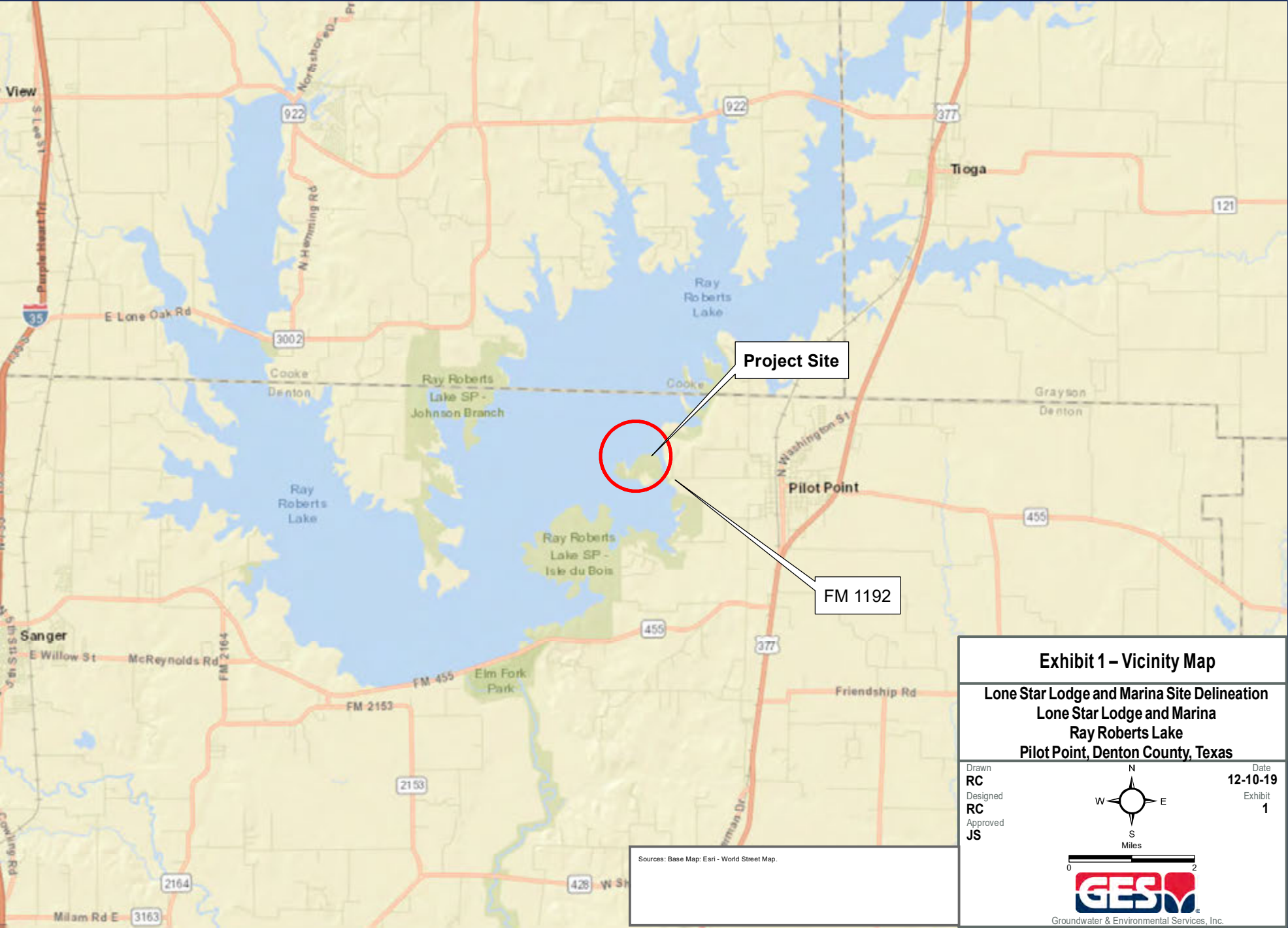
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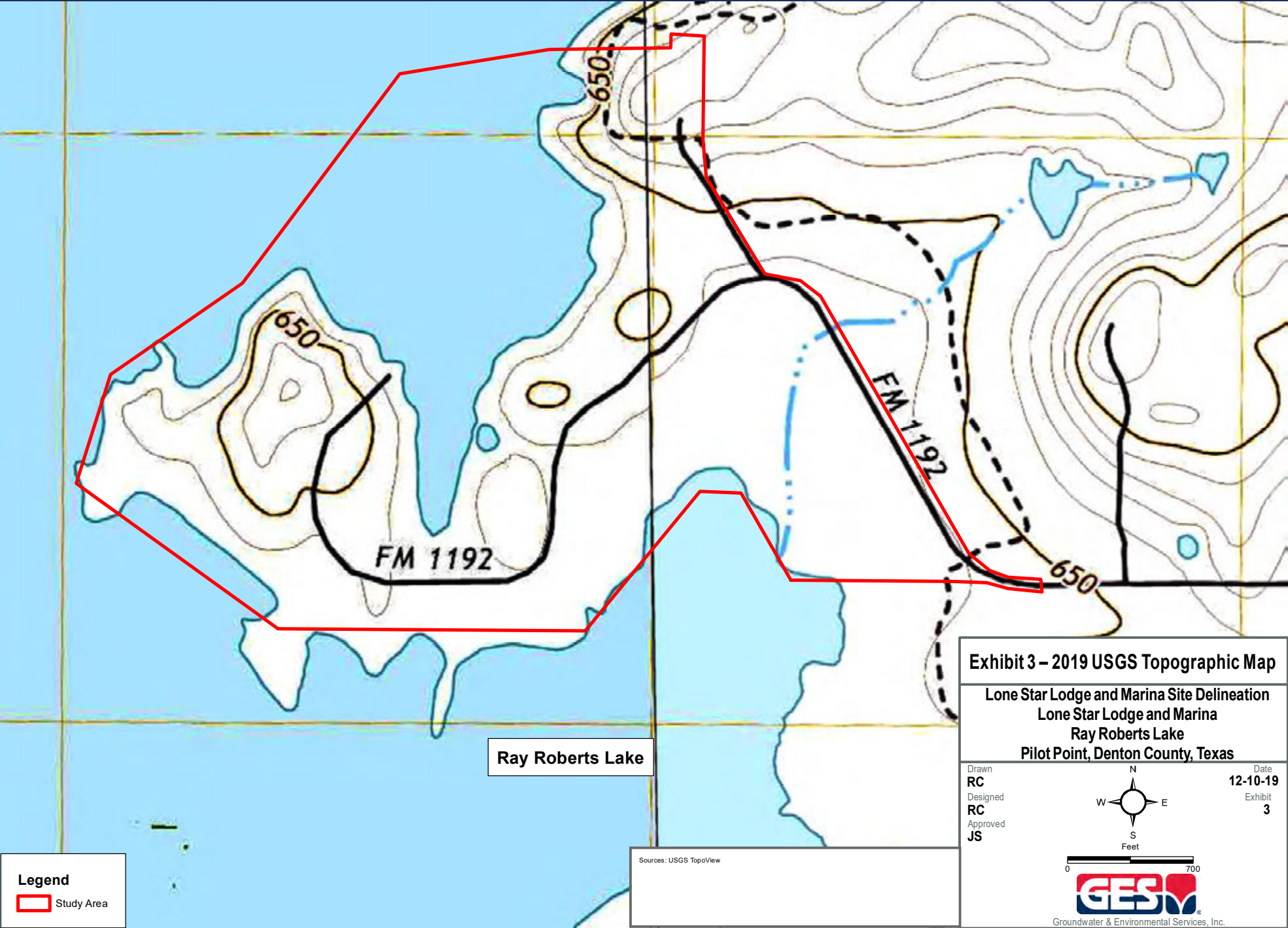
U. S. Geological Survey topoView. Accessed June, 2019. <https://ngmdb.usgs.gov/topoview/>.

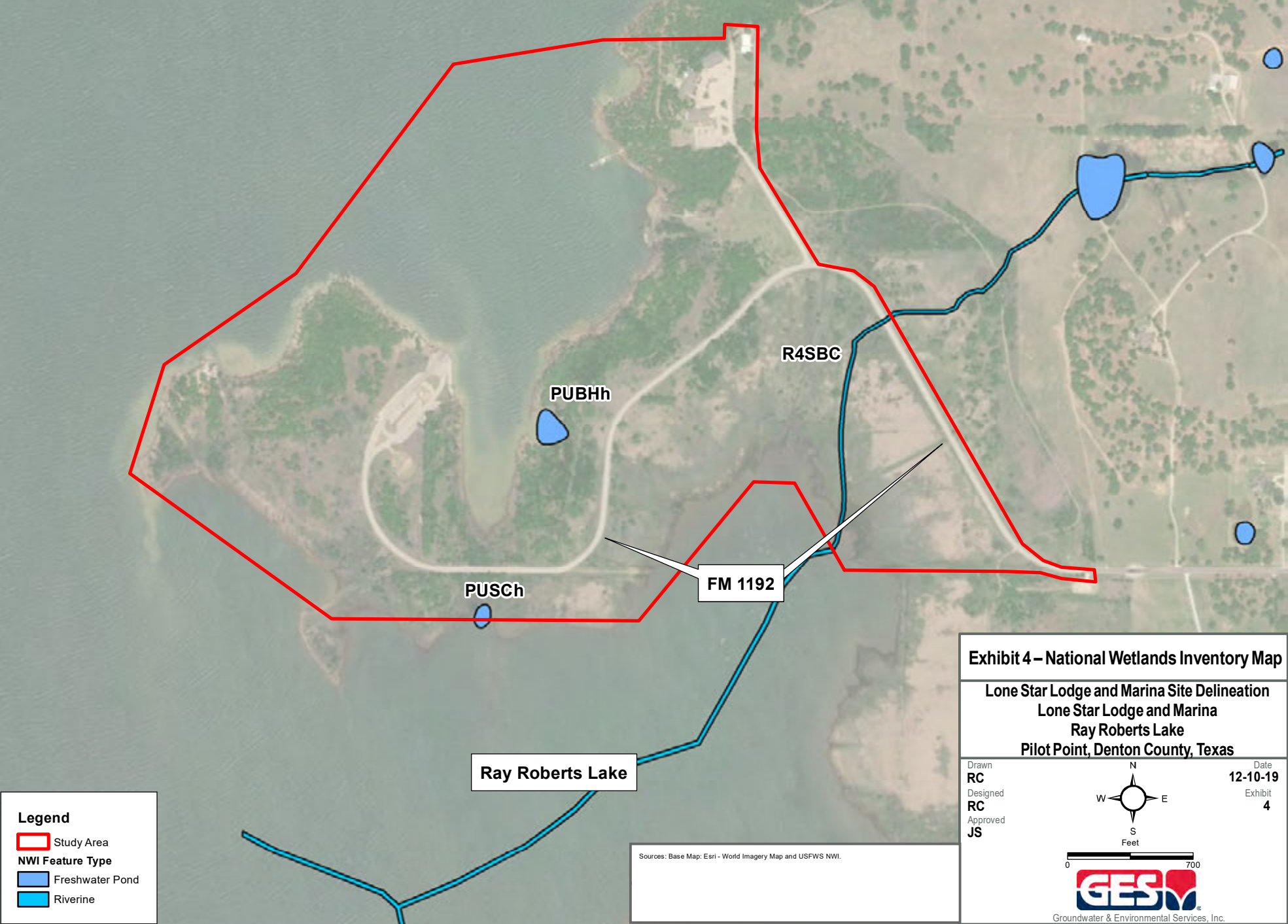


Exhibits

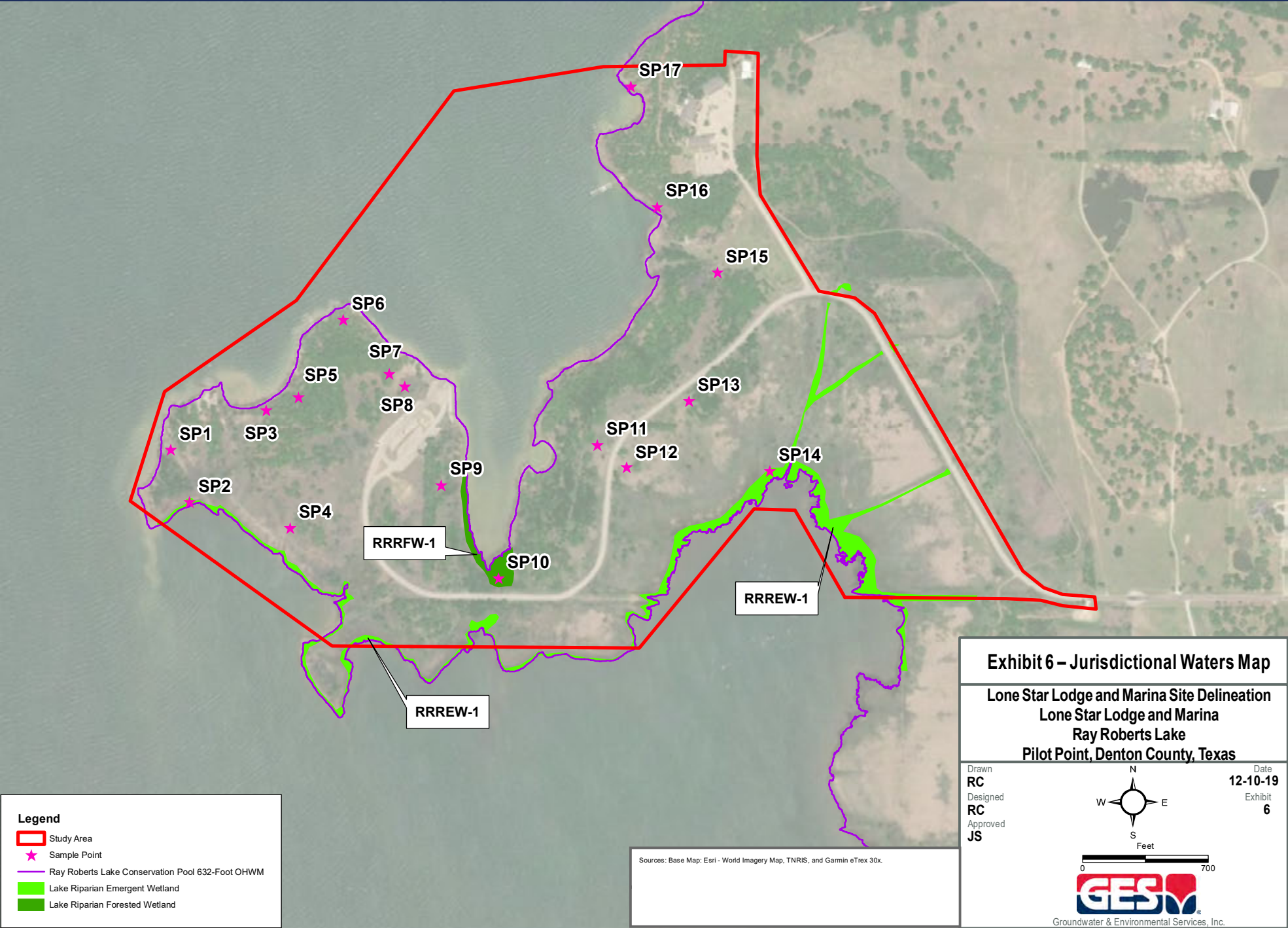














Appendix A – Data Forms

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 07-Feb-19

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP1

Investigator(s): RC and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): convex Slope: 5.0 % / 2.9 °

Subregion (LRR): LRR J Lat.: 33.400811 Long.: -97.00976 Datum: NAD83

Soil Map Unit Name: Birome-Rayex-Aubrey complex, 2 to 15 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	_____	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2. _____	_____	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: 1 (B)
3. _____	_____	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
4. _____	_____	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. _____	_____	<input type="checkbox"/>	_____	Total % Cover of: Multiply by:
2. _____	_____	<input type="checkbox"/>	_____	OBL species 0 x 1 = 0
3. _____	_____	<input type="checkbox"/>	_____	FACW species 0 x 2 = 0
4. _____	_____	<input type="checkbox"/>	_____	FAC species 0 x 3 = 0
5. _____	_____	<input type="checkbox"/>	_____	FACU species 85 x 4 = 340
	0	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 85 (A) 340 (B)
1. Cynodon dactylon	85	<input checked="" type="checkbox"/> 100.0%	FACU	Prevalence Index = B/A = 4
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
8. _____	_____	<input type="checkbox"/>	_____	
9. _____	_____	<input type="checkbox"/>	_____	
10. _____	_____	<input type="checkbox"/>	_____	
	85	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1. _____	_____	<input type="checkbox"/>	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	_____	<input type="checkbox"/>	_____	<input type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

Soil

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-16	10YR	6/8	95	7.5YR	5/8	5	CS	M	Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix S4	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 and 73 of LRR H)		

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input type="radio"/> No <input checked="" type="radio"/>
Depth (inches): _____	

Remarks: _____

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one required; check all that apply)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)
<input type="checkbox"/> Drift deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-neutral Test (D5)
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)

Field Observations:		Wetland Hydrology Present?
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Yes <input type="radio"/> No <input checked="" type="radio"/>
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>	

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____

Remarks: _____

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 07-Feb-19

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP2

Investigator(s): RC and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoreline Local relief (concave, convex, none): flat Slope: 2.0 % / 1.1 °

Subregion (LRR): LRR J Lat.: 33.400007 Long.: -97.00943 Datum: NAD83

Soil Map Unit Name: Gasil fine sandy loam, 1 to 3 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	_____	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2. _____	_____	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: 2 (B)
3. _____	_____	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
4. _____	_____	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. Cephalanthus occidentalis	95	<input checked="" type="checkbox"/>	100.0% OBL	Total % Cover of: Multiply by:
2. _____	_____	<input type="checkbox"/>	_____	OBL species 140 x 1 = 140
3. _____	_____	<input type="checkbox"/>	_____	FACW species 0 x 2 = 0
4. _____	_____	<input type="checkbox"/>	_____	FAC species 0 x 3 = 0
5. _____	_____	<input type="checkbox"/>	_____	FACU species 0 x 4 = 0
	95	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 140 (A) 140 (B)
1. Typha latifolia	45	<input checked="" type="checkbox"/>	100.0% OBL	Prevalence Index = B/A = 1
2. _____	_____	<input type="checkbox"/>	_____	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
8. _____	_____	<input type="checkbox"/>	_____	
9. _____	_____	<input type="checkbox"/>	_____	
10. _____	_____	<input type="checkbox"/>	_____	
	45	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1. _____	_____	<input type="checkbox"/>	_____	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	_____	<input type="checkbox"/>	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Remarks:				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

Soil

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix		%	Redox Features			Type ¹	Loc ²	Texture	Remarks
	Color (moist)			Color (moist)		%				
0-8	N/A	N/A	100						organic matter compact	
8-12	10YR	3/1	80	7.5YR	3/1	20	D	PL	Sandy Loam	
12-16	10YR	2/1	95	7.5YR	3/8	5	D	M	Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <small>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</small>
--	---

Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input checked="" type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:	
Remarks:	

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 07-Feb-19

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP3

Investigator(s): RC and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 5.0 % / 2.9 °

Subregion (LRR): LRR J Lat.: 33.401394 Long.: -97.00801 Datum: NAD83

Soil Map Unit Name: Callisburg fine sandy loam, 3 to 5 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Quercus stellata	65	<input checked="" type="checkbox"/> 81.3%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2. Juniperus virginiana	15	<input checked="" type="checkbox"/> 18.8%	FACU	Total Number of Dominant Species Across All Strata: 2 (B)
3.		<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
4.		<input type="checkbox"/> 0.0%		
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1.		<input type="checkbox"/>		Total % Cover of: Multiply by:
2.		<input type="checkbox"/>		OBL species 0 x 1 = 0
3.		<input type="checkbox"/>		FACW species 0 x 2 = 0
4.		<input type="checkbox"/>		FAC species 0 x 3 = 0
5.		<input type="checkbox"/>		FACU species 80 x 4 = 320
	0	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 80 (A) 320 (B)
1.		<input type="checkbox"/>		Prevalence Index = B/A = 4
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		
6.		<input type="checkbox"/>		
7.		<input type="checkbox"/>		
8.		<input type="checkbox"/>		
9.		<input type="checkbox"/>		
10.		<input type="checkbox"/>		
	0	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1.		<input type="checkbox"/>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2.		<input type="checkbox"/>		<input type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum 20				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Remarks:				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

Soil

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-16	10YR	5/3	80	7.5YR	3/1	20	C	M	Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)
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Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Remarks:

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina **City/County:** Pilot Point / Denton **Sampling Date:** 07-Feb-19
Applicant/Owner: Lone Star Lodge and Marina, LLC **State:** Texas **Sampling Point:** SP4
Investigator(s): RC and JC **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Shoulder slope **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °
Subregion (LRR): LRR J **Lat.:** 33.399591 **Long.:** -97.007604 **Datum:** NAD83
Soil Map Unit Name: Callisburg fine sandy loam, 3 to 5 percent slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☐ , **Soil** ☐ , **or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ☒ No ☐
Are Vegetation ☐ , **Soil** ☐ , **or Hydrology** ☐ **naturally problematic?** (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Quercus stellata	10	<input checked="" type="checkbox"/> 100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2. _____	_____	<input type="checkbox"/> _____	_____	Total Number of Dominant Species Across All Strata: 4 (B)
3. _____	_____	<input type="checkbox"/> _____	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
4. _____	_____	<input type="checkbox"/> _____	_____	
	10	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				
1. Quercus stellata	5	<input checked="" type="checkbox"/> 100.0%	FACU	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 5 x 3 = 15 FACU species 70 x 4 = 280 UPL species 5 x 5 = 25 Column Totals: 80 (A) 320 (B) Prevalence Index = B/A = 4
2. _____	_____	<input type="checkbox"/> _____	_____	
3. _____	_____	<input type="checkbox"/> _____	_____	
4. _____	_____	<input type="checkbox"/> _____	_____	
5. _____	_____	<input type="checkbox"/> _____	_____	
	5	= Total Cover		
Herb Stratum (Plot size: 5)				
1. Smilax bona-nox	25	<input checked="" type="checkbox"/> 38.0%	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
2. Andropogon gerardii	30	<input checked="" type="checkbox"/> 46.0%	FACU	
3. Croton texensis	5	<input type="checkbox"/> 8.0%	UPL	
4. Baccharis halimifolia	5	<input type="checkbox"/> 8.0%	FAC	
5. _____	_____	<input type="checkbox"/> _____	_____	
6. _____	_____	<input type="checkbox"/> _____	_____	
7. _____	_____	<input type="checkbox"/> _____	_____	
8. _____	_____	<input type="checkbox"/> _____	_____	
9. _____	_____	<input type="checkbox"/> _____	_____	
10. _____	_____	<input type="checkbox"/> _____	_____	
	65	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1. _____	_____	<input type="checkbox"/> _____	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
2. _____	_____	<input type="checkbox"/> _____	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum _____				
Remarks:				

Soil

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-6	10YR	4/6	95	7.5R	3/4	5	CS	M	Clay	
6-16	7.5YR	3/4	100						Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix S4	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 and 73 of LRR H)		

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input type="radio"/> No <input checked="" type="radio"/>
Depth (inches): _____	

Remarks:

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input type="checkbox"/> Drift deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)	

Field Observations:		Wetland Hydrology Present?	
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>		
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>		

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 14-Nov-18

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP5

Investigator(s): KW and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoreline Local relief (concave, convex, none): concave Slope: 10.0 % / 5.7 °

Subregion (LRR): LRR J Lat.: 33.401587 Long.: -97.007415 Datum: NAD83

Soil Map Unit Name: Birome-Rayex-Aubrey complex, 2 to 15 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: DAREM = 18 - wetter than normal climatic/hydrologic conditions plot located above water level. flooded area with similar veg may have hydric soils	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Quercus stellata	60	<input checked="" type="checkbox"/> 75.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A)
2. Fraxinus pennsylvanica	10	<input type="checkbox"/> 12.5%	FAC	Total Number of Dominant Species Across All Strata: 5 (B)
3. Ulmus crassifolia	10	<input type="checkbox"/> 12.5%	FAC	Percent of dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)
4.	0	<input type="checkbox"/> 0.0%		
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. Cephalanthus occidentalis	45	<input checked="" type="checkbox"/> 81.8%	OBL	Total % Cover of: Multiply by:
2. Baccharis halimifolia	10	<input type="checkbox"/> 18.2%	FAC	OBL species 55 x 1 = 55
3.	0	<input type="checkbox"/> 0.0%		FACW species 25 x 2 = 50
4.	0	<input type="checkbox"/> 0.0%		FAC species 35 x 3 = 105
5.	0	<input type="checkbox"/> 0.0%		FACU species 80 x 4 = 320
	55	= Total Cover		UPL species 2 x 5 = 10
Herb Stratum (Plot size: 5)				Column Totals: 197 (A) 540 (B)
1. Panicum rigidulum var. pubescens	15	<input checked="" type="checkbox"/> 24.2%	FACW	Prevalence Index = B/A = 2.741
2. Sorghum halepense	10	<input checked="" type="checkbox"/> 16.1%	FACU	
3. Cynodon dactylon	5	<input type="checkbox"/> 8.1%	FACU	
4. Smilax bona-nox	5	<input type="checkbox"/> 8.1%	FACU	
5. Mentha arvensis	10	<input checked="" type="checkbox"/> 16.1%	FACW	
6. Cephalanthus occidentalis	5	<input type="checkbox"/> 8.1%	OBL	
7. Ulmus crassifolia	5	<input type="checkbox"/> 8.1%	FAC	
8. Juniperus virginiana var. silicicola	2	<input type="checkbox"/> 3.2%	UPL	
9. Carex crus-corvi	5	<input type="checkbox"/> 8.1%	OBL	
10.	0	<input type="checkbox"/> 0.0%		
	62	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1.	0	<input type="checkbox"/>		
2.	0	<input type="checkbox"/>		
	0	= Total Cover		
% Bare Ground in Herb Stratum 38				
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

Soil

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-6	10YR	7/3	95	10YR	7/8	3	CS	PL	Sand	10% organic matter
6-16	10YR	4/3	40	10YR	7/8	5	CS	M	Sand	
+mottle	10YR	2/2	35					M	organic sand	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 and 73 of LRR H)		

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input type="radio"/> No <input checked="" type="radio"/>
Depth (inches): _____	

Remarks:

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input checked="" type="checkbox"/> Drift deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input checked="" type="checkbox"/> FAC-neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)	

Field Observations:		Wetland Hydrology Present?	
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present?	Yes <input checked="" type="radio"/> No <input type="radio"/>		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>		

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 07-Feb-19

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP6

Investigator(s): RC and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): convex Slope: 2.0 % / 1.1 °

Subregion (LRR): LRR J Lat.: 33.402765 Long.: -97.006582 Datum: NAD83

Soil Map Unit Name: Birome-Ravex-Aubrey complex, 2 to 15 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Ulmus crassifolia	65	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2.		<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: 1 (B)
3.		<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
4.		<input type="checkbox"/> 0.0%		
	65	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1.		<input type="checkbox"/>		Total % Cover of: Multiply by:
2.		<input type="checkbox"/>		OBL species 0 x 1 = 0
3.		<input type="checkbox"/>		FACW species 0 x 2 = 0
4.		<input type="checkbox"/>		FAC species 65 x 3 = 195
5.		<input type="checkbox"/>		FACU species 0 x 4 = 0
	0	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 65 (A) 195 (B)
1.		<input type="checkbox"/>		Prevalence Index = B/A = 3
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		
6.		<input type="checkbox"/>		
7.		<input type="checkbox"/>		
8.		<input type="checkbox"/>		
9.		<input type="checkbox"/>		
10.		<input type="checkbox"/>		
	0	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1.		<input type="checkbox"/>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2.		<input type="checkbox"/>		<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

Soil

Sampling Point: SP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		%	Redox Features				Texture	Remarks
	Color (moist)			Color (moist)	%	Type ¹	Loc ²		
0-16	10YR	5/3	80	7.5YR	3/1	20	C	M	Clay

¹Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains ²Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|--|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Gleyed Matrix S4 |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Sandy Redox (S5) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Stripped Matrix (S6) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Mucky Mineral (F1) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR F) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) | <input type="checkbox"/> Depleted Matrix (F3) |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Redox Dark Surface (F6) |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Depleted Dark Surface (F7) |
| <input type="checkbox"/> Sandy Muck Mineral (S1) | <input type="checkbox"/> Redox depressions (F8) |
| <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) | <input type="checkbox"/> High Plains Depressions (F16) |
| <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F) | |

(MLRA 72 and 73 of LRR H)

Indicators for Problematic Hydric Soils³:

- | |
|--|
| <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) |
| <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) |
| <input type="checkbox"/> Dark Surface (S7) (LRR G) |
| <input type="checkbox"/> High Plains Depressions (F16) |

(LRR H outside of MLRA 72 and 73)

- | |
|---|
| <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Very Shallow Dark Surface (TF12) |
| <input type="checkbox"/> Other (Explain in Remarks) |

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☐ No ☒

Remarks:

Hydrology

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Invertebrates (B13) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) |
| <input type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Dry Season Water Table (C2) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| <input type="checkbox"/> Drift deposits (B3) | |
| <input type="checkbox"/> Algal Mat or Crust (B4) | (where not tilled) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Presence of Reduced Iron (C4) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|---|
| <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) |
| <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) |
| (where tilled) |
| <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> FAC-neutral Test (D5) |
| <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F) |

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____Water Table Present? Yes ☐ No ☒ Depth (inches): _____Saturation Present? (includes capillary fringe) Yes ☐ No ☒ Depth (inches): _____Wetland Hydrology Present? Yes ☐ No ☒

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 14-Nov-18

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP7

Investigator(s): KW and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Ridgetop Local relief (concave, convex, none): convex Slope: 5.0 % / 2.9 °

Subregion (LRR): LRR J Lat.: 33.401925 Long.: -97.005754 Datum: NAD83

Soil Map Unit Name: Birome-Rayex-Aubrey complex, 2 to 15 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: DAREM = 18 - wetter than normal climatic/hydrologic conditions	

VEGETATION - Use scientific names of plants

FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Quercus stellata	80	<input checked="" type="checkbox"/> 100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2.	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: 5 (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)
4.	0	<input type="checkbox"/> 0.0%		
	80	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. Ulmus crassifolia	10	<input checked="" type="checkbox"/> 50.0%	FAC	Total % Cover of: Multiply by:
2. Quercus stellata	10	<input checked="" type="checkbox"/> 50.0%	FACU	OBL species 0 x 1 = 0
3.	0	<input type="checkbox"/> 0.0%		FACW species 0 x 2 = 0
4.	0	<input type="checkbox"/> 0.0%		FAC species 10 x 3 = 30
5.	0	<input type="checkbox"/> 0.0%		FACU species 110 x 4 = 440
	20	= Total Cover		UPL species 20 x 5 = 100
Herb Stratum (Plot size: 5)				Column Totals: 140 (A) 570 (B)
1. Smilax bona-nox	20	<input checked="" type="checkbox"/> 50.0%	FACU	Prevalence Index = B/A = 4.071
2. Croton texensis	20	<input checked="" type="checkbox"/> 50.0%	UPL	
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	40	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1.	0	<input type="checkbox"/>		
2.	0	<input type="checkbox"/>		
	0	= Total Cover		
% Bare Ground in Herb Stratum 60				
Remarks:				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

Soil

Sampling Point: SP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)		%	Type ¹			Loc ²
0-3	10YR	3/3	100						Loam	5% organic
3-12	7.5YR	4/6	100						Clay	
12-16										restricted rock layer

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: <u>rock</u> Depth (inches): <u>12</u>	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Remarks:

Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u> Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u>	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
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Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 14-Nov-18

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP8

Investigator(s): KW and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): concave Slope: 1.0 % / 0.6 °

Subregion (LRR): LRR J Lat.: 33.401732 Long.: -97.005474 Datum: NAD83

Soil Map Unit Name: Birome-Rayex-Aubrey complex, 2 to 15 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Remarks: DAREM = 18 - wetter than normal climatic/hydrologic conditions	

VEGETATION - Use scientific names of plants

FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2. _____	0	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: 3 (B)
3. _____	0	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
4. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. Quercus stellata	8	<input checked="" type="checkbox"/>	100.0% FACU	Total % Cover of: Multiply by:
2. _____	0	<input type="checkbox"/>	0.0% _____	OBL species 0 x 1 = 0
3. _____	0	<input type="checkbox"/>	0.0% _____	FACW species 0 x 2 = 0
4. _____	0	<input type="checkbox"/>	0.0% _____	FAC species 0 x 3 = 0
5. _____	0	<input type="checkbox"/>	0.0% _____	FACU species 68 x 4 = 272
	8	= Total Cover		UPL species 35 x 5 = 175
Herb Stratum (Plot size: 5)				Column Totals: 103 (A) 447 (B)
1. Andropogon gerardii	50	<input checked="" type="checkbox"/>	52.6% FACU	Prevalence Index = B/A = 4.34
2. Poa arachnifera	15	<input type="checkbox"/>	15.8% UPL	
3. Bouteloua curtipendula	20	<input checked="" type="checkbox"/>	21.1% UPL	
4. Ambrosia artemisiifolia	10	<input type="checkbox"/>	10.5% FACU	
5. _____	0	<input type="checkbox"/>	0.0% _____	
6. _____	0	<input type="checkbox"/>	0.0% _____	
7. _____	0	<input type="checkbox"/>	0.0% _____	
8. _____	0	<input type="checkbox"/>	0.0% _____	
9. _____	0	<input type="checkbox"/>	0.0% _____	
10. _____	0	<input type="checkbox"/>	0.0% _____	
	95	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/>	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/>	_____	<input type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum 5				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Remarks:				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

Soil

Sampling Point: SP8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-4	7.5YR	4/6	100				Sand	
4-16	7.5YR	7/8	100				Sand	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix S4	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 and 73 of LRR H)		

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input type="radio"/> No <input checked="" type="radio"/>
Depth (inches): _____	

Remarks:

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input type="checkbox"/> Drift deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)	

Field Observations:		Wetland Hydrology Present?	
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Yes <input type="radio"/> No <input checked="" type="radio"/>	
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>		
Saturation Present? (includes capillary fringe)	Yes <input type="radio"/> No <input checked="" type="radio"/>		

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

Both soil layers appeared saturated. Assumed due to recent rainfall. See climatic remark section above.

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina **City/County:** Pilot Point / Denton **Sampling Date:** 14-Nov-18
Applicant/Owner: Lone Star Lodge and Marina, LLC **State:** Texas **Sampling Point:** SP9
Investigator(s): KW and JC **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Shoreline **Local relief (concave, convex, none):** concave **Slope:** 10.0 % / 5.7 °
Subregion (LRR): LRR J **Lat.:** 33.400211 **Long.:** -97.004835 **Datum:** NAD83
Soil Map Unit Name: Gasil fine sandy loam, 1 to 3 percent slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)
Are Vegetation ☐ , **Soil** ☐ , **or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ☒ No ☐
Are Vegetation ☐ , **Soil** ☐ , **or Hydrology** ☐ **naturally problematic?** (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 18 - wetter than normal climate and hydrologic conditions same as t1p1	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Ulmus crassifolia	30	<input checked="" type="checkbox"/> 60.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. Gleditsia triacanthos	20	<input checked="" type="checkbox"/> 40.0%	FACU	
3. _____	_____	<input type="checkbox"/> _____	_____	
4. _____	_____	<input type="checkbox"/> _____	_____	
		50	= Total Cover	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>30</u> x 3 = <u>90</u> FACU species <u>45</u> x 4 = <u>180</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>75</u> (A) <u>270</u> (B) Prevalence Index = B/A = <u>3.6</u>
		0	<input type="checkbox"/> _____	
		0	<input type="checkbox"/> _____	
		0	<input type="checkbox"/> _____	
		0	<input type="checkbox"/> _____	
		0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)				
1. _____	0	<input type="checkbox"/> _____	_____	
2. _____	0	<input type="checkbox"/> _____	_____	
3. _____	0	<input type="checkbox"/> _____	_____	
4. _____	0	<input type="checkbox"/> _____	_____	
5. _____	0	<input type="checkbox"/> _____	_____	
		0	= Total Cover	
Herb Stratum (Plot size: 5)				
1. Smilax bona-nox	25	<input checked="" type="checkbox"/> 100.0%	FACU	
2. _____	0	<input type="checkbox"/> _____	_____	
3. _____	0	<input type="checkbox"/> _____	_____	
4. _____	0	<input type="checkbox"/> _____	_____	
5. _____	0	<input type="checkbox"/> _____	_____	
6. _____	0	<input type="checkbox"/> _____	_____	
7. _____	0	<input type="checkbox"/> _____	_____	
8. _____	0	<input type="checkbox"/> _____	_____	
9. _____	0	<input type="checkbox"/> _____	_____	
10. _____	0	<input type="checkbox"/> _____	_____	
		25	= Total Cover	
Woody Vine Stratum (Plot size: 30)				
1. _____	0	<input type="checkbox"/> _____	_____	
2. _____	0	<input type="checkbox"/> _____	_____	
		0	= Total Cover	
% Bare Ground in Herb Stratum <u>0</u>				
Remarks:				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

Soil

Sampling Point: SP9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		%	Redox Features			Loc ²	Texture	Remarks
	Color (moist)			Color (moist)	%	Type ¹			
0-16	10YR	5/3	100					Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) <div style="text-align: center;">(MLRA 72 and 73 of LRR H)</div>
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Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) <div style="text-align: center;">(LRR H outside of MLRA 72 and 73)</div> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <div style="display: flex; justify-content: space-between;"> <div style="width:48%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width:48%;"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <div style="text-align: center;">(where not tilled)</div> <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>
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WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina **City/County:** Pilot Point / Denton **Sampling Date:** 07-Feb-19
Applicant/Owner: Lone Star Lodge and Marina, LLC **State:** Texas **Sampling Point:** SP10
Investigator(s): RC and JC **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Shoreline **Local relief (concave, convex, none):** concave **Slope:** 1.0 % / 0.6 °
Subregion (LRR): LRR J **Lat.:** 33.398776 **Long.:** -97.003807 **Datum:** NAD83
Soil Map Unit Name: Justin fine sandy loam, 1 to 3 percent slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Ulmus crassifolia	20	<input checked="" type="checkbox"/> 50.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 3 (A) Total Number of Dominant Species Across All Strata: 3 (B) Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
2. Juncus effusus	20	<input checked="" type="checkbox"/> 50.0%	OBL	
3. _____	_____	<input type="checkbox"/> _____	_____	
4. _____	_____	<input type="checkbox"/> _____	_____	
		40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 80 x 1 = 80 FACW species 0 x 2 = 0 FAC species 20 x 3 = 60 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column Totals: 100 (A) 140 (B) Prevalence Index = B/A = 1.4
1. _____	_____	<input type="checkbox"/> _____	_____	
2. _____	_____	<input type="checkbox"/> _____	_____	
3. _____	_____	<input type="checkbox"/> _____	_____	
4. _____	_____	<input type="checkbox"/> _____	_____	
5. _____	_____	<input type="checkbox"/> _____	_____	
		0	= Total Cover	
Herb Stratum (Plot size: 5)				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is > 50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
1. Carex crus-corvi	60	<input checked="" type="checkbox"/> 100.0%	OBL	
2. _____	_____	<input type="checkbox"/> _____	_____	
3. _____	_____	<input type="checkbox"/> _____	_____	
4. _____	_____	<input type="checkbox"/> _____	_____	
5. _____	_____	<input type="checkbox"/> _____	_____	
6. _____	_____	<input type="checkbox"/> _____	_____	
7. _____	_____	<input type="checkbox"/> _____	_____	
8. _____	_____	<input type="checkbox"/> _____	_____	
9. _____	_____	<input type="checkbox"/> _____	_____	
10. _____	_____	<input type="checkbox"/> _____	_____	
		60	= Total Cover	
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
1. _____	_____	<input type="checkbox"/> _____	_____	
2. _____	_____	<input type="checkbox"/> _____	_____	
		0	= Total Cover	
% Bare Ground in Herb Stratum _____				
Remarks:				

Soil

Sampling Point: SP10

[illegible]

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply)			Secondary Indicators (minimum of two required)		
<input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)		
(where not tilled) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)					
Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 1 Depth (inches): 1 Depth (inches): 8			Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>		
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:					
Remarks:					

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina **City/County:** Pilot Point / Denton **Sampling Date:** 14-Nov-18
Applicant/Owner: Lone Star Lodge and Marina, LLC **State:** Texas **Sampling Point:** SP11
Investigator(s): KW and JC **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Undulating **Local relief (concave, convex, none):** rolling **Slope:** 5.0 % / 2.9 °
Subregion (LRR): LRR J **Lat.:** 33.400792 **Long.:** -97.001972 **Datum:** NAD83
Soil Map Unit Name: Gasil fine sandy loam, 1 to 3 percent slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)
Are Vegetation ☐ , **Soil** ☐ , **or Hydrology** ☐ **significantly disturbed?** **Are "Normal Circumstances" present?** Yes ☒ No ☐
Are Vegetation ☐ , **Soil** ☐ , **or Hydrology** ☐ **naturally problematic?** (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 18 - wetter than normal climate and hydrologic conditions area appears to have been graded in the past.	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Gleditsia triacanthos	60	<input checked="" type="checkbox"/> 100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2.		<input type="checkbox"/>		Total Number of Dominant Species Across All Strata: 4 (B)
3.		<input type="checkbox"/>		Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
4.		<input type="checkbox"/>		
	60	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				
1. Gleditsia triacanthos	40	<input checked="" type="checkbox"/> 100.0%	FACU	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 0 x 3 = 0 FACU species 160 x 4 = 640 UPL species 0 x 5 = 0 Column Totals: 160 (A) 640 (B) Prevalence Index = B/A = 4
2.	0	<input type="checkbox"/>		
3.	0	<input type="checkbox"/>		
4.	0	<input type="checkbox"/>		
5.	0	<input type="checkbox"/>		
	10	= Total Cover		
Herb Stratum (Plot size: 5)				
1. Smilax bona-nox	20	<input checked="" type="checkbox"/> 33.3%	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
2. Cynodon dactylon	40	<input checked="" type="checkbox"/> 66.7%	FACU	
3.	0	<input type="checkbox"/>		
4.	0	<input type="checkbox"/>		
5.	0	<input type="checkbox"/>		
6.	0	<input type="checkbox"/>		
7.	0	<input type="checkbox"/>		
8.	0	<input type="checkbox"/>		
9.	0	<input type="checkbox"/>		
10.	0	<input type="checkbox"/>		
	60	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1.	0	<input type="checkbox"/>		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
2.	0	<input type="checkbox"/>		
	0	= Total Cover		
% Bare Ground in Herb Stratum	0			
Remarks:				

Soil

Sampling Point: SP11

[illegible]

Hydrology

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one required; check all that apply)				
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)		<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)		<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)		<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)		(where tilled)	
<input type="checkbox"/> Drift deposits (B3)	(where not tilled)		<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)		<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)		<input type="checkbox"/> FAC-neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)			<input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)	
Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u> Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u> Saturation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): <u>0</u> (includes capillary fringe)			Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____				
Remarks:				

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina **City/County:** Pilot Point / Denton **Sampling Date:** 14-Nov-18
Applicant/Owner: Lone Star Lodge and Marina, LLC **State:** Texas **Sampling Point:** SP12
Investigator(s): KW and JC **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** flat **Slope:** 5.0 % / 2.9 °
Subregion (LRR): LRR J **Lat.:** 33.400444 **Long.:** -97.001442 **Datum:** NAD83
Soil Map Unit Name: Gasil fine sandy loam, 1 to 3 percent slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 18 - wetter than normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: 0 (A)
2. _____	0	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: 2 (B)
3. _____	0	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
4. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 5 x 2 = 10 FAC species 5 x 3 = 15 FACU species 110 x 4 = 440 UPL species 0 x 5 = 0 Column Totals: 120 (A) 465 (B) Prevalence Index = B/A = 3.875
1. _____	0	<input type="checkbox"/>	_____	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
2. _____	0	<input type="checkbox"/>	_____	
3. _____	0	<input type="checkbox"/>	_____	
4. _____	0	<input type="checkbox"/>	_____	
5. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
Herb Stratum (Plot size: 5)				
1. Cynodon dactylon	85	<input checked="" type="checkbox"/>	70.8% FACU	
2. Ambrosia artemisiifolia	25	<input checked="" type="checkbox"/>	20.8% FACU	
3. Andropogon glomeratus	5	<input type="checkbox"/>	4.2% FACW	
4. Baccharis halimifolia	5	<input type="checkbox"/>	4.2% FAC	
5. _____	0	<input type="checkbox"/>	0.0%	
6. _____	0	<input type="checkbox"/>	0.0%	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
	120	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1. _____	0	<input type="checkbox"/>	_____	Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
2. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
% Bare Ground in Herb Stratum 0				
Remarks:				

Soil

Sampling Point: SP12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-2	10YR	2/2	100						Sandy Loam
2-16	10YR	4/2	65	10YR	5/8	35	RM	PL	Sandy Loam

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)
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Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Remarks:

Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input checked="" type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)
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<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)	Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>8</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u>
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Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____
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Remarks: flooded

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 14-Nov-18

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP13

Investigator(s): KW and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): concave Slope: 2.0 % / 1.1 °

Subregion (LRR): LRR J Lat.: 33.401443 Long.: -97.000286 Datum: NAD83

Soil Map Unit Name: Gasil fine sandy loam, 1 to 3 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: DAREM = 18 - wetter than normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	0	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2. _____	0	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: 3 (B)
3. _____	0	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
4. _____	0	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. Ulmus crassifolia	5	<input checked="" type="checkbox"/>	100.0% FAC	Total % Cover of: Multiply by:
2. _____	0	<input type="checkbox"/>	0.0%	OBL species 0 x 1 = 0
3. _____	0	<input type="checkbox"/>	0.0%	FACW species 0 x 2 = 0
4. _____	0	<input type="checkbox"/>	0.0%	FAC species 67 x 3 = 201
5. _____	0	<input type="checkbox"/>	0.0%	FACU species 42 x 4 = 168
	5	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 109 (A) 369 (B)
1. Setaria parviflora	40	<input checked="" type="checkbox"/>	38.5% FAC	Prevalence Index = B/A = 3.385
2. Cynodon dactylon	40	<input checked="" type="checkbox"/>	38.5% FACU	
3. Iva annua	15	<input type="checkbox"/>	14.4% FAC	
4. Ulmus crassifolia	5	<input type="checkbox"/>	4.8% FAC	
5. Rumex crispus	2	<input type="checkbox"/>	1.9% FAC	
6. Sorghum halepense	2	<input type="checkbox"/>	1.9% FACU	
7. _____	0	<input type="checkbox"/>	0.0%	
8. _____	0	<input type="checkbox"/>	0.0%	
9. _____	0	<input type="checkbox"/>	0.0%	
10. _____	0	<input type="checkbox"/>	0.0%	
	104	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1. _____	0	<input type="checkbox"/>	_____	<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	0	<input type="checkbox"/>	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum 0				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
Remarks:				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

Soil

Sampling Point: SP13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix		%	Redox Features			Texture	Remarks	
	Color (moist)			Color (moist)	%	Type ¹			
0-4	7.5YR	2.5/3	100				Clay Loam	30% gravel	
4-16	7.5YR	6/6	100				Sandy Loam		

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 and 73 of LRR H) <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) ³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks:	

Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input checked="" type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input checked="" type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
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Field Observations: Surface Water Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>1</u> Water Table Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>6</u> Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): <u>2</u>	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:	
Remarks: plot located in a drainage swale	

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 07-Feb-19

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP14

Investigator(s): RC and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoreline Local relief (concave, convex, none): convex Slope: 5.0 % / 2.9 °

Subregion (LRR): LRR J Lat.: 33.400355 Long.: -96.998828 Datum: NAD83

Soil Map Unit Name: Wilson clay loam, 0 to 1 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="radio"/> No <input type="radio"/>
Hydric Soil Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. _____	_____	<input type="checkbox"/>	_____	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2. _____	_____	<input type="checkbox"/>	_____	Total Number of Dominant Species Across All Strata: 2 (B)
3. _____	_____	<input type="checkbox"/>	_____	Percent of dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
4. _____	_____	<input type="checkbox"/>	_____	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. _____	_____	<input type="checkbox"/>	_____	Total % Cover of: Multiply by:
2. _____	_____	<input type="checkbox"/>	_____	OBL species 140 x 1 = 140
3. _____	_____	<input type="checkbox"/>	_____	FACW species 0 x 2 = 0
4. _____	_____	<input type="checkbox"/>	_____	FAC species 0 x 3 = 0
5. _____	_____	<input type="checkbox"/>	_____	FACU species 0 x 4 = 0
	0	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 140 (A) 140 (B)
1. Cephalanthus occidentalis	95	<input checked="" type="checkbox"/>	67.9% OBL	Prevalence Index = B/A = 1
2. Typha latifolia	45	<input checked="" type="checkbox"/>	32.1% OBL	
3. _____	_____	<input type="checkbox"/>	_____	
4. _____	_____	<input type="checkbox"/>	_____	
5. _____	_____	<input type="checkbox"/>	_____	
6. _____	_____	<input type="checkbox"/>	_____	
7. _____	_____	<input type="checkbox"/>	_____	
8. _____	_____	<input type="checkbox"/>	_____	
9. _____	_____	<input type="checkbox"/>	_____	
10. _____	_____	<input type="checkbox"/>	_____	
	140	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1. _____	_____	<input type="checkbox"/>	_____	<input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2. _____	_____	<input type="checkbox"/>	_____	<input checked="" type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum _____				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
Remarks:				¹ Indicators of hydric soil and wetland hydrology must be present.
				Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>

Soil

Sampling Point: SP14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features					Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹	Loc ²		
0-16	10YR	5/2	80	7.5YR	3/1	20	C, D	PL M	Clay	

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input checked="" type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) <p style="text-align: center;">(MLRA 72 and 73 of LRR H)</p>
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) <p style="text-align: center;">(LRR H outside of MLRA 72 and 73)</p> <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <p>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</p>
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Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input checked="" type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input checked="" type="checkbox"/> Drift deposits (B3) <input checked="" type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input checked="" type="checkbox"/> Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <p style="text-align: center;">(where tilled)</p> <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
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Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input checked="" type="radio"/> No <input type="radio"/> Depth (inches): 1	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
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Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 14-Nov-18

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP15

Investigator(s): KW and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoulder slope Local relief (concave, convex, none): convex Slope: 2.0 % / 1.1 °

Subregion (LRR): LRR J Lat.: 33.403405 Long.: -96.999736 Datum: NAD83

Soil Map Unit Name: Gasil fine sandy loam, 1 to 3 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☐ No ☒ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 18 - wetter than normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Populus deltoides	20	<input checked="" type="checkbox"/> 100.0%	FAC	Number of Dominant Species That are OBL, FACW, or FAC: 2 (A)
2.	0	<input type="checkbox"/> 0.0%		Total Number of Dominant Species Across All Strata: 4 (B)
3.	0	<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
4.	0	<input type="checkbox"/> 0.0%		
	20	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				
1. Baccharis halimifolia	45	<input checked="" type="checkbox"/> 81.8%	FAC	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species 0 x 1 = 0 FACW species 10 x 2 = 20 FAC species 75 x 3 = 225 FACU species 95 x 4 = 380 UPL species 0 x 5 = 0 Column Totals: 180 (A) 625 (B) Prevalence Index = B/A = 3.472
2. Ulmus crassifolia	10	<input type="checkbox"/> 18.2%	FAC	
3.	0	<input type="checkbox"/> 0.0%		
4.	0	<input type="checkbox"/> 0.0%		
5.	0	<input type="checkbox"/> 0.0%		
	55	= Total Cover		
Herb Stratum (Plot size: 5)				
1. Ambrosia artemisiifolia	40	<input checked="" type="checkbox"/> 38.1%	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is > 50% <input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present.
2. Cynodon dactylon	50	<input checked="" type="checkbox"/> 47.6%	FACU	
3. Sorghum halepense	5	<input type="checkbox"/> 4.8%	FACU	
4. Mentha arvensis	10	<input type="checkbox"/> 9.5%	FACW	
5.	0	<input type="checkbox"/> 0.0%		
6.	0	<input type="checkbox"/> 0.0%		
7.	0	<input type="checkbox"/> 0.0%		
8.	0	<input type="checkbox"/> 0.0%		
9.	0	<input type="checkbox"/> 0.0%		
10.	0	<input type="checkbox"/> 0.0%		
	105	= Total Cover		
Woody Vine Stratum (Plot size: 30)				
1.	0	<input type="checkbox"/>		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
2.	0	<input type="checkbox"/>		
	0	= Total Cover		
% Bare Ground in Herb Stratum 0				
Remarks:				

Soil

Sampling Point: SP15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth (inches)	Matrix			Redox Features				Texture	Remarks
	Color (moist)		%	Color (moist)		%	Type ¹		
0-16	10YR	4/3	100						Sandy Loam

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)		Indicators for Problematic Hydric Soils ³ :	
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix S4	<input type="checkbox"/> 1 cm Muck (A9) (LRR I, J)	
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H)	
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Dark Surface (S7) (LRR G)	
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> High Plains Depressions (F16)	
<input type="checkbox"/> Stratified Layers (A5) (LRR F)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	(LRR H outside of MLRA 72 and 73)	
<input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Reduced Vertic (F18)	
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Red Parent Material (TF2)	
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Very Shallow Dark Surface (TF12)	
<input type="checkbox"/> Sandy Muck Mineral (S1)	<input type="checkbox"/> Redox depressions (F8)	<input type="checkbox"/> Other (Explain in Remarks)	
<input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H)	<input type="checkbox"/> High Plains Depressions (F16)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.	
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	(MLRA 72 and 73 of LRR H)		

Restrictive Layer (if present):	Hydric Soil Present?
Type: _____	Yes <input type="radio"/> No <input checked="" type="radio"/>
Depth (inches): _____	

Remarks:

Hydrology

Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one required; check all that apply)			
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry Season Water Table (C2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	(where tilled)	
<input type="checkbox"/> Drift deposits (B3)	(where not tilled)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-neutral Test (D5)	
<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)	

Field Observations:		Wetland Hydrology Present?	
Surface Water Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>	Yes <input checked="" type="radio"/> No <input type="radio"/>	
Water Table Present?	Yes <input type="radio"/> No <input checked="" type="radio"/>		
Saturation Present? (includes capillary fringe)	Yes <input checked="" type="radio"/> No <input type="radio"/>		

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina City/County: Pilot Point / Denton Sampling Date: 07-Feb-19

Applicant/Owner: Lone Star Lodge and Marina, LLC State: Texas Sampling Point: SP16

Investigator(s): RC and JC Section, Township, Range: S N/A T N/A R N/A

Landform (hillslope, terrace, etc.): Shoreline Local relief (concave, convex, none): flat Slope: 5.0 % / 2.9 °

Subregion (LRR): LRR J Lat.: 33.408079 Long.: -96.999332 Datum: NAD83

Soil Map Unit Name: Birome fine sandy loam, 3 to 5 percent slopes NWI classification: none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐

Are Vegetation ☐ , Soil ☒ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	
Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>	
Remarks: DAREM = 13 - normal climate and hydrologic conditions Soil was not collected due to restricted surface layer consisting of rock	

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: 30)		Dominant Species?		FWS Region:	
Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:		
1. Quercus stellata 65	<input checked="" type="checkbox"/> 100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)		
2. 65	<input type="checkbox"/>		Total Number of Dominant Species Across All Strata: 3 (B)		
3. 65	<input type="checkbox"/>		Percent of dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)		
4. 65	<input type="checkbox"/>				
= Total Cover					
Sapling/Shrub Stratum (Plot size: 15)					
1. Cephalanthus occidentalis 35	<input checked="" type="checkbox"/> 77.8%	OBL	Prevalence Index worksheet:		
2. Quercus stellata 10	<input checked="" type="checkbox"/> 22.2%	FACU	Total % Cover of: Multiply by:		
3. 0	<input type="checkbox"/> 0.0%		OBL species 35	x 1 =	35
4. 0	<input type="checkbox"/> 0.0%		FACW species 0	x 2 =	0
5. 0	<input type="checkbox"/> 0.0%		FAC species 0	x 3 =	0
= Total Cover			FACU species 75	x 4 =	300
			UPL species 0	x 5 =	0
			Column Totals: 110 (A)		335 (B)
			Prevalence Index = B/A = 3.045		
Herb Stratum (Plot size: 5)		Hydrophytic Vegetation Indicators:			
1. 0	<input type="checkbox"/>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation		
2. 0	<input type="checkbox"/>		<input type="checkbox"/> 2 - Dominance Test is > 50%		
3. 0	<input type="checkbox"/>		<input type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹		
4. 0	<input type="checkbox"/>		<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)		
5. 0	<input type="checkbox"/>		<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)		
6. 0	<input type="checkbox"/>		¹ Indicators of hydric soil and wetland hydrology must be present.		
7. 0	<input type="checkbox"/>				
8. 0	<input type="checkbox"/>				
9. 0	<input type="checkbox"/>				
10. 0	<input type="checkbox"/>				
= Total Cover					
Woody Vine Stratum (Plot size: 30)					
1. 0	<input type="checkbox"/>		Hydrophytic Vegetation Present? Yes <input type="radio"/> No <input checked="" type="radio"/>		
2. 0	<input type="checkbox"/>				
= Total Cover					
% Bare Ground in Herb Stratum					
Remarks:					

Soil

Sampling Point: SP16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0							Rock (restricted layer)	Shoreline is comprised mostly of rock.

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks) <small>³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.</small>
--	---

Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Remarks: Soil was not collected due to restricted surface layer consisting of rock
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Hydrology

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input checked="" type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
--	---

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input checked="" type="radio"/> No <input type="radio"/>
--	---

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available: _____

Remarks:

WETLAND DETERMINATION DATA FORM - Great Plains Region

Project/Site: Lone Star Lodge and Marina **City/County:** Pilot Point / Denton **Sampling Date:** 07-Feb-19
Applicant/Owner: Lone Star Lodge and Marina, LLC **State:** Texas **Sampling Point:** SP17
Investigator(s): RC and JC **Section, Township, Range:** S N/A T N/A R N/A
Landform (hillslope, terrace, etc.): Shoreline **Local relief (concave, convex, none):** convex **Slope:** 5.0 % / 2.9 °
Subregion (LRR): LRR J **Lat.:** 33.406272 **Long.:** -97.001271 **Datum:** NAD83
Soil Map Unit Name: Birome-Rayex-Aubrey complex, 2 to 15 percent slopes **NWI classification:** none

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ☒ No ☐
 Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

Summary of Findings - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/> Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>	Is the Sampled Area within a Wetland? Yes <input type="radio"/> No <input checked="" type="radio"/>
Remarks: DAREM = 13 - normal climate and hydrologic conditions	

VEGETATION - Use scientific names of plants

Dominant Species? FWS Region: GP

Tree Stratum (Plot size: 30)	Absolute % Cover	Rel. Strat. Cover	Indicator Status	Dominance Test worksheet:
1. Quercus stellata	40	<input checked="" type="checkbox"/> 100.0%	FACU	Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)
2.		<input type="checkbox"/>		Total Number of Dominant Species Across All Strata: 2 (B)
3.		<input type="checkbox"/> 0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
4.		<input type="checkbox"/> 0.0%		
	40	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index worksheet:
1. Cephalanthus occidentalis	20	<input checked="" type="checkbox"/> 100.0%	OBL	Total % Cover of: Multiply by:
2.		<input type="checkbox"/>		OBL species 20 x 1 = 20
3.		<input type="checkbox"/>		FACW species 0 x 2 = 0
4.		<input type="checkbox"/>		FAC species 0 x 3 = 0
5.		<input type="checkbox"/>		FACU species 40 x 4 = 160
	0	= Total Cover		UPL species 0 x 5 = 0
Herb Stratum (Plot size: 5)				Column Totals: 60 (A) 180 (B)
1.		<input type="checkbox"/>		Prevalence Index = B/A = 3
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		
6.		<input type="checkbox"/>		
7.		<input type="checkbox"/>		
8.		<input type="checkbox"/>		
9.		<input type="checkbox"/>		
10.		<input type="checkbox"/>		
	0	= Total Cover		
Woody Vine Stratum (Plot size: 30)				Hydrophytic Vegetation Indicators:
1.		<input type="checkbox"/>		<input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation
2.		<input type="checkbox"/>		<input type="checkbox"/> 2 - Dominance Test is > 50%
	0	= Total Cover		<input checked="" type="checkbox"/> 3 - Prevalence Index is ≤ 3.0 ¹
% Bare Ground in Herb Stratum				<input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
				<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must be present.
Remarks:				Hydrophytic Vegetation Present? Yes <input checked="" type="radio"/> No <input type="radio"/>

Soil

Sampling Point: SP17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth (inches)	Matrix			Redox Features				Texture	Remarks	
	Color (moist)		%	Color (moist)		%	Type ¹			Loc ²
0-16	10YR	5/6	25	7.5YR	4/6	75	C	PL	Sandy clay loam	Shoreline is comprised mostly of rock.

1Type: C=Concentration. D=Depletion. RM=Reduced Matrix, CS=Covered or Coated Sand Grains 2Location: PL=Pore Lining. M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) (LRR F) <input type="checkbox"/> 1 cm Muck (A9) (LRR F,G,H) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Muck Mineral (S1) <input type="checkbox"/> 2.5 cm Mucky Peat or Peat (S2) (LRR G, H) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3) (LRR F)	<input type="checkbox"/> Sandy Gleyed Matrix S4 <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox depressions (F8) <input type="checkbox"/> High Plains Depressions (F16) (MLRA 72 and 73 of LRR H)
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Indicators for Problematic Hydric Soils³: <input type="checkbox"/> 1 cm Muck (A9) (LRR I, J) <input type="checkbox"/> Coastal Prairie Redox (A16) (LRR F, G, H) <input type="checkbox"/> Dark Surface (S7) (LRR G) <input type="checkbox"/> High Plains Depressions (F16) (LRR H outside of MLRA 72 and 73) <input type="checkbox"/> Reduced Vertic (F18) <input type="checkbox"/> Red Parent Material (TF2) <input type="checkbox"/> Very Shallow Dark Surface (TF12) <input type="checkbox"/> Other (Explain in Remarks)	³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
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Restrictive Layer (if present): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

Remarks:

Hydrology

Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) <div style="display: flex; justify-content: space-between;"> <div style="width:48%;"> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Water-Stained Leaves (B9) </div> <div style="width:48%;"> <input type="checkbox"/> Salt Crust (B11) <input type="checkbox"/> Aquatic Invertebrates (B13) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Dry Season Water Table (C2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where not tilled) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Other (Explain in Remarks) </div> </div>	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) (where tilled) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> FAC-neutral Test (D5) <input type="checkbox"/> Frost Heave Hummocks (D7) (LRR F)
---	--

Field Observations: Surface Water Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Water Table Present? Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="radio"/> No <input checked="" type="radio"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="radio"/> No <input checked="" type="radio"/>
--	---

Describe Recorded Data (stream gauge, monitor well, aerial photos, previous inspections), if available:

Remarks:



Appendix B – Site Photographs



Photo 1: View, facing northwest, of Ray Roberts Lake toward proposed marina.



Photo 2: View, facing east, of marina construction launch point.



Photo 3: View of RRRFW-1.



Photo 4: View of RRRFW-1.



Photo 5: View of RRREW-1.



Photo 6: View of RRREW-1.

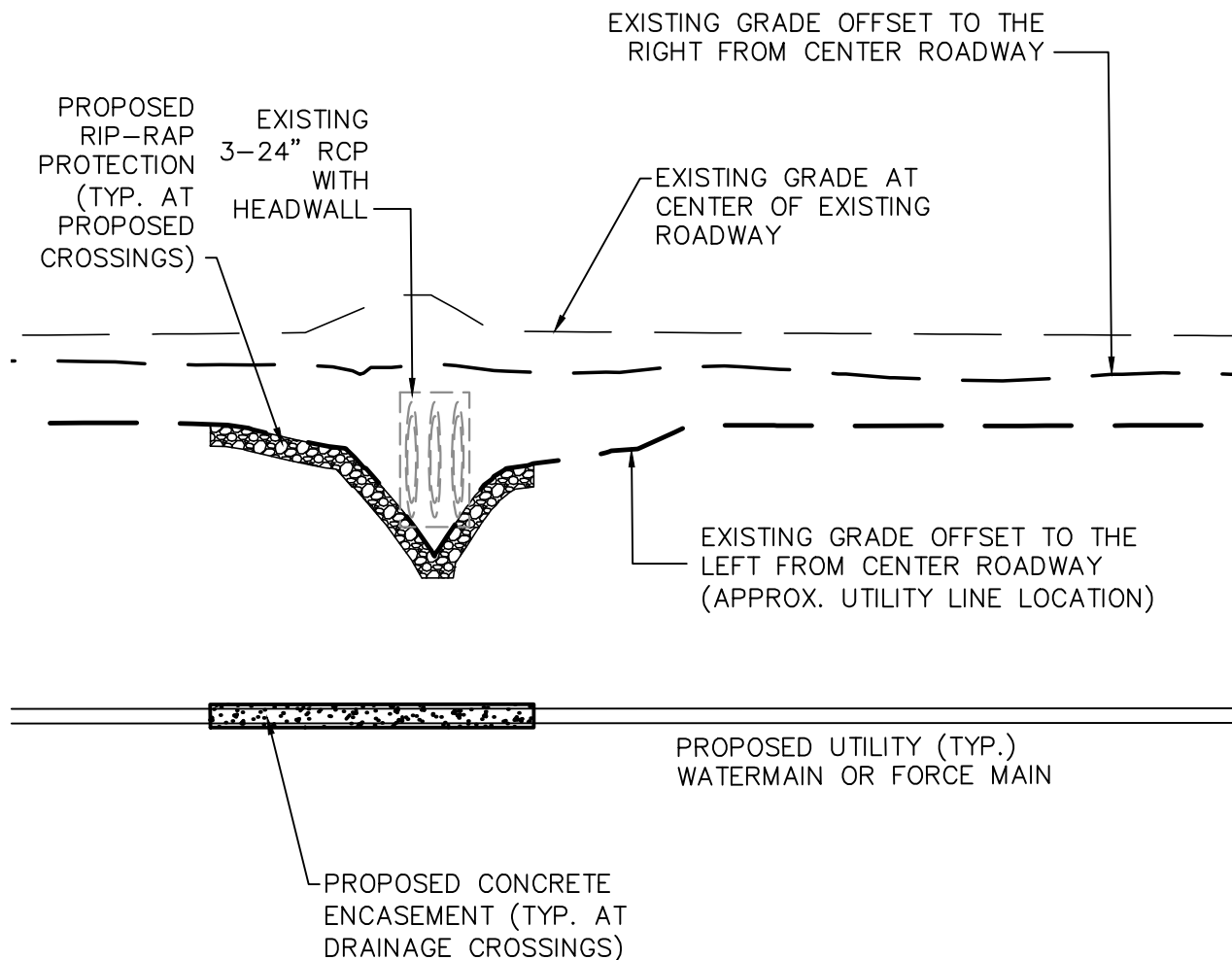


Photo 7: View of RRREW-1 at utility crossing.



Photo 8: View of RRREW-1 at utility crossing.

TYPICAL CROSSING OF PROPOSED UTILITY AT EXISTING DRAINAGE WAY



NOTE: ALL EXISTING GRADES AT PROPOSED UTILITY LOCATION WILL BE RESTORED TO PRE-CONSTRUCTION ELEVATIONS AND ALIGNMENTS AFTER THE INSTALLATION OF PROPOSED UTILITIES ARE COMPLETE.

FOOTPRINT OF INSTALLATION AREA TO BE MINIMIZED AND WILL BE RESEED WITH NATIVE VEGETATION UPON COMPLETE OF WORK.

SHEET:

A1



SCALE: NTS

DATE:
07/13/20

VERSION: 1.0

TYPICAL UTILITY CROSSING INSTALLATION

LONE STAR MARINA & LODGE

DENTON, STATE



500 Moseley Road
Cross Roads, Texas 76227
Phone (940) 387-0805
www.kje-us.com
(TBPE # F-12214)

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United States Department of the Interior



FISH AND WILDLIFE SERVICE
Arlington Ecological Services Field Office

2005 Ne Green Oaks Blvd

Suite 140

Arlington, TX 76006-6247

Phone: (817) 277-1100 Fax: (817) 277-1129

<http://www.fws.gov/southwest/es/arlingtontexas/>

<http://www.fws.gov/southwest/es/EndangeredSpecies/lists/>

In Reply Refer To:

December 13, 2018

Consultation Code: 02ETAR00-2019-SLI-0417

Event Code: 02ETAR00-2019-E-00913

Project Name: Lone Star Lodge & Marina

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, which may occur within the boundary of your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under section 7(a)(1) of the Act, Federal agencies are directed to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Under and 7(a)(2) and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether their actions may affect threatened and endangered species and/or designated critical habitat. A Federal action is an activity or program authorized, funded, or carried out, in whole or in part, by a Federal agency (50 CFR 402.02).

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For Federal actions other than major construction activities, the Service suggests that a biological evaluation (similar to a Biological Assessment) be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

After evaluating the potential effects of a proposed action on federally listed species, one of the following determinations should be made by the Federal agency:

1. No effect- the appropriate determination when a project, as proposed, is anticipated to have no effects to listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, the action agency should maintain a complete record of their evaluation, including the steps leading to the determination of affect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information.
2. May affect, but is not likely to adversely affect -the appropriate determination when a proposed action's anticipated effects are insignificant, discountable, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where "take" of a listed species occurs. Discountable effects are those extremely unlikely to occur. Based on best judgment, a person would not be able to meaningfully measure, detect, or evaluate insignificant effects, or expect discountable effects to occur. This determination requires written concurrence from the Service. A biological evaluation or other supporting information justifying this determination should be submitted with a request for written concurrence.
3. May affect, is likely to adversely affect -the appropriate determination if any adverse effect to listed species or critical habitat may occur as a direct or indirect result of the proposed action, and the effect is not discountable or insignificant. This determination requires formal section 7 consultation.

The Service recommends that candidate species, proposed species, and proposed critical habitat be addressed should consultation be necessary. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: <http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (<http://www.fws.gov/windenergy/>)

[eagle_guidance.html](#)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

For additional information concerning migratory birds and eagle conservation plans, please contact the Service's Migratory Bird Office at 505-248-7882.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arlington Ecological Services Field Office
2005 Ne Green Oaks Blvd
Suite 140
Arlington, TX 76006-6247
(817) 277-1100

Project Summary

Consultation Code: 02ETAR00-2019-SLI-0417

Event Code: 02ETAR00-2019-E-00913

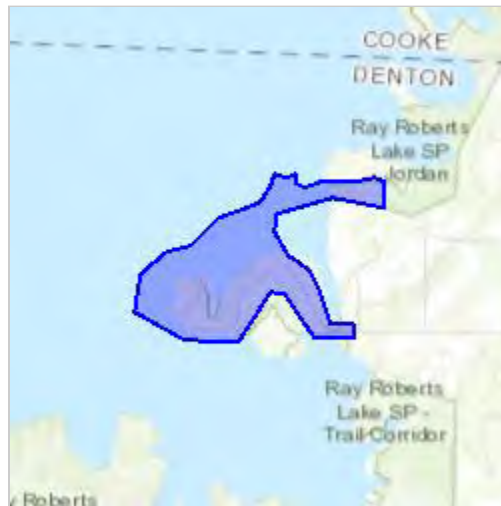
Project Name: Lone Star Lodge & Marina

Project Type: SHORELINE USAGE FACILITIES / DEVELOPMENT

Project Description: Addition of recreation facilities including a Marina (500 Boat Slips), Maintenance/ Repair Building, Dry Storage Facility, Boat Ramp, RV Park, Walkway Floats, Fuel Dock, Amphitheater, Cabins, Equestrian Center, and associated supporting infrastructure.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/33.40356896691967N97.00289325849323W>



Counties: Denton, TX

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.
-

Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover <i>Charadrius melodus</i> Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is final critical habitat for this species. Your location is outside the critical habitat. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot <i>Calidris canutus rufa</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened
Whooping Crane <i>Grus americana</i> Population: Wherever found, except where listed as an experimental population There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/758	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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Element Occurrence Record

Scientific Name: Haliaeetus leucocephalus

Occurrence #: 42

Eo Id: 4276

Common Name: Bald Eagle

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status: T

Global Rank: G5

State Rank: S3B,S3N

Federal Status:

Location Information:

Directions

FROM JUNCTION OF ROUTES 372 AND 922 AT MOUNTAIN SPRINGS, GO WEST 5.2 MILES ON 922, TURN LEFT AND GO SOUTH 0.7 MILES ON LIGHT DUTY ROAD, TURN LEFT AND GO EAST 0.4 AIR MILE TO ABANDONED BALD EAGLE NEST ON RAY ROBERTS RESERVOIR

Survey Information:

First Observation: 1993-03-18

Survey Date:

Last Observation: 1993-04-13

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments:

A MAJOR COLD FRONT PASSED THROUGH COOKE AND DENTON COUNTIES ON NIGHT OF 13 APRIL AND EARLY MORNING OF 14 APRIL THAT PRODUCED HIGH WINDS, HEAVY RAIN, AND A DRAMATIC DROP IN TEMPERATURE; NO EAGLE ACTIVITY AT NEST SITE WAS VERIFIED SINCE THE STORM; ADDITIONALLY, BOATING ACTIVITY WAS OBSERVED WITHIN THE BUOYS BY A LANDOWNER AND VERBALLY REPORTED TO GAME WARDEN TWO OR THREE DAYS AFTER THE INCIDENT, REPORTING THAT A BOAT WAS DIRECTLY UNDER THE NEST

Protection

Comments:

Management

Comments:

Data:

EO Data:

ABANDONED NEST; IN MID-MARCH 1993 TWO MATURE BIRDS APPEARED TO BE NESTING, BY EARLY APRIL 1993 BIRD WAS INCUBATING TWO EGGS, BY 10 APRIL BIRDS WERE OFF NEST MORE FREQUENTLY AND WERE LAST SEEN ON THE NEST ON 13 APRIL, BY 21 APRIL HERON ACTIVITY WAS NOTICED AT NEST SITE

Community Information:

Scientific Name:

Stratum:

Dominant:

Lifeform:

Composition Note:

Reference:

Element Occurrence Record

Citation:

REID, JEFFERY A. 1993. MEMO TO USFWS FIELD SUPERVISOR RE: ABANDONMENT OF BALD EAGLE NEST ON RAY ROBERTS RESERVOIR (INCLUDES MAPS FOR BALD EAGLE AND INTERIOR LEAST TERN NESTING LOCALITIES). MAY 3, 1993.

Specimen:

Element Occurrence Record

Scientific Name: Haliaeetus leucocephalus

Occurrence #: 53

Eo Id: 615

Common Name: Bald Eagle

Track Status: Track all extant and selected historical EOs

Identification Confirmed: Y - Yes

TX Protection Status: T

Global Rank: G5

State Rank: S3B,S3N

Federal Status:

Location Information:

Directions

TERRITORY ON LAKE RAY ROBERTS BETWEEN MOUNTAIN SPRINGS AND TIEGA; INCLUDES ISLE DU BOIS CREEK, INDIAN CREEK, WOLF CREEK, AND WALNUT CREEK BRANCHES

Survey Information:

First Observation: 1992

Survey Date: 1999

Last Observation: 1992

Eo Type:

Eo Rank:

Eo Rank Date:

Observed Area:

Comments:

General

Description:

Comments: TPWD NEST # 049-1A

Protection

Comments:

Management

Comments:

Data:

EO Data: NEST # 049-1A: 1992 - NEST PRODUCED 2 YOUNG; 1993-1994 - NEST WAS INACTIVE; 1995 - NO DATA; 1996 - NEST WAS INACTIVE; 1997 - NO DATA; 1998-1999 - NEST WAS INACTIVE.

Community Information:

<u>Scientific Name:</u>	<u>Stratum:</u>	<u>Dominant:</u>	<u>Lifeform:</u>	<u>Composition Note:</u>

Reference:

Citation:

MITCHELL, MARK. 1999. PROJECT NO. 30: BALD EAGLE NEST SURVEY AND MANAGEMENT. PERFORMANCE REPORT. AUGUST 31, 1999.

MITCHELL, MARK. 1997. MEMO TO SHANNON BRESLIN OF 30 JULY 1997 PROVIDING BALD EAGLE NESTING DATA, INCLUDING COUNTY MAPS WITH ESTIMATED TERRITORIES.

Occurrence List for Quads Surrounding Request Area

<u>Scientific Name:</u>	<u>Common Name:</u>	<u>Occurrence Number:</u>	<u>State Status:</u>	<u>Federal Status:</u>	<u>Eo Id:</u>
<i>Haliaeetus leucocephalus</i>	Bald Eagle	42	T		4276
<i>Haliaeetus leucocephalus</i>	Bald Eagle	53	T		615
<i>Schizachyrium scoparium - Andropogon gerardii</i> <i>- Sorghastrum nutans - Bifora americana</i> Mollisol Grassland	Mollisol Blackland Prairie	13			11572
<i>Schizachyrium scoparium - Bouteloua</i> <i>curtipendula - Nassella leucotricha</i> Herbaceous Vegetation		6			12001
<i>Schizachyrium scoparium - Sorghastrum nutans -</i> <i>Andropogon gerardii - Bifora americana</i> Vertisol Grassland	Vertisol Blackland Prairie	4			11894
<i>Schizachyrium scoparium-sorghastrum nutans</i> <i>series</i>	Little Bluestem-indiangrass Series	78			3741
<i>Spilogale putorius</i>	Eastern spotted skunk	39			12819

Element Occurrence Record

Specimen:

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LONE STAR LODGE AND MARINA

2200 FM 1192

Pilot Point, TX 76258

Inquiry Number: 5720445.2s

July 18, 2019

The EDR Radius Map™ Report with GeoCheck®



6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

2200 FM 1192
PILOT POINT, TX 76258

COORDINATES

Latitude (North):	33.4015970 - 33° 24' 5.74"
Longitude (West):	97.0017400 - 97° 0' 6.26"
Universal Transverse Mercator:	Zone 14
UTM X (Meters):	685837.9
UTM Y (Meters):	3697401.5
Elevation:	648 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5937793 MOUNTAIN SPRINGS, TX
Version Date:	2013
Northeast Map:	5939465 PILOT POINT, TX
Version Date:	2013

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140712
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
2200 FM 1192
PILOT POINT, TX 76258

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	LONE STAR GAS CO		DOT OPS		TP
A2	LONESTAR LODGE AND M	2200 FM 1192	AST		TP
A3	LONESTAR LODGE AND M		COMP HIST		TP
Reg	LAKE RAY ROBERTS		DOD	Same	1 ft.

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
LONE STAR GAS CO PILOT POINT, TX	DOT OPS	N/A
LONESTAR LODGE AND M 2200 FM 1192 PILOT POINT, TX 76258	AST Facility Id: 134981 Facility Id: 674330912018113 Facility Id: 89871 Facility Status: ACTIVE	N/A
LONESTAR LODGE AND M PILOT POINT, TX	COMP HIST	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

EXECUTIVE SUMMARY

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators

RCRA-SQG..... RCRA - Small Quantity Generators

RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System

US ENG CONTROLS..... Engineering Controls Sites List

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent NPL

SHWS..... State Superfund Registry

State and tribal landfill and/or solid waste disposal site lists

SWF/LF..... Permitted Solid Waste Facilities

DEBRIS..... DEBRIS

CLI..... Closed Landfill Inventory

WASTE MGMT..... Commercial Hazardous & Solid Waste Management Facilities

State and tribal leaking storage tank lists

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

LPST..... Leaking Petroleum Storage Tank Listing

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Petroleum Storage Tank Database

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

AUL..... Sites with Controls

State and tribal voluntary cleanup sites

VCP..... Voluntary Cleanup Program Database

INDIAN VCP..... Voluntary Cleanup Priority Listing

EXECUTIVE SUMMARY

State and tribal Brownfields sites

BROWNFIELDS..... Brownfields Site Assessments

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Facility Listing
INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations
ODI..... Open Dump Inventory
IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register
CDL..... CDL
PRIORITYCLEANERS..... Dry Cleaner Remediation Program Prioritization List
DEL SHWS..... Deleted Superfund Registry Sites
US CDL..... National Clandestine Laboratory Register
PFAS..... PFAS Contamination Site Location Listing

Local Lists of Registered Storage Tanks

NON REGIST PST..... Petroleum Storage Tank Non Registered

Local Land Records

HIST LIENS..... Environmental Liens Listing
LIENS..... Environmental Liens Listing
LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System
SPILLS..... Spills Database
SPILLS 90..... SPILLS 90 data from FirstSearch
SPILLS 80..... SPILLS 80 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated
FUDS..... Formerly Used Defense Sites
SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR..... Financial Assurance Information
EPA WATCH LIST..... EPA WATCH LIST
2020 COR ACTION..... 2020 Corrective Action Program List
TSCA..... Toxic Substances Control Act

EXECUTIVE SUMMARY

TRIS.....	Toxic Chemical Release Inventory System
SSTS.....	Section 7 Tracking Systems
ROD.....	Records Of Decision
RMP.....	Risk Management Plans
RAATS.....	RCRA Administrative Action Tracking System
PRP.....	Potentially Responsible Parties
PADS.....	PCB Activity Database System
ICIS.....	Integrated Compliance Information System
FTTS.....	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS.....	Material Licensing Tracking System
COAL ASH DOE.....	Steam-Electric Plant Operation Data
COAL ASH EPA.....	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER.....	PCB Transformer Registration Database
RADINFO.....	Radiation Information Database
HIST FTTS.....	FIFRA/TSCA Tracking System Administrative Case Listing
CONSENT.....	Superfund (CERCLA) Consent Decrees
INDIAN RESERV.....	Indian Reservations
FUSRAP.....	Formerly Utilized Sites Remedial Action Program
UMTRA.....	Uranium Mill Tailings Sites
LEAD SMELTERS.....	Lead Smelter Sites
US AIRS.....	Aerometric Information Retrieval System Facility Subsystem
US MINES.....	Mines Master Index File
ABANDONED MINES.....	Abandoned Mines
FINDS.....	Facility Index System/Facility Registry System
DOCKET HWC.....	Hazardous Waste Compliance Docket Listing
UXO.....	Unexploded Ordnance Sites
ECHO.....	Enforcement & Compliance History Information
FUELS PROGRAM.....	EPA Fuels Program Registered Listing
AIRS.....	Current Emission Inventory Data
APAR.....	Affected Property Assessment Report Site Listing
ASBESTOS.....	ASBESTOS
COAL ASH.....	Coal Ash Disposal Sites
DRYCLEANERS.....	Drycleaner Registration Database Listing
ED AQUIF.....	Edwards Aquifer Permits
ENF.....	Notice of Violations Listing
Financial Assurance.....	Financial Assurance Information Listing
GCC.....	Groundwater Contamination Cases
IOP.....	Innocent Owner/Operator Program
LEAD.....	LEAD
Ind. Haz Waste.....	Industrial & Hazardous Waste Database
MSD.....	Municipal Settings Designations Database
NPDES.....	NPDES Facility List
RWS.....	Radioactive Waste Sites
TIER 2.....	Tier 2 Chemical Inventory Reports
UIC.....	Underground Injection Wells Database Listing
IHW CORR ACTION.....	IHW CORR ACTION
PST STAGE 2.....	PST Stage 2

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants

EXECUTIVE SUMMARY

EDR Hist Auto..... EDR Exclusive Historical Auto Stations
EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS..... Recovered Government Archive State Hazardous Waste Facilities List
RGA LF..... Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property. Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

DOD: Consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

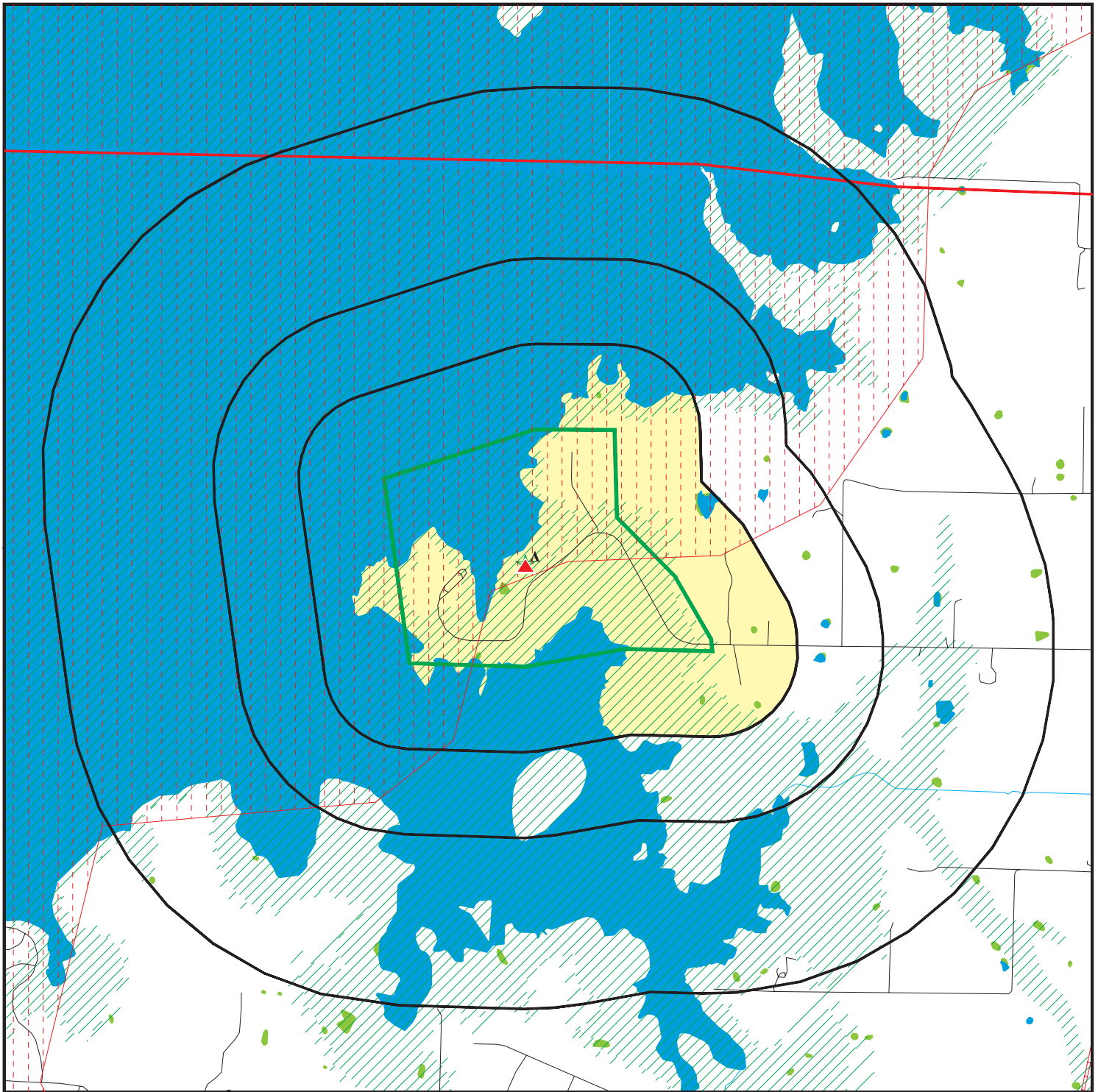
A review of the DOD list, as provided by EDR, and dated 12/31/2005 has revealed that there is 1 DOD site within approximately 1 mile of the target property.

<u>Equal/Higher Elevation</u>	<u>Address</u>	<u>Direction / Distance</u>	<u>Map ID</u>	<u>Page</u>
LAKE RAY ROBERTS		0 - 1/8 (0.000 mi.)	0	10

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5720445.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

Indian Reservations BIA

County Boundary

Pipelines

100-year flood zone

500-year flood zone

National Wetland Inventory

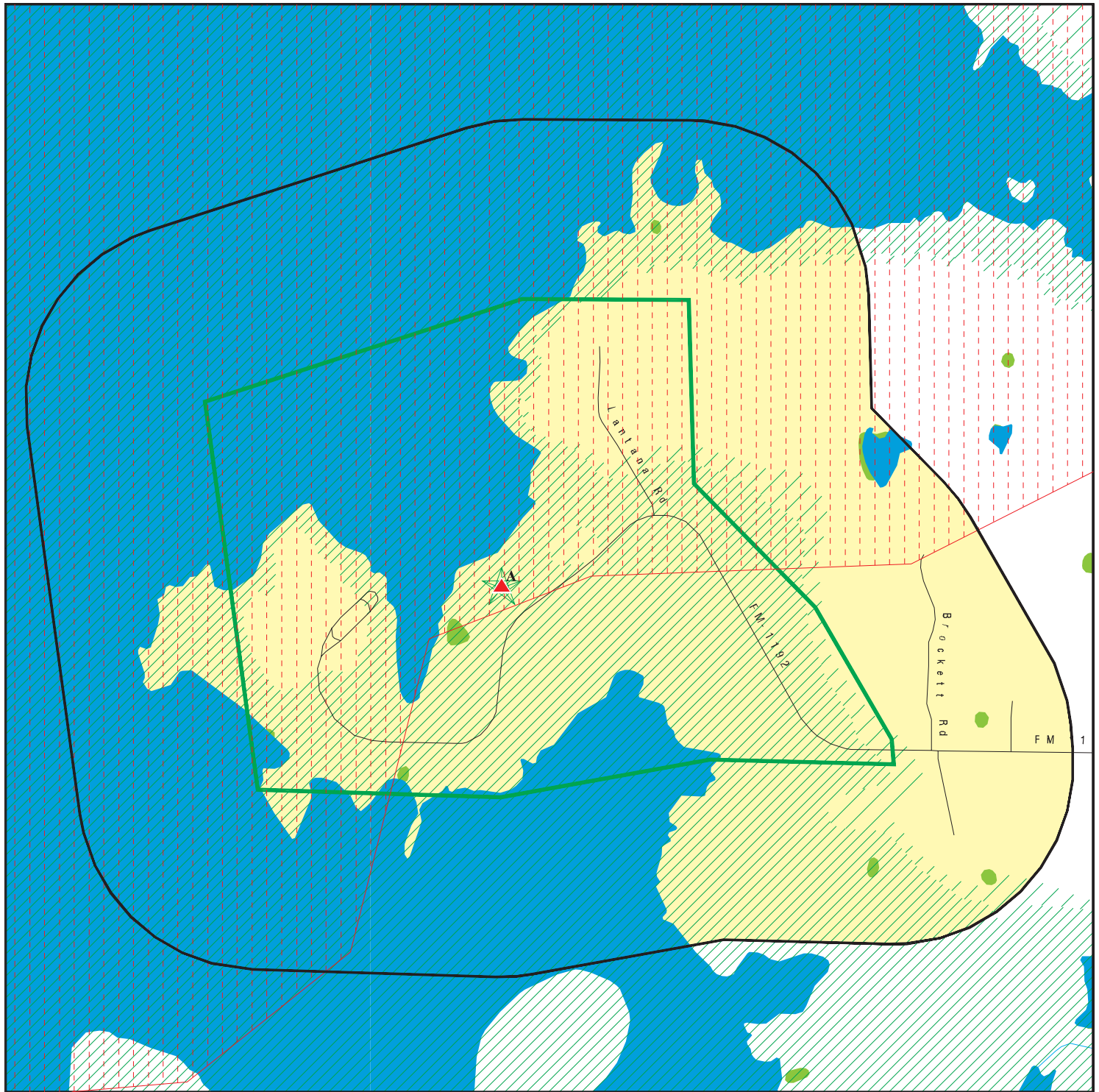
State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: LONE STAR LODGE AND MARINA
ADDRESS: 2200 FM 1192
Pilot Point TX 76258
LAT/LONG: 33.401597 / 97.00174

CLIENT: GES, Inc.
CONTACT: Jared Cobb
INQUIRY #: 5720445.2s
DATE: July 18, 2019 2:19 pm

DETAIL MAP - 5720445.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites

0 1/8 1/4 1/2 Miles

- Indian Reservations BIA
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands



This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: LONE STAR LODGE AND MARINA
 ADDRESS: 2200 FM 1192
 Pilot Point TX 76258
 LAT/LONG: 33.401597 / 97.00174

CLIENT: GES, Inc.
 CONTACT: Jared Cobb
 INQUIRY #: 5720445.2s
 DATE: July 18, 2019 2:24 pm

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
<i>Federal NPL site list</i>								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
<i>Federal Delisted NPL site list</i>								
Delisted NPL	1.000		0	0	0	0	NR	0
<i>Federal CERCLIS list</i>								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
<i>Federal CERCLIS NFRAP site list</i>								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
<i>Federal RCRA CORRACTS facilities list</i>								
CORRACTS	1.000		0	0	0	0	NR	0
<i>Federal RCRA non-CORRACTS TSD facilities list</i>								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
<i>Federal RCRA generators list</i>								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
<i>Federal institutional controls / engineering controls registries</i>								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
<i>Federal ERNS list</i>								
ERNS	TP		NR	NR	NR	NR	NR	0
<i>State- and tribal - equivalent NPL</i>								
SHWS	1.000		0	0	0	0	NR	0
<i>State and tribal landfill and/or solid waste disposal site lists</i>								
SWF/LF	0.500		0	0	0	NR	NR	0
DEBRIS	0.500		0	0	0	NR	NR	0
CLI	0.500		0	0	0	NR	NR	0
WASTE MGMT	TP		NR	NR	NR	NR	NR	0
<i>State and tribal leaking storage tank lists</i>								
INDIAN LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LPST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250	1	0	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AUL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
PRIORITYCLEANERS	0.500		0	0	0	NR	NR	0
DEL SHWS	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
NON REGIST PST	0.250		0	0	NR	NR	NR	0
Local Land Records								
HIST LIENS	TP		NR	NR	NR	NR	NR	0
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
SPILLS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
SPILLS 80	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		1	0	0	0	NR	1
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP	1	NR	NR	NR	NR	NR	1
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
APAR	TP		NR	NR	NR	NR	NR	0
ASBESTOS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
ED AQUIF	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
GCC	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
IOP	TP		NR	NR	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
Ind. Haz Waste	0.250		0	0	NR	NR	NR	0
MSD	0.500		0	0	0	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
RWS	TP		NR	NR	NR	NR	NR	0
TIER 2	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
IHW CORR ACTION	0.250		0	0	NR	NR	NR	0
PST STAGE 2	0.250		0	0	NR	NR	NR	0
COMP HIST	TP	1	NR	NR	NR	NR	NR	1

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0

- Totals --		3	1	0	0	0	0	4
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NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

A1
Target
Property

LONE STAR GAS CO
PILOT POINT, TX

DOT OPS **1024097572**
N/A

Site 1 of 3 in cluster A

Actual:
648 ft.

DOT OPS:

Natural Gas Transmission 1984 - 2001:

Operator ID:	11680
Name:	LONE STAR GAS CO
Incident City:	PILOT POINT
Incident State:	TX
Incident Zip:	Not reported
Incident Date:	19881016
Date Incident Was Reported To NRC:	19881016
Apparent Cause of the Incident:	DAMAGE BY OUTSIDE FORCE

[Click this hyperlink](#) while viewing on your computer to access additional DOT OPS: detail in the EDR Site Report.

A2
Target
Property

LONESTAR LODGE AND MARINA
2200 FM 1192
PILOT POINT, TX 76258

AST **A100468091**
N/A

Site 2 of 3 in cluster A

Actual:
648 ft.

AST:

Facility ID:	134981
Additional ID:	674330912018113
AI Number:	89871
Facility Type:	WATERCRAFT REFUELING
Facility Begin Date:	06/08/2018
Facility Status:	ACTIVE
Facility Exempt Status:	N
Records Off-Site:	N
UST Financial Assurance Required:	Not reported
Number of Active ASTs:	1
Site Location Description:	Not reported
Site Location (nearest city name):	Not reported
Site Location (county name):	DENTON
Site Location (TCEQ region):	4
Site Location (location zip):	76258
Contact Name/Title:	BRANDON JONKER/ LONESTAR LODGE AND MARINA
Contact Organization Name:	LONESTAR LODGE AND MARINA
Contact Mailing Address1:	Not reported
Contact Mailing Address2:	Not reported
Contact CityStateZip:	Not reported
Contact Telephone:	2144608914
Contact Address Deliverable:	Not reported
Contact Fax Number:	Not reported
Contact Email Address:	BRANDON@LSMTX.NET
Signature Date on Earliest Reg Form:	06/08/2018
Signature First Name on Earliest Reg Form:	ROSS
Application Received Date on Earliest Reg Form:	07/03/2018
Signature Middle Name on Earliest Reg Form:	Not reported
Signature Last Name on Earliest Reg Form:	GARRETT
Signature Title on Earliest Reg Form:	Not reported
Signature Role on Earliest Reg Form:	Not reported

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

LONESTAR LODGE AND MARINA (Continued)

A100468091

Signature Company on Earliest Reg Form: Not reported
Enforcement Action: N
Facility Not Inspectable: N
Facility Not Inspectable Reason A: Not reported
Facility Not Inspectable Reason B: Not reported
Enforcement Action Date: Not reported

Facility:
Facility ID: 134981
Tank ID: 1
AST ID: 223391
AI Number: 89871
Install Date: 06/08/2018
Tank Registration Date: 07/03/2018
Mult Comp: Y
Tank Status: IN USE
Tank Status Date: 06/08/2018
Tank Reg Status: FULLY REGULATED
Tank Capacity: 6000
Substance: GASOLINE
Other Substance B: GASOLINE
Other Substance C: Not reported
Steel: N
Fiber: N
Aluminum: N
Metal: N
Concrete: N
Dike: N
Liner: N
Contains CO: N
Contains NO: N
Vapor Rec: COAXIAL SYSTEM
Inst Stage Date: 06/08/2018

**A3
Target
Property**

**LONESTAR LODGE AND MARINA
PILOT POINT, TX**

**COMP HIST S123229204
N/A**

Site 3 of 3 in cluster A

**Actual:
648 ft.**

COMP HIST:
RN Number: RN110373693
Region: REGION 04 - DFW METROPLEX
CN Number: CN605546324
CN Name: LONE STAR LODGE RESORT AND MARINA LLC
CN Rating: 0
Classification: UNCLASSIFIED
Date Calculated: 09/01/2018
Date Published to Web: 11/15/2018
Rating: 0
Classification 2: UNCLASSIFIED
Date Rated 2: 09/01/2018
Date Published to Web 2: 11/15/2018
NAICS Code: 713930
SIC Code: 1542
Related Number: 89871,89871

Map ID
Direction
Distance
Elevation

MAP FINDINGS

Site

Database(s)

EDR ID Number
EPA ID Number

DOD
Region

LAKE RAY ROBERTS

LAKE RAY ROBERTS (County), TX

DOD CUSA144232
N/A

< 1/8
1 ft.

DOD:

Feature 1: Army Corps of Engineers DOD
Feature 2: Not reported
Feature 3: Not reported
URL: Not reported
Name 1: Lake Ray Roberts
Name 2: Not reported
Name 3: Not reported
State: TX
DOD Site: Yes
Tile name: TXCOOKE

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
NO SITES FOUND					

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/11/2019	Source: EPA
Date Data Arrived at EDR: 04/18/2019	Telephone: N/A
Date Made Active in Reports: 05/14/2019	Last EDR Contact: 07/02/2019
Number of Days to Update: 26	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/11/2019	Source: EPA
Date Data Arrived at EDR: 04/18/2019	Telephone: N/A
Date Made Active in Reports: 05/14/2019	Last EDR Contact: 07/02/2019
Number of Days to Update: 26	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: EPA
Telephone: N/A
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/03/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 04/11/2019	Source: EPA
Date Data Arrived at EDR: 04/18/2019	Telephone: 800-424-9346
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 07/02/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/25/2019	Source: EPA
Date Data Arrived at EDR: 03/27/2019	Telephone: 800-424-9346
Date Made Active in Reports: 04/17/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 03/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2019	Telephone: 214-665-6444
Date Made Active in Reports: 04/17/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2019	Telephone: 214-665-6444
Date Made Active in Reports: 04/17/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 03/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2019	Telephone: 214-665-6444
Date Made Active in Reports: 04/17/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 03/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/27/2019	Telephone: 214-665-6444
Date Made Active in Reports: 04/17/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/22/2019	Source: Department of the Navy
Date Data Arrived at EDR: 03/07/2019	Telephone: 843-820-7326
Date Made Active in Reports: 04/17/2019	Last EDR Contact: 05/10/2019
Number of Days to Update: 41	Next Scheduled EDR Contact: 08/26/2019
	Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 01/31/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/04/2019	Telephone: 703-603-0695
Date Made Active in Reports: 03/08/2019	Last EDR Contact: 05/29/2019
Number of Days to Update: 32	Next Scheduled EDR Contact: 09/09/2019
	Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 01/31/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 02/04/2019	Telephone: 703-603-0695
Date Made Active in Reports: 03/08/2019	Last EDR Contact: 05/29/2019
Number of Days to Update: 32	Next Scheduled EDR Contact: 09/09/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/25/2019

Date Data Arrived at EDR: 03/26/2019

Date Made Active in Reports: 05/01/2019

Number of Days to Update: 36

Source: National Response Center, United States Coast Guard

Telephone: 202-267-2180

Last EDR Contact: 06/26/2019

Next Scheduled EDR Contact: 10/07/2019

Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

SHWS: State Superfund Registry

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 11/08/2018

Date Data Arrived at EDR: 12/27/2018

Date Made Active in Reports: 02/12/2019

Number of Days to Update: 47

Source: Texas Commission on Environmental Quality

Telephone: 512-239-5680

Last EDR Contact: 06/21/2019

Next Scheduled EDR Contact: 10/07/2019

Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 04/30/2019

Date Data Arrived at EDR: 05/02/2019

Date Made Active in Reports: 07/10/2019

Number of Days to Update: 69

Source: Texas Commission on Environmental Quality

Telephone: 512-239-6706

Last EDR Contact: 04/22/2019

Next Scheduled EDR Contact: 08/05/2019

Data Release Frequency: Quarterly

CLI: Closed Landfill Inventory

Closed and abandoned landfills (permitted as well as unauthorized) across the state of Texas. For current information regarding any of the sites included in this database, contact the appropriate Council of Governments agency.

Date of Government Version: 08/30/1999

Date Data Arrived at EDR: 09/28/2000

Date Made Active in Reports: 10/30/2000

Number of Days to Update: 32

Source: Texas Commission on Environmental Quality

Telephone: N/A

Last EDR Contact: 06/26/2019

Next Scheduled EDR Contact: 10/14/2019

Data Release Frequency: Varies

H-GAC CLI: Houston-Galveston Closed Landfill Inventory

Closed Landfill Inventory for the Houston-Galveston Area Council Region. In 1993, the Texas Legislature passed House Bill (HB) 2537, which required Councils of Governments (COGs) to develop an inventory of closed municipal solid waste landfills for their regional solid waste management plans.

Date of Government Version: 04/02/2019

Date Data Arrived at EDR: 04/04/2019

Date Made Active in Reports: 06/20/2019

Number of Days to Update: 77

Source: Houston-Galveston Area Council

Telephone: 832-681-2518

Last EDR Contact: 07/08/2019

Next Scheduled EDR Contact: 10/14/2019

Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DEBRIS: DEBRIS

A listing of temporary debris management sites and MSW landfills for debris resulting from Hurricane Harvey.

Date of Government Version: 03/27/2018	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/04/2018	Telephone: 512-239-6840
Date Made Active in Reports: 06/08/2018	Last EDR Contact: 06/10/2019
Number of Days to Update: 65	Next Scheduled EDR Contact: 09/23/2019
	Data Release Frequency: Varies

WASTE MGMT: Commercial Hazardous & Solid Waste Management Facilities

This list contains commercial recycling facilities and facilities permitted or authorized (interim status) by the Texas Natural Resource Conservation Commission.

Date of Government Version: 02/02/2018	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/06/2018	Telephone: 512-239-2920
Date Made Active in Reports: 06/13/2018	Last EDR Contact: 07/03/2019
Number of Days to Update: 68	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Varies

State and tribal leaking storage tank lists

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/12/2018	Source: EPA, Region 5
Date Data Arrived at EDR: 03/07/2019	Telephone: 312-886-7439
Date Made Active in Reports: 05/01/2019	Last EDR Contact: 04/26/2019
Number of Days to Update: 55	Next Scheduled EDR Contact: 08/05/2019
	Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/01/2018	Source: EPA Region 6
Date Data Arrived at EDR: 03/07/2019	Telephone: 214-665-6597
Date Made Active in Reports: 05/01/2019	Last EDR Contact: 04/26/2019
Number of Days to Update: 55	Next Scheduled EDR Contact: 08/05/2019
	Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/17/2018	Source: EPA Region 10
Date Data Arrived at EDR: 03/07/2019	Telephone: 206-553-2857
Date Made Active in Reports: 05/01/2019	Last EDR Contact: 04/26/2019
Number of Days to Update: 55	Next Scheduled EDR Contact: 08/05/2019
	Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/10/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 03/08/2019	Telephone: 415-972-3372
Date Made Active in Reports: 05/01/2019	Last EDR Contact: 04/26/2019
Number of Days to Update: 54	Next Scheduled EDR Contact: 08/05/2019
	Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 02/19/2019
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/13/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

LPST: Leaking Petroleum Storage Tank Database

An inventory of reported leaking petroleum storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 03/26/2019
Date Data Arrived at EDR: 03/28/2019
Date Made Active in Reports: 04/11/2019
Number of Days to Update: 14

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2200
Last EDR Contact: 06/21/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 07/10/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Varies

UST: Petroleum Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/11/2019
Number of Days to Update: 15

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 06/27/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

AST: Petroleum Storage Tank Database
Registered Aboveground Storage Tanks.

Date of Government Version: 03/04/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/11/2019
Number of Days to Update: 15

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 06/27/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/17/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 11/07/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/16/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/01/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/12/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/24/2018
Date Data Arrived at EDR: 03/12/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 50

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/03/2018
Date Data Arrived at EDR: 03/07/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 55

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/10/2018
Date Data Arrived at EDR: 03/08/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 54

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AUL: Sites with Controls

Activity and use limitations include both engineering controls and institutional controls.

Date of Government Version: 10/04/2018
Date Data Arrived at EDR: 10/12/2018
Date Made Active in Reports: 11/07/2018
Number of Days to Update: 26

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5891
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015	Source: EPA, Region 1
Date Data Arrived at EDR: 09/29/2015	Telephone: 617-918-1102
Date Made Active in Reports: 02/18/2016	Last EDR Contact: 06/20/2019
Number of Days to Update: 142	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Varies

VCP TCEQ: Voluntary Cleanup Program Database

The Texas Voluntary Cleanup Program was established to provide administrative, technical, and legal incentives to encourage the cleanup of contaminated sites in Texas.

Date of Government Version: 10/01/2018	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 10/02/2018	Telephone: 512-239-5891
Date Made Active in Reports: 11/09/2018	Last EDR Contact: 06/26/2019
Number of Days to Update: 38	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Quarterly

VCP RRC: Voluntary Cleanup Program Sites

The Voluntary Cleanup Program (RRC-VCP) provides an incentive to remediate Oil & Gas related pollution by participants as long as they did not cause or contribute to the contamination. Applicants to the program receive a release of liability to the state in exchange for a successful cleanup.

Date of Government Version: 11/20/2018	Source: Railroad Commission of Texas
Date Data Arrived at EDR: 01/03/2019	Telephone: 512-463-6969
Date Made Active in Reports: 02/08/2019	Last EDR Contact: 07/01/2019
Number of Days to Update: 36	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Brownfields Site Assessments

Brownfield site assessments that are being cleaned under EPA grant monies.

Date of Government Version: 03/05/2019	Source: TCEQ
Date Data Arrived at EDR: 04/04/2019	Telephone: 512-239-5872
Date Made Active in Reports: 06/20/2019	Last EDR Contact: 07/01/2019
Number of Days to Update: 77	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Semi-Annually

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/17/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 12/18/2018	Telephone: 202-566-2777
Date Made Active in Reports: 01/11/2019	Last EDR Contact: 06/04/2019
Number of Days to Update: 24	Next Scheduled EDR Contact: 09/30/2019
	Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NCTCOG LI: North Central Landfill Inventory

North Central Texas Council of Governments landfill database.

Date of Government Version: 04/02/2019
Date Data Arrived at EDR: 04/04/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 77

Source: North Central Texas Council of Governments
Telephone: 817-695-9223
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

CAPCOG LI: Capitol Area Landfill Inventory

Permitted and unpermitted landfills for the CAPCOG region. Serving Bastrop, Blanco, Burnet, Caldwell, Fayette, Hays, Lee, Llano, Travis, and Williamson Counties.

Date of Government Version: 01/06/2017
Date Data Arrived at EDR: 01/10/2017
Date Made Active in Reports: 03/15/2017
Number of Days to Update: 64

Source: Capital Area Council of Governments
Telephone: 512-916-6000
Last EDR Contact: 07/03/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

SWRCY: Recycling Facility Listing

A listing of recycling facilities in the state.

Date of Government Version: 02/15/2019
Date Data Arrived at EDR: 02/19/2019
Date Made Active in Reports: 03/29/2019
Number of Days to Update: 38

Source: TCEQ
Telephone: 512-239-6700
Last EDR Contact: 05/10/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 04/23/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/24/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 50

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Site Locations Listing

A listing of former clandestine drug site locations

Date of Government Version: 08/07/2017
Date Data Arrived at EDR: 08/15/2017
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 269

Source: Department of Public Safety
Telephone: 512-424-2144
Last EDR Contact: 04/29/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

PRIORITY CLEANERS: Dry Cleaner Remediation Program Prioritization List

A listing of dry cleaner related contaminated sites.

Date of Government Version: 02/25/2019
Date Data Arrived at EDR: 03/06/2019
Date Made Active in Reports: 04/11/2019
Number of Days to Update: 36

Source: Texas Commisision on Environmenatl Quality
Telephone: 512-239-5658
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 06/18/2108
Data Release Frequency: Varies

DEL SHWS: Deleted Superfund Registry Sites

Sites have been deleted from the state Superfund registry in accordance with the Act, ?361.189

Date of Government Version: 11/08/2018
Date Data Arrived at EDR: 12/27/2018
Date Made Active in Reports: 02/12/2019
Number of Days to Update: 47

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0666
Last EDR Contact: 06/21/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/24/2019
Date Data Arrived at EDR: 02/26/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 50

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PFAS: PFAS Contamination Site Location Listing

PFOS and PFOA stand for perfluorooctane sulfonate and perfluorooctanoic acid, respectively. Both are fluorinated organic chemicals, part of a larger family of compounds referred to as perfluoroalkyl substances (PFASs).

Date of Government Version: 03/13/2019
Date Data Arrived at EDR: 03/19/2019
Date Made Active in Reports: 04/15/2019
Number of Days to Update: 27

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2341
Last EDR Contact: 06/03/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

NON REGIST PST: Petroleum Storage Tank Non Registered

A listing of non-registered petroleum storage tank site locations.

Date of Government Version: 01/29/2019
Date Data Arrived at EDR: 01/31/2019
Date Made Active in Reports: 03/29/2019
Number of Days to Update: 57

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2081
Last EDR Contact: 05/01/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

Local Land Records

HIST LIENS: Environmental Liens Listing

This listing contains information fields that are no longer tracked in the LIENS database.

Date of Government Version: 03/23/2007
Date Data Arrived at EDR: 03/23/2007
Date Made Active in Reports: 05/02/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

LIENS: Environmental Liens Listing

The listing covers TCEQ liens placed against either State Superfund sites or Federal Superfund sites to recover cost incurred by TCEQ.

Date of Government Version: 03/20/2019
Date Data Arrived at EDR: 04/09/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 73

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2209
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 07/02/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 49

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS: Spills Database

Spills reported to the Emergency Response Division.

Date of Government Version: 04/01/2019
Date Data Arrived at EDR: 04/04/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 78

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2507
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 10/23/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/07/2013
Number of Days to Update: 63

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SPILLS 80: SPILLS80 data from FirstSearch

Spills 80 includes those spill and release records available from FirstSearch databases prior to 1990. Typically, they may include chemical, oil and/or hazardous substance spills recorded before 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 80.

Date of Government Version: 05/15/2005
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/07/2013
Number of Days to Update: 63

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/27/2019
Date Made Active in Reports: 04/17/2019
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 214-665-6444
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 03/07/2019
Date Data Arrived at EDR: 04/03/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 50

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 05/21/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 07/09/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 07/10/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/13/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/25/2019
Date Data Arrived at EDR: 03/26/2019
Date Made Active in Reports: 05/07/2019
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/06/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/10/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/18/2019
Next Scheduled EDR Contact: 09/30/2019
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/24/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 35

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Annually

RMP: Risk Management Plans

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 04/25/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 05/02/2019	Telephone: 202-564-8600
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 04/22/2019
Number of Days to Update: 21	Next Scheduled EDR Contact: 08/05/2019
	Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995	Source: EPA
Date Data Arrived at EDR: 07/03/1995	Telephone: 202-564-4104
Date Made Active in Reports: 08/07/1995	Last EDR Contact: 06/02/2008
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/01/2008
	Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 04/11/2019	Source: EPA
Date Data Arrived at EDR: 04/18/2019	Telephone: 202-564-6023
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 07/01/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 08/19/2019
	Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 03/20/2019	Source: EPA
Date Data Arrived at EDR: 04/10/2019	Telephone: 202-566-0500
Date Made Active in Reports: 05/14/2019	Last EDR Contact: 07/12/2019
Number of Days to Update: 34	Next Scheduled EDR Contact: 10/21/2019
	Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016	Source: Environmental Protection Agency
Date Data Arrived at EDR: 11/23/2016	Telephone: 202-564-2501
Date Made Active in Reports: 02/10/2017	Last EDR Contact: 07/03/2019
Number of Days to Update: 79	Next Scheduled EDR Contact: 10/21/2019
	Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 04/22/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/07/2019
Next Scheduled EDR Contact: 09/16/2019
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/26/2019
Next Scheduled EDR Contact: 08/05/2019
Data Release Frequency: Varies

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/02/2019
Date Data Arrived at EDR: 04/02/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 12/03/2018
Date Data Arrived at EDR: 01/29/2019
Date Made Active in Reports: 03/21/2019
Number of Days to Update: 51

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 04/30/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 05/23/2019
Number of Days to Update: 30

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/08/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Biennially

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/10/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 08/08/2017
Date Data Arrived at EDR: 09/11/2018
Date Made Active in Reports: 09/14/2018
Number of Days to Update: 3

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/02/2019
Next Scheduled EDR Contact: 08/19/2019
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/24/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 04/11/2019
Date Data Arrived at EDR: 04/18/2019
Date Made Active in Reports: 05/14/2019
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 07/01/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 11/27/2018
Date Data Arrived at EDR: 02/27/2019
Date Made Active in Reports: 04/01/2019
Number of Days to Update: 33

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/29/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2019
Next Scheduled EDR Contact: 09/09/2019
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/27/2019
Date Data Arrived at EDR: 03/28/2019
Date Made Active in Reports: 05/01/2019
Number of Days to Update: 34

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 06/19/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/15/2019	Source: EPA
Date Data Arrived at EDR: 03/05/2019	Telephone: (214) 665-2200
Date Made Active in Reports: 03/15/2019	Last EDR Contact: 06/05/2019
Number of Days to Update: 10	Next Scheduled EDR Contact: 09/16/2019
	Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2017	Source: Department of Defense
Date Data Arrived at EDR: 01/17/2019	Telephone: 703-704-1564
Date Made Active in Reports: 04/01/2019	Last EDR Contact: 07/15/2019
Number of Days to Update: 74	Next Scheduled EDR Contact: 10/28/2019
	Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/31/2018	Source: Environmental Protection Agency
Date Data Arrived at EDR: 07/26/2018	Telephone: 202-564-0527
Date Made Active in Reports: 10/05/2018	Last EDR Contact: 05/24/2019
Number of Days to Update: 71	Next Scheduled EDR Contact: 09/09/2019
	Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 04/07/2019	Source: Environmental Protection Agency
Date Data Arrived at EDR: 04/09/2019	Telephone: 202-564-2280
Date Made Active in Reports: 05/23/2019	Last EDR Contact: 07/09/2019
Number of Days to Update: 44	Next Scheduled EDR Contact: 10/21/2019
	Data Release Frequency: Quarterly

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/19/2019	Source: EPA
Date Data Arrived at EDR: 02/21/2019	Telephone: 800-385-6164
Date Made Active in Reports: 04/01/2019	Last EDR Contact: 05/21/2019
Number of Days to Update: 39	Next Scheduled EDR Contact: 09/02/2019
	Data Release Frequency: Quarterly

AIRS: Current Emission Inventory Data

The database lists by company, along with their actual emissions, the TNRCC air accounts that emit EPA criteria pollutants.

Date of Government Version: 04/05/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/05/2019	Telephone: N/A
Date Made Active in Reports: 06/24/2019	Last EDR Contact: 06/10/2019
Number of Days to Update: 80	Next Scheduled EDR Contact: 09/23/2019
	Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

APAR: Affected Property Assessment Report Site Listing

A listing of Sites That Have Received an APAR (Affected Property Assessment Report)

Date of Government Version: 04/22/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/23/2019	Telephone: 512-239-5872
Date Made Active in Reports: 06/25/2019	Last EDR Contact: 07/08/2019
Number of Days to Update: 63	Next Scheduled EDR Contact: 10/21/2019
	Data Release Frequency: Varies

ASBESTOS: Asbestos Notification Listing

A listing of asbestos notification site locations.

Date of Government Version: 03/05/2019	Source: Department of State Health Services
Date Data Arrived at EDR: 03/07/2019	Telephone: 512-834-6787
Date Made Active in Reports: 04/11/2019	Last EDR Contact: 06/17/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/02/2019
	Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Sites

A listing of facilities that use surface impoundments or landfills to dispose of coal ash.

Date of Government Version: 04/30/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 05/02/2019	Telephone: 512-239-6624
Date Made Active in Reports: 06/28/2019	Last EDR Contact: 04/29/2019
Number of Days to Update: 57	Next Scheduled EDR Contact: 08/12/2019
	Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Registration Database Listing

A listing of drycleaning facilities.

Date of Government Version: 02/01/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 02/27/2019	Telephone: 512-239-2160
Date Made Active in Reports: 04/11/2019	Last EDR Contact: 05/30/2019
Number of Days to Update: 43	Next Scheduled EDR Contact: 09/09/2019
	Data Release Frequency: Varies

ED AQUIF: Edwards Aquifer Permits

A listing of permits in the Edwards Aquifer Protection Program database. The information provided is for the counties located in the Austin Region (Hays, Travis, and Williamson counties).

Date of Government Version: 04/08/2019	Source: Texas Commission on Environmental Quality, Austin Region
Date Data Arrived at EDR: 04/11/2019	Telephone: 512-339-2929
Date Made Active in Reports: 06/24/2019	Last EDR Contact: 06/21/2019
Number of Days to Update: 74	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Varies

ENFORCEMENT: Notice of Violations Listing

A listing of permit violations.

Date of Government Version: 04/04/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/09/2019	Telephone: 512-239-6012
Date Made Active in Reports: 06/24/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 76	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Semi-Annually

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information.

Date of Government Version: 03/25/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/04/2019	Telephone: 512-239-6239
Date Made Active in Reports: 06/21/2019	Last EDR Contact: 06/21/2019
Number of Days to Update: 78	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay

Date of Government Version: 03/04/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 03/27/2019	Telephone: 512-239-0986
Date Made Active in Reports: 04/12/2019	Last EDR Contact: 06/27/2019
Number of Days to Update: 16	Next Scheduled EDR Contact: 10/07/2019
	Data Release Frequency: Quarterly

GCC: Groundwater Contamination Cases

Texas Water Code, Section 26.406 requires the annual report to describe the current status of groundwater monitoring activities conducted or required by each agency at regulated facilities or associated with regulated activities.

The report is required to contain a description of each case of groundwater contamination documented during the previous calendar year. Also to be included, is a description of each case of contamination documented during previous periods for which voluntary clean up action was incomplete at the time the preceding report was issued. The report is also required to indicate the status of enforcement action for each listed case.

Date of Government Version: 12/31/2017	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 08/31/2018	Telephone: 512-239-5690
Date Made Active in Reports: 09/26/2018	Last EDR Contact: 05/31/2019
Number of Days to Update: 26	Next Scheduled EDR Contact: 09/09/2019
	Data Release Frequency: Annually

IOP: Innocent Owner/Operator Program

Contains information on all sites that are in the IOP. An IOP is an innocent owner or operator whose property is contaminated as a result of a release or migration of contaminants from a source or sources not located on the property, and they did not cause or contribute to the source or sources of contamination.

Date of Government Version: 05/02/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 05/07/2019	Telephone: 512-239-5894
Date Made Active in Reports: 05/21/2019	Last EDR Contact: 06/26/2019
Number of Days to Update: 14	Next Scheduled EDR Contact: 10/14/2019
	Data Release Frequency: Quarterly

LEAD: Lead Inspection Listing

Lead inspection sites

Date of Government Version: 02/19/2019	Source: Department of State Health Services
Date Data Arrived at EDR: 02/22/2019	Telephone: 512-834-6600
Date Made Active in Reports: 03/29/2019	Last EDR Contact: 05/15/2019
Number of Days to Update: 35	Next Scheduled EDR Contact: 09/02/2019
	Data Release Frequency: Varies

Ind. Haz Waste: Industrial & Hazardous Waste Database

Summary reports reported by waste handlers, generators and shippers in Texas.

Date of Government Version: 04/09/2019	Source: Texas Commission on Environmental Quality
Date Data Arrived at EDR: 04/17/2019	Telephone: 512-239-0985
Date Made Active in Reports: 06/24/2019	Last EDR Contact: 04/17/2019
Number of Days to Update: 68	Next Scheduled EDR Contact: 07/29/2019
	Data Release Frequency: Annually

MSD: Municipal Settings Designations Database

An MSD is an official state designation given to property within a municipality or its extraterritorial jurisdiction that certifies that designated groundwater at the property is not used as potable water, and is prohibited from future use as potable water because that groundwater is contaminated in excess of the applicable potable-water protective concentration level.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/18/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 03/29/2019
Number of Days to Update: 65

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4982
Last EDR Contact: 04/29/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Varies

NPDES: NPDES Facility List

Permitted wastewater outfalls.

Date of Government Version: 02/12/2019
Date Data Arrived at EDR: 02/14/2019
Date Made Active in Reports: 03/29/2019
Number of Days to Update: 43

Source: Texas Commission on Environmental Quality
Telephone: 512-239-4591
Last EDR Contact: 05/15/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Varies

RWS: Radioactive Waste Sites

Sites in the State of Texas that have been designated as Radioactive Waste sites.

Date of Government Version: 07/24/2006
Date Data Arrived at EDR: 12/14/2006
Date Made Active in Reports: 01/23/2007
Number of Days to Update: 40

Source: Texas Commission on Environmental Quality
Telephone: 512-239-0859
Last EDR Contact: 05/13/2019
Next Scheduled EDR Contact: 08/26/2019
Data Release Frequency: Semi-Annually

TIER 2: Tier 2 Chemical Inventory Reports

A listing of facilities which store or manufacture hazardous materials and submit a chemical inventory report.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 06/07/2013
Date Made Active in Reports: 07/22/2013
Number of Days to Update: 45

Source: Department of State Health Services
Telephone: 512-834-6603
Last EDR Contact: 05/15/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

UIC: Underground Injection Wells Database Listing

Class V injection wells regulated by the TCEQ. Class V wells are used to inject non-hazardous fluids underground. Most Class V wells are used to dispose of wastes into or above underground sources of drinking water and can pose a threat to ground water quality, if not managed properly.

Date of Government Version: 04/03/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 76

Source: Texas Commission on Environmental Quality
Telephone: 512-239-6627
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Varies

IHW CORR ACTION: IHW CORR ACTION

Industrial hazardous waste facilities with corrective actions.

Date of Government Version: 04/02/2019
Date Data Arrived at EDR: 04/05/2019
Date Made Active in Reports: 06/20/2019
Number of Days to Update: 76

Source: Texas Commission on Environmental Quality
Telephone: 512-239-5872
Last EDR Contact: 06/26/2019
Next Scheduled EDR Contact: 10/14/2019
Data Release Frequency: Varies

PST STAGE 2: PST Stage 2

State II Vapor Recovery. Decommissioning of Stage II Rule a?? Gasoline dispensing facilities (GDFs) may begin the process of removing Stage II equipment on May 16, 2014 providing that all other requirements for decommissioning have been met, including appropriate notification.

Date of Government Version: 01/17/2019
Date Data Arrived at EDR: 01/23/2019
Date Made Active in Reports: 04/11/2019
Number of Days to Update: 78

Source: Texas Commission on Environmental Quality
Telephone: 512-239-2160
Last EDR Contact: 06/21/2019
Next Scheduled EDR Contact: 10/07/2019
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COMP HIST: Compliance History Listing

A listing of compliance histories of regulated entities

Date of Government Version: 11/15/2018

Date Data Arrived at EDR: 11/29/2018

Date Made Active in Reports: 02/08/2019

Number of Days to Update: 71

Source: Txs Commission on Environmental Quality

Telephone: 512-239-3282

Last EDR Contact: 05/31/2019

Next Scheduled EDR Contact: 09/09/2019

Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A

Date Data Arrived at EDR: N/A

Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc.

Telephone: N/A

Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A

Date Data Arrived at EDR: N/A

Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc.

Telephone: N/A

Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A

Date Data Arrived at EDR: N/A

Date Made Active in Reports: N/A

Number of Days to Update: N/A

Source: EDR, Inc.

Telephone: N/A

Last EDR Contact: N/A

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Texas Commission of Environmental Quality in Texas formerly known as Texas Natural Resources Conservation Commission which changed in 2002.

Date of Government Version: N/A

Date Data Arrived at EDR: 07/01/2013

Date Made Active in Reports: 12/26/2013

Number of Days to Update: 178

Source: Texas Commission on Environmental Quality

Telephone: N/A

Last EDR Contact: 06/01/2012

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Texas Commission of Environmental Quality in Texas formerly known as Texas Natural Resources Conservation Commission which changed in 2002.

Date of Government Version: N/A

Date Data Arrived at EDR: 07/01/2013

Date Made Active in Reports: 01/13/2014

Number of Days to Update: 196

Source: Texas Commission on Environmental Quality

Telephone: N/A

Last EDR Contact: 06/01/2012

Next Scheduled EDR Contact: N/A

Data Release Frequency: Varies

COUNTY RECORDS

TRAVIS COUNTY:

HIST UST AUSTIN: Historic Tank Records

A listing of historic records from the City of Austin.

Date of Government Version: 06/25/2012

Date Data Arrived at EDR: 06/29/2012

Date Made Active in Reports: 08/23/2012

Number of Days to Update: 55

Source: Department of Planning & Development Review

Telephone: 512-974-2715

Last EDR Contact: 06/03/2019

Next Scheduled EDR Contact: 09/16/2019

Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 02/11/2019

Date Data Arrived at EDR: 02/12/2019

Date Made Active in Reports: 03/04/2019

Number of Days to Update: 20

Source: Department of Energy & Environmental Protection

Telephone: 860-424-3375

Last EDR Contact: 05/14/2019

Next Scheduled EDR Contact: 08/26/2019

Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 07/09/2019
Next Scheduled EDR Contact: 10/21/2019
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 05/01/2019
Date Made Active in Reports: 06/21/2019
Number of Days to Update: 51

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/01/2019
Next Scheduled EDR Contact: 08/12/2019
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 10/23/2018
Date Made Active in Reports: 11/27/2018
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/17/2019
Next Scheduled EDR Contact: 09/02/2019
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/25/2019
Number of Days to Update: 63

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 07/15/2019
Next Scheduled EDR Contact: 10/28/2019
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/15/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 06/10/2019
Next Scheduled EDR Contact: 09/23/2019
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.

Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services

Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health

Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics

Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facility List

Source: Department of Protective & Regulatory Services

Telephone: 512-438-3269

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Texas General Land Office

Telephone: 512-463-0745

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

LONE STAR LODGE AND MARINA
2200 FM 1192
PILOT POINT, TX 76258

TARGET PROPERTY COORDINATES

Latitude (North):	33.401597 - 33° 24' 5.75"
Longitude (West):	97.00174 - 97° 0' 6.26"
Universal Transverse Mercator:	Zone 14
UTM X (Meters):	685837.9
UTM Y (Meters):	3697401.5
Elevation:	648 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5937793 MOUNTAIN SPRINGS, TX
Version Date:	2013
Northeast Map:	5939465 PILOT POINT, TX
Version Date:	2013

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

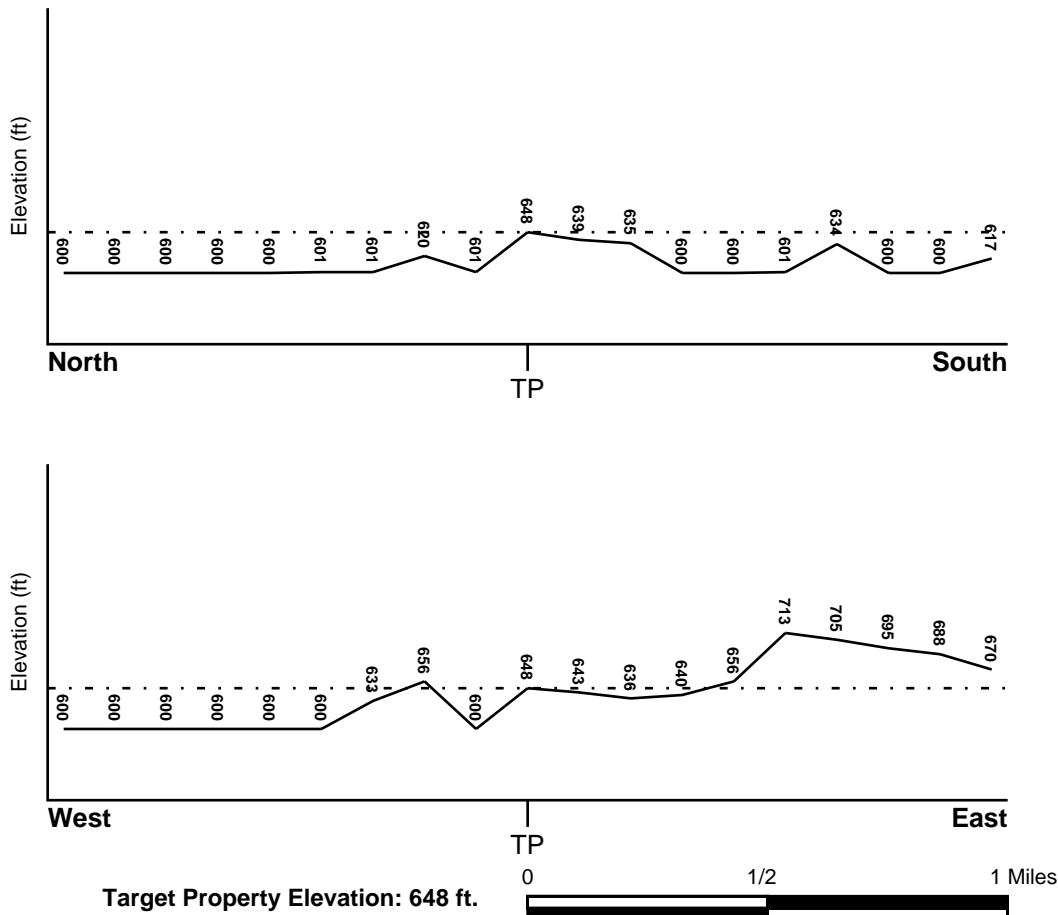
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General ESE

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

<u>Flood Plain Panel at Target Property</u>	<u>FEMA Source Type</u>
48121C0095G	FEMA FIRM Flood data
<u>Additional Panels in search area:</u>	<u>FEMA Source Type</u>
48121C0115G	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

<u>NWI Quad at Target Property</u>	<u>NWI Electronic Data Coverage</u>
NOT AVAILABLE	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

<u>MAP ID</u>	<u>LOCATION FROM TP</u>	<u>GENERAL DIRECTION GROUNDWATER FLOW</u>
Not Reported		

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

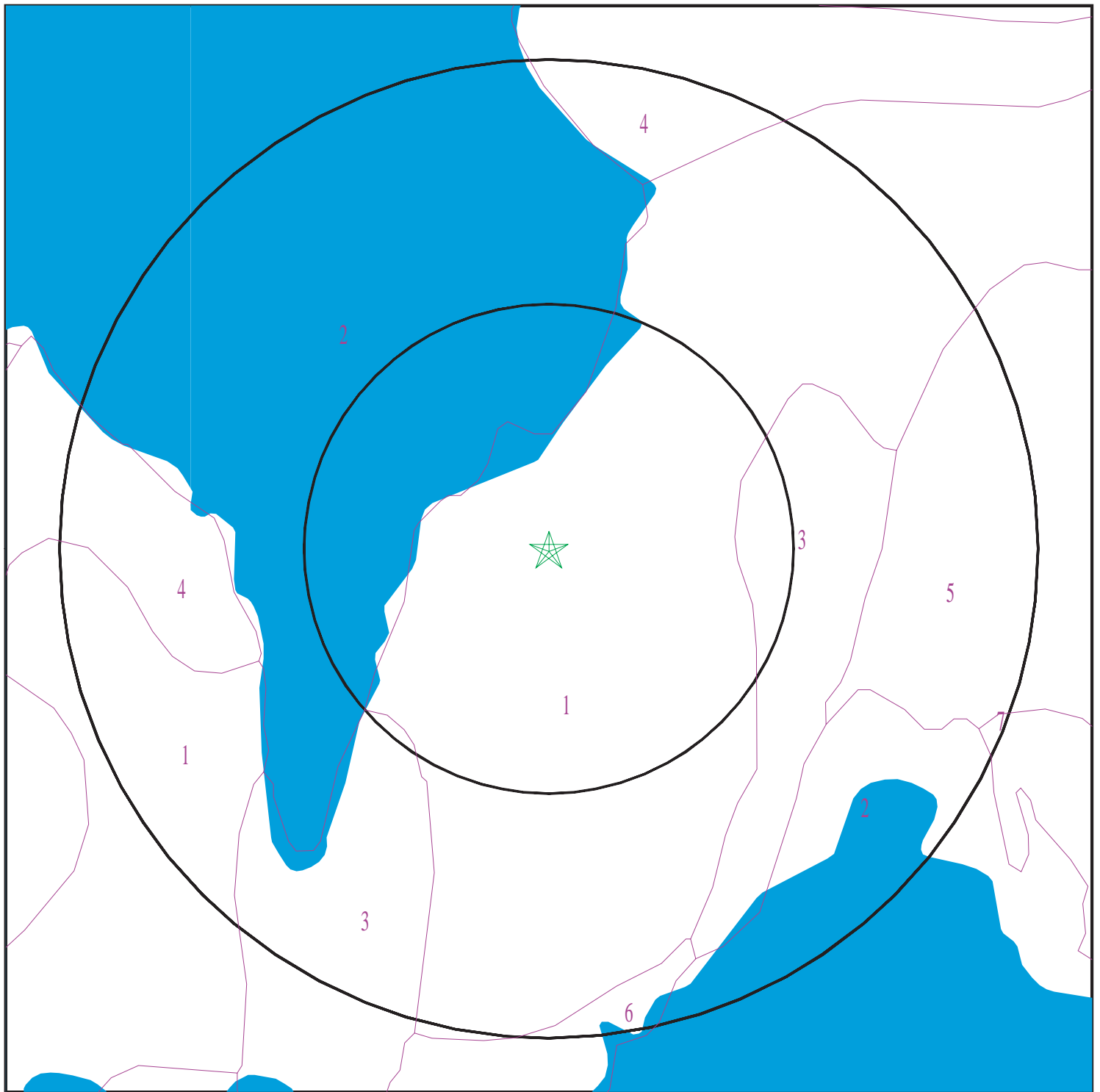
Era:	Mesozoic
System:	Cretaceous
Series:	Woodbine and Tuscaloosa Groups
Code:	uK1 (<i>decoded above as Era, System & Series</i>)

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 5720445.2s



- ★ Target Property
- SSURGO Soil
- Water

0 1/16 1/8 1/4 Miles



SITE NAME: LONE STAR LODGE AND MARINA
ADDRESS: 2200 FM 1192
Pilot Point TX 76258
LAT/LONG: 33.401597 / 97.00174

CLIENT: GES, Inc.
CONTACT: Jared Cobb
INQUIRY #: 5720445.2s
DATE: July 18, 2019 2:25 pm

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Gasil

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Low

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches	fine sandy loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 5.1
2	7 inches	79 inches	sandy clay loam	Not reported	Not reported	Max: 14 Min: 4	Max: 6.5 Min: 5.1

Soil Map ID: 2

Soil Component Name: Water

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Justin

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	11 inches	fine sandy loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
2	11 inches	16 inches	sandy clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
3	16 inches	33 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1
4	33 inches	79 inches	clay loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.1

Soil Map ID: 4

Soil Component Name: Birome

Soil Surface Texture: stony fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	7 inches	stony fine sandy loam	Not reported	Not reported	Max: 14 Min: 1.4	Max: Min:
2	7 inches	31 inches	clay	Not reported	Not reported	Max: 14 Min: 1.4	Max: Min:
3	31 inches	59 inches	bedrock	Not reported	Not reported	Max: 14 Min: 1.4	Max: Min:

Soil Map ID: 5

Soil Component Name: Wilson

Soil Surface Texture: clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.6
2	5 inches	59 inches	clay	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.6

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
3	59 inches	79 inches	clay	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 6.6

Soil Map ID: 6

Soil Component Name: Callisburg

Soil Surface Texture: fine sandy loam

Hydrologic Group: Class C - Slow infiltration rates. Soils with layers impeding downward movement of water, or soils with moderately fine or fine textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Moderate

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	fine sandy loam	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 5.1
2	5 inches	40 inches	sandy clay	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 5.1
3	40 inches	68 inches	clay	Not reported	Not reported	Max: 4 Min: 1.4	Max: 7.8 Min: 5.1

Soil Map ID: 7

Soil Component Name: Navo

Soil Surface Texture: clay loam

Hydrologic Group: Class D - Very slow infiltration rates. Soils are clayey, have a high water table, or are shallow to an impervious layer.

Soil Drainage Class: Moderately well drained

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
Layer	Boundary		Soil Texture Class	Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
	Upper	Lower		AASHTO Group	Unified Soil		
1	0 inches	5 inches	clay loam	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6
2	5 inches	72 inches	clay	Not reported	Not reported	Max: 0.42 Min: 0.01	Max: 8.4 Min: 5.6

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

<u>DATABASE</u>	<u>SEARCH DISTANCE (miles)</u>
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No Wells Found		

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

<u>MAP ID</u>	<u>WELL ID</u>	<u>LOCATION FROM TP</u>
No PWS System Found		

Note: PWS System location is not always the same as well location.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

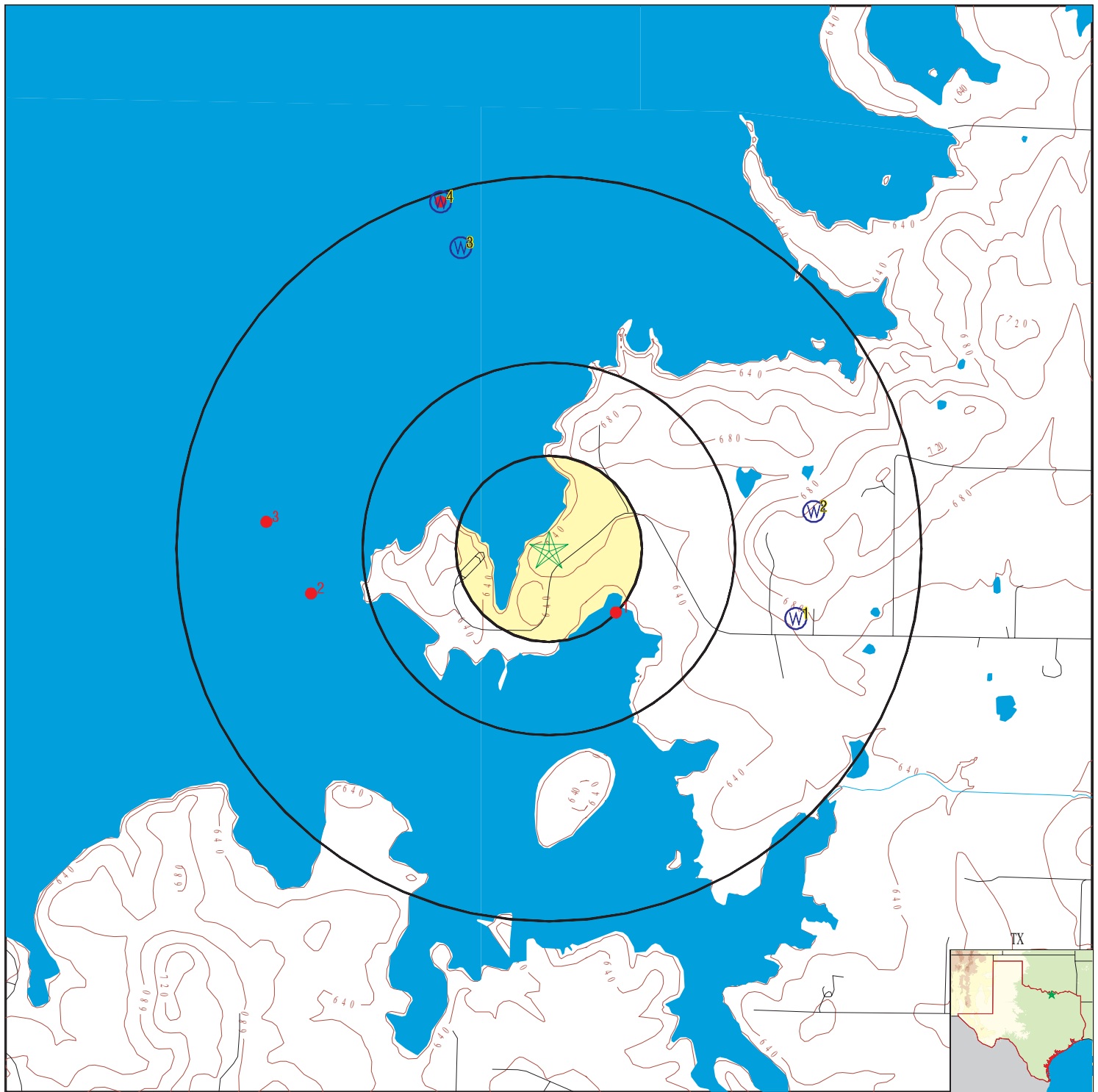
MAP ID	WELL ID	LOCATION FROM TP
1	TXMON5000307902	1/2 - 1 Mile ESE
2	TXWDB7000022973	1/2 - 1 Mile East
3	TXWDB7000024245	1/2 - 1 Mile NNW
4	TXBR30000022665	1/2 - 1 Mile NNW

OTHER STATE DATABASE INFORMATION

STATE OIL/GAS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
1	TXOG70000853403	1/8 - 1/4 Mile SE
2	TXOG70000853380	1/2 - 1 Mile West
3	TXOG70000853378	1/2 - 1 Mile West
4	TXOG70000853366	1/2 - 1 Mile NNW

PHYSICAL SETTING SOURCE MAP - 5720445.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Closest Hydrogeological Data
- Oil or gas wells

SITE NAME: LONE STAR LODGE AND MARINA
 ADDRESS: 2200 FM 1192
 Pilot Point TX 76258
 LAT/LONG: 33.401597 / 97.00174

CLIENT: GES, Inc.
 CONTACT: Jared Cobb
 INQUIRY #: 5720445.2s
 DATE: July 18, 2019 2:25 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

1
ESE
1/2 - 1 Mile
Higher

TX WELLS TXMON5000307902

Database:	Submitted Drillers Reports Database (Monitoring)	Well Type:	New Well
Well Rpt #:	312154	Borehole Depth (ft):	165
Proposed Use:	Stock	Plugging Rpt #:	Not Reported
Injurious Water Quality:	no		
Submitted Date:	2013-02-26	Owner Name:	Alan Stratman
Well #:	1	# Wells Drilled:	Not Reported
Elevation:	Not Reported	Type of Work:	New Well
Work Type Desc:	Not Reported	Original Well Rpt Track #:	Not Reported
Proposed Use:	Stock	Proposed Use Desc:	Not Reported
TCEQ Approved Plans:	Not Reported	PWS #:	Not Reported
Drill Start Date:	2012-09-27	Drill End Date:	2012-09-27
Seal Method:	Poured	Seal Method Desc:	Not Reported
Dist to Septic/Other Contam:	Not Reported	Distance to Septic Tank:	Not Reported
Dist to Property Line:	17	Distance Verify Meth:	Not Reported
Approved by Variance:	Not Reported	Sealed by Driller:	Yes
Sealed by Name:	Not Reported	Surface Completion:	Surface Sleeve Installed
Surf Complete Desc:	Not Reported	Completed by Driller:	Not Reported
Pump Type:	Submersible	Pump Type Desc:	Not Reported
Pump Depth:	140.00	Chemical Analysis:	No
Injurious Water:	No	Company Name:	Double D Drilling, Inc.
Driller Name:	Dale Chepulis	Comments:	Not Reported
Plugged within 48 hrs:	No	Plugging Rpt Tracking #:	Not Reported
Driller License #:	54840	Apprentice Reg #:	Not Reported
Details Reports For:	Well Bore Hole	Diameter:	7.875
Top Depth:	0	Bottom Depth:	170
Details Reports For:	Well Drilling Method	Drill Method:	Air Rotary
Details Reports For:	Well Completion	Borehole Completion:	Filter Packed
Details Reports For:	Well Filter	Filter Material:	Gravel
Top Depth:	100	Bottom Depth:	170
Size:	8-16		
Details Reports For:	Well Seal Range	Top Depth:	0
Bottom Depth:	100	Annular Seal:	25-B, 2-C
Amount:	Not Reported	Unit:	Not Reported
Details Reports For:	Well Test	Test Type:	Pump
Yield:	4	Drawdown:	Not Reported
Hours:	Not Reported		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	0	Bottom Depth:	3
Lithology:	Topsoil		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	3	Bottom Depth:	14
Lithology:	Yellow clay		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	14	Bottom Depth:	16
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	16	Bottom Depth:	36
Lithology:	Gray shale		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	36	Bottom Depth:	41
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	41	Bottom Depth:	70
Lithology:	Gray shale		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	70	Bottom Depth:	95
Lithology:	Sand		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	95	Bottom Depth:	110
Lithology:	Gray shale		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	110	Bottom Depth:	160
Lithology:	Sand with shale stks.		
Details Reports For:	Well Lithology	Migrated Sort #:	0
Top Depth:	160	Bottom Depth:	170
Lithology:	Gray shale		
Details Reports For:	Well Casing	Migrated Sort #:	1
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4.5 N PVC 0 105	Diameter:	Not Reported
Casing Status:	Not Reported	Casing Material:	Not Reported
Casing Type:	Not Reported	Schedule:	Not Reported
Gauge:	Not Reported		
Details Reports For:	Well Casing	Migrated Sort #:	2
Top Depth:	Not Reported	Bottom Depth:	Not Reported
Migrated Casing Info:	4.5 N PVC screen 105 165 .02		
Diameter:	Not Reported	Casing Status:	Not Reported
Casing Material:	Not Reported	Casing Type:	Not Reported
Schedule:	Not Reported	Gauge:	Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database EDR ID Number

2
East
1/2 - 1 Mile
Higher

TX WELLS TXWDB7000022973

Database:	Groundwater Database	Well #:	1833705
Primary Water Use:	Stock	Elevation:	700
Well Depth:	206	Observation Type:	Miscellaneous Measurements
Water Quality Review:	N	Aquifer:	212WDBN - Woodbine Sand
Well Type:	Withdrawal of Water		

3
NNW
1/2 - 1 Mile
Lower

TX WELLS TXWDB7000024245

Database:	Groundwater Database	Well #:	1940901
Primary Water Use:	Unused	Elevation:	586
Well Depth:	2459	Observation Type:	None
Water Quality Review:	N		
Aquifer:	NOT-APPL - Aquifer Code Is Not Applicable to this Well		
Well Type:	Oil or Gas		

4
NNW
1/2 - 1 Mile
Lower

TX WELLS TXBR30000022665

Database:	Brackish Resources Aquifer Characterization System Database		
Well ID:	25241	Data Source:	BEG Paper/Digital Geophysical Logs
Total Hole Depth (ft):	2460	Total Well Depth:	-99999
Well Bottom Elevation:	-99999	Drill Date:	1952 123
Kelly Bushing Height:	0	Well Type:	Oil or Gas
Locating Agency:	BEG	Elevation:	600
Elevation Method:	D	Elevation Agency:	TWDB
Elevation Date:	2012 7 2		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance

Database EDR ID Number

1

SE

1/8 - 1/4 Mile

OIL_GAS

TXOG70000853403

Surface ID: 795582
Current Well #: 1
Radioactive: Not Reported
Well Type: Dry Hole

Well ID: Not Reported
API #: 42121
Side Track: Not Reported

2

West

1/2 - 1 Mile

OIL_GAS

TXOG70000853380

Surface ID: 802045
Current Well #: 1
Radioactive: Not Reported
Well Type: Dry Hole

Well ID: Not Reported
API #: 42121
Side Track: Not Reported

3

West

1/2 - 1 Mile

OIL_GAS

TXOG70000853378

Surface ID: 802046
Current Well #: 1
Radioactive: Not Reported
Well Type: Dry Hole

Well ID: Not Reported
API #: 42121
Side Track: Not Reported

4

NNW

1/2 - 1 Mile

OIL_GAS

TXOG70000853366

Surface ID: 802062
Current Well #: 1
Radioactive: Not Reported
Well Type: Permitted Location

Well ID: Not Reported
API #: 42121
Side Track: Not Reported

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: TX Radon

Radon Test Results

County	Mean	Total Sites	%>4 pCi/L	%>20 pCi/L	Min pCi/L	Max pCi/L
DENTON	1.0	33	.0	.0	<.5	3.0

Federal EPA Radon Zone for DENTON County: 3

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 76258

Number of sites tested: 1

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	1.100 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory

Source: Texas General Land Office

Telephone: 512-463-0745

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water Supply Sources Databases

Source: Texas Commission on Environmental Quality

Telephone: 512-239-6199

Locations of public drinking water sources maintained by the TCEQ.

Groundwater Database

Source: Texas Water Development Board

Telephone: 512-936-0837

Well Report Database

Source: Department of Licensing and Regulation

Telephone: 512-936-0833

Water Well Database

Source: Harris-Galveston Coastal Subsidence District

Telephone: 281-486-1105

Brackish Resources Aquifer Characterization System Database

Source: Texas Water Development Board

WDB's Brackish Resources Aquifer Characterization System (BRACS) was designed to map and characterize the brackish aquifers of Texas in greater detail than previous studies. The information is contained in the BRACS Database and project data are summarized in a project report with companion geographic information system data files.

Submitted Driller's Reports Database

Source: Texas Water Development Board

Telephone: 512-936-0833

The Submitted Driller's Report Database is populated from the online Texas Well Report Submission and Retrieval System which is a cooperative Texas Department of Licensing and Regulation (TDLR) and Texas Water Development Board (TWDB) application that registered water-well drillers use to submit their required reports.

OTHER STATE DATABASE INFORMATION

Texas Oil and Gas Wells

Source: Texas Railroad Commission

Telephone: 512-463-6882

Oil and gas well locations.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

RADON

State Database: TX Radon

Source: Department of Health

Telephone: 512-834-6688

Rinal Report of the Texas Indoor Radon Survey

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey.

The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

STREET AND ADDRESS INFORMATION

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Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation

Project: Lone Star Marina

Date: 2/7/19

Cover Type or Plant Association: Grasslands

Habitat Components	Component Points (from Key)							
Site No.	RPP5	RPP15	RPP25					Total
1. Site Potential	12	12	20					44
2. Temporal Development								
Criteria A	1	5	5					11
Criteria B (Marsh Wetlands Only)	-	-	-					-
3. Uniqueness and Relative Abundance	5	5	5					15
4. Vegetation Species Diversity								
Criteria A	3	1	0					4
Criteria B	1	1	0					2
Criteria C (Swamps Only)	-	-	-					-
Criteria D (Marsh Wetlands Only)	-	-	-					-
5. Vertical Stratification	1	3	3					7
6. Additional Structural Diversity Components	3	3	3					9
7. Condition of Existing Vegetation								
Criteria A (Woody Vegetation)	5	5	5					24
Criteria B (Herbaceous Vegetation)	3	3	3					
Criteria C (Croplands Only)	-	-	-					-
Criteria D (Marsh Wetlands Only)	-	-	-					-

$$\text{Average Habitat Quality Score for all Sites within this covertype} = \frac{\text{Total Points}}{\text{Total number of sites}} \times \frac{1}{100} = \underline{0.39}$$

Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation

Project: Lone Star Marina

Date: 2/7/19

Cover Type or Plant Association: Brushy Swamp/Emergent Wetland

Habitat Components	Component Points (from Key)							
Site No.	RPP2	RPP30						Total
1. Site Potential	25	25						50
2. Temporal Development								
Criteria A	6	6						12
Criteria B (Marsh Wetlands Only)	-	-						-
3. Uniqueness and Relative Abundance	10	5						15
4. Vegetation Species Diversity								
Criteria A	1	3						4
Criteria B	1	1						2
Criteria C (Swamps Only)	6	6						12
Criteria D (Marsh Wetlands Only)	-	-						-
5. Vertical Stratification	3	4						7
6. Additional Structural Diversity Components	5	5						10
7. Condition of Existing Vegetation								
Criteria A (Woody Vegetation)	5	5						16
Criteria B (Herbaceous Vegetation)	3	3						
Criteria C (Croplands Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-

$$\text{Average Habitat Quality Score for all Sites within this covertype} = \frac{\text{Total Points}}{\text{Total number of sites}} \times \frac{1}{100} = \underline{0.64}$$

Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation

Project: Lone Star Marina

Date: 2/7/19

Cover Type or Plant Association: Sparsely Vegetated/Compacted Soils

Habitat Components	Component Points (from Key)							
Site No.	RPP1	RPP37						Total
1. Site Potential	7	7						14
2. Temporal Development								
Criteria A	1	3						4
Criteria B (Marsh Wetlands Only)	-	-						-
3. Uniqueness and Relative Abundance	0	0						0
4. Vegetation Species Diversity								
Criteria A	0	1						1
Criteria B	0	1						1
Criteria C (Swamps Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-
5. Vertical Stratification	1	1						2
6. Additional Structural Diversity Components	0	5						5
7. Condition of Existing Vegetation								
Criteria A (Woody Vegetation)	0	5						6
Criteria B (Herbaceous Vegetation)	1	0						
Criteria C (Croplands Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-

$$\text{Average Habitat Quality Score for all Sites within this covertype} = \frac{\text{Total Points}}{\text{Total number of sites}} \times \frac{1}{100} = \underline{0.145}$$

Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation

Project: Lone Star Marina

Date: 2/7/19

Cover Type or Plant Association: Post Oak Woodlands

Habitat Components	Component Points (from Key)							
Site No.	RPP3	RPP4	RPP9	RPP14	RPP45			Total
1. Site Potential	12	12	12	12	12			60
2. Temporal Development								
Criteria A	12	6	12	12	12			54
Criteria B (Marsh Wetlands Only)	-	-	-	-	-			-
3. Uniqueness and Relative Abundance	10	10	10	10	10			50
4. Vegetation Species Diversity								
Criteria A	5	5	3	3	3			19
Criteria B	3	3	1	1	1			9
Criteria C (Swamps Only)	-	-	-	-	-			-
Criteria D (Marsh Wetlands Only)	-	-	-	-	-			-
5. Vertical Stratification	3	3	3	3	3			15
6. Additional Structural Diversity Components	5	5	3	3	5			21
7. Condition of Existing Vegetation								
Criteria A (Woody Vegetation)	5	5	5	5	5			32
Criteria B (Herbaceous Vegetation)	1	3	1	1	1			
Criteria C (Croplands Only)	-	-	-	-	-			-
Criteria D (Marsh Wetlands Only)	-	-	-	-	-			-

$$\text{Average Habitat Quality Score for all Sites within this covertype} = \frac{\text{Total Points}}{\text{Total number of sites}} \times \frac{1}{100} = \underline{0.52}$$

Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation

Project: Lone Star Marina

Date: 2/7/19

Cover Type or Plant Association: Maintained Grassland

Habitat Components	Component Points (from Key)							
Site No.	RPP18	RPP33						Total
1. Site Potential	12	12						24
2. Temporal Development								
Criteria A	6	6						12
Criteria B (Marsh Wetlands Only)	-	-						-
3. Uniqueness and Relative Abundance	5	10						15
4. Vegetation Species Diversity								
Criteria A	3	3						6
Criteria B	1	1						2
Criteria C (Swamps Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-
5. Vertical Stratification	4	4						8
6. Additional Structural Diversity Components	5	3						8
7. Condition of Existing Vegetation								
Criteria A (Woody Vegetation)	5	5						14
Criteria B (Herbaceous Vegetation)	1	3						
Criteria C (Croplands Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-

Average Habitat Quality Score for all Sites within this covertype = $\frac{\text{Total Points}}{\text{Total number of sites}} \times \frac{1}{100} = \underline{0.445}$

Wildlife Habitat Appraisal Procedure Biological Components Field Evaluation

Project: Lone Star Marina

Date: 2/7/19

Cover Type or Plant Association: Mesquite Shrubland

Habitat Components	Component Points (from Key)							
	Site No.	RPP24	RPP27					Total
1. Site Potential	7	20						27
2. Temporal Development								
Criteria A	5	5						10
Criteria B (Marsh Wetlands Only)	-	-						-
3. Uniqueness and Relative Abundance	5	5						10
4. Vegetation Species Diversity								
Criteria A	2	1						3
Criteria B	1	1						2
Criteria C (Swamps Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-
5. Vertical Stratification	4	3						7
6. Additional Structural Diversity Components	3	3						6
7. Condition of Existing Vegetation								
Criteria A (Woody Vegetation)	5	5						16
Criteria B (Herbaceous Vegetation)	3	3						
Criteria C (Croplands Only)	-	-						-
Criteria D (Marsh Wetlands Only)	-	-						-

Average Habitat Quality Score for all Sites within this covertype = $\frac{\text{Total Points}}{\text{Total number of sites}} \times \frac{1}{100} = \underline{0.41}$

Wildlife Habitat Appraisal Procedure Species Diversity Worksheet

Project: Lone Star Marina

Cover Type: _____

RPP1	RPP2	RPP3	RPP5	RPP4	RPP9
Berry/Drupe		- <i>Juniperus virginiana</i>	- <i>Smilax bona-nox</i>	- <i>Juniperus virginiana</i> - <i>Smilax bona-nox</i>	
Legume/Pod					
Acorn		- <i>Quercus stellata</i>	- <i>Quercus stellata</i>	- <i>Quercus stellata</i>	
Nut/Nutlike					
Samara				- <i>Fraxinus pennsylvanica</i> - <i>Ulmus crassifolia</i>	- <i>Ulmus crassifolia</i>
Cone					
Achene			- <i>Baccharis halimifolia</i>	- <i>Baccharis halimifolia</i>	
All Others	- <i>Cephalanthus occidentalis</i>			- <i>Cephalanthus occidentalis</i>	

Wildlife Habitat Appraisal Procedure Species Diversity Worksheet

Project: Lone Star Marina

Cover Type: _____

RPP14	RPP15	RPP18	RPP24	RPP25	RPP27
Berry/Drupe - <i>Smilax bona-nox</i>		- <i>Smilax bona-nox</i>	- <i>Smilax bona-nox</i>		
Legume/Pod		- <i>Gleditsia triacanthos</i>	- <i>Gleditsia triacanthos</i>		
Acorn - <i>Quercus stellata</i>	- <i>Quercus stellata</i>				
Nut/Nutlike					
Samara - <i>Ulmus crassifolia</i>		- <i>Ulmus crassifolia</i>			- <i>Ulmus crassifolia</i>
Cone					
Achene				- <i>Baccharis halimifolia</i>	
All Others					

Wildlife Habitat Appraisal Procedure Species Diversity Worksheet

Project: Lone Star Marina

Cover Type: _____

	RPP30	RPP33	RPP37	RPP45		
Berry/Drupe						
Legume/Pod						
Acorn				- <i>Quercus stellata</i>		
Nut/Nutlike						
Samara	- <i>Ulmus crassifolia</i>					
Cone						
Achene	- <i>Baccharis halimifolia</i>					
All Others - <i>Cephalanthus occidentalis</i>	- <i>Populus deltoides</i>	- <i>Cephalanthus occidentalis</i>	- <i>Cephalanthus occidentalis</i>			

Wildlife Habitat Appraisal Procedure
Protected and Endangered Species Evaluation Summary
(Refer to Section II)

Endangered Species	Points
Whooping Crane <i>Grus americana</i>	20
Red wolf <i>Canis rufus</i>	0
Total	20
Endangered Species Score (ES) = 20 Total Points =	<u>20</u>

Protected Species	Points
American Peregrine Falcon <i>Falco peregrinus anatum</i>	10
Arctic Peregrine Falcon <i>Falco peregrinus tundrius</i>	10
Bald Eagle <i>Haliaeetus leucocephalus</i>	20
Henslow's Sparrow <i>Ammodramus henslowii</i>	10
Red Knot <i>Calidris canutus rufa</i>	0
Sprague's Pipit <i>Anthus spragueii</i>	10
Western Burrowing Owl <i>Athene cunicularia hypugaea</i>	0
White-faced Ibis <i>Plegadis chihi</i>	10
Wood Stork <i>Mycteria americana</i>	0
Plains spotted skunk <i>Spilogale putorius interrupta</i>	60
Louisiana pigtoe <i>Pleurobema riddellii</i>	0
Sandbank pocketbook <i>Lampsilis satura</i>	0
Texas heelsplitter <i>Potamilus amphichaenus</i>	40
Texas pigtoe <i>Fusconaia askewi</i>	0
Texas garter snake <i>Thamnophis sirtalis annectens</i>	40
Texas horned lizard <i>Phrynosoma cornutum</i>	0
Timber rattlesnake <i>Crotalus horridus</i>	40
Glen Rose yucca <i>Yucca necopina</i>	40
Topeka purple-coneflower <i>Echinacea atrorubens</i>	0
Total	290
Protected Species Score (PS) = 290 Total Points =	<u>290</u>

Enter the sum of the Protected Species (PS) and Endangered Species (ES) scores on the Wildlife Habitat Appraisal Summary Sheet (PWD 1137E, page 29).



Wildlife Habitat Appraisal Procedure Acquisition and Administration Components Evaluation Summary

(Refer to Section III)

Component	Points
1. Educational, Scientific, and Socio-Economic Use Value	1
2. Recognizable Boundaries	2
3. Contiguity	9
4. Configuration	8
5. Acreage	2
6. Accessibility	6
7. Distance to Urban Areas	8
Total Score (Total Points/100)	0.36

Enter total score for Acquisition and Administration Components on the Wildlife Habitat Appraisal Summary Sheet (PWD 1137E, page 29).

Wildlife Habitat Appraisal Summary

1 Cover Type Category	2 Type or Plant Association	3 Average Habitat Quality Score	4 Total Acres	5 Habitat Units (Col. 3 X Col. 4)
Grasses	Grasslands (RPP5, RPP15, RPP25)	0.39	1.79	0.70
1.				
2.				
Shrub	Mesquite Shrubland (RPP24, RPP27)	0.41	8.35	3.42
1.				
2.				
Brush				
1.				
2.				
Parks	Maintained Grassland (RPP18, RPP33)	0.45	10.73	4.83
1.				
2.				
Woods	Post Oak Woodlands (RPP3, RPP4, RPP9, RPP14, RPP45)	0.52	6.70	3.48
1.				
2.				
Forest				
1.				
2.				
Young Forest				
1.				
2.				
Marsh				
1.				
2.				
Swamp	Brushy Swamp/Emergent Wetland (RPP2, RPP30)	0.64	0.04	0.03
1.				
2.				

1 Cover Type Category	2 Type or Plant Association	3 Average Habitat Quality Score	4 Total Acres	5 Habitat Units (Col. 3 X Col. 4)
Cropland				
1. _____				
2. _____				
Urban				
1. _____				
2. _____				
Unvegetated Sparsely Vegetated)/Compacted Soils/Open Water (RPP1, RPP37)		0.15	22.9	3.44
1. _____				
2. _____				
Total:				15.9
1.	Total Habitat Units = Total Column 5 (From Section I)		=	15.9
2.	Protected Species (PS) or Endangered Species (ES) (From Section II)		=	310
3.	Acquisition and Administration Components Score (AC) (From Section III)		=	0.36

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APPENDIX E

Agency Coordination and Public Involvement

- E1. TPWD Archeological Review Response (10 pages)**
- E2. Agency Coordination (3 pages)**

TPWD ARCHEOLOGICAL REVIEW RESPONSE

Version 05/20/13

SECTION I

Park: Jordan Unit, Ray Roberts Lake State Park

Project: Lone Star Lodge & Marina Phase I

This form has attachments ☒ Yes ☐ No Total pages attached: 12 and 18000630-01

Date Project Review Request received: 6/1/2018

SECTION II

Is the information provided on the *Project Review Request Form* adequate to review the project? ☒ Yes ☐ No

If no, describe what is needed: _____

Date all required information received: _____

Does this project require review by the Texas Historical Commission? ☐ Yes ☒ No

If yes, date submitted to THC: _____

If no, explain: SHPO review via USACE

Does this project require review by any other state or federal agency? ☒ Yes ☐ No

If yes, name of agency: USACE

Date submitted to agency: 6/28/2018

SECTION III

Further investigations are required ☐ Yes ☒ No

Attach all recommendations for further investigations, including those from THC and the Cultural Resources Program staff. All investigations required by THC and/or TPWD will be reviewed by the Resource Coordinator prior to final authorization of the project.

SECTION IV

The reviewer certifies that this project has been reviewed by all required external agencies (i.e., THC, COE, etc.), and by the TPWD Cultural Resources Program, and that all required archeological investigations have been conducted and reviewed. All THC responses are attached. The project—as defined in the attached *Archeological Review Request Form*—is authorized to proceed with the following conditions (use additional pages, if necessary): Work will cease if buried archeological deposits, or other heretofore unknown cultural resources, are encountered and the Cultural Resources Coordinator will be immediately contacted.

Signature of Reviewer  Date 9/13/2018

THIS AUTHORIZATION ONLY ADDRESSES THE ARCHEOLOGICAL RESOURCES. THIS REVIEW DOES NOT INCLUDE CONSIDERATION OF THE NATURAL RESOURCES, PARK AESTHETICS, HISTORIC STRUCTURES OR ENGINEERING, BUILDING CODE, HEALTH, OR SAFETY ISSUES.

SECTION V

Send this form, appropriate attachments, the *Archeological Review Request Form*, and THC response to:

Project Initiator:	<u>Greg Waller</u>
Site Manager:	<u>Greg Waller</u>
Regional Director:	<u>Adam Jarrett</u>
Regional Maintenance Specialist:	<u>Brad Hood</u>
Natural Resource Coordinator:	<u>Brandon Childers</u>
Historic Architect:	<u>Dennis Gerow</u>
Park Planner:	<u>Matt Fougerat</u>
Cultural Resources Program Director:	<u>Michael Strutt</u>
Archeology Laboratory Director:	<u>Aina Dodge</u>



OFFICE MEMORANDUM

Date: 09/13/18

COORDINATION — ROUTING			
Div.	Name	Initial	Date

To: Greg Waller
From: Rich Mahoney
Subject: Cultural Resources Coordination
Re: Lone Star Lodge & Marina Phase I
Jordan Unit
Ray Roberts Lake State Park

Remarks:

Return To:

The Cultural Resources Program has reviewed and approved Phase I of the Lone Star Lodge & Marina improvement project at the Jordan Unit of Ray Roberts Lake State Park in Denton County. An archeological survey and background study indicated that no cultural resources should be adversely impacted by the project. Due to the federal nature of the project, the project required USACE and SHPO review under Section 106 of the National Historic Preservation Act, and that coordination is included at the rear of this packet. Should cultural deposits or features be encountered during construction, stop excavation in the immediate area and call me on my cell (903.258.0828).

Please note that this review is for the entirety of the originally submitted Phase I project. It covers State Park Project Nos. 18000531-01 and 18000630-01, which are generally all of the proposed developments outside of the Phase 2 area on KJE Utility Master Plan Sheet 1.0 (p. 6 of this packet) Specifically, in addition to water and wastewater utility lines, this review covers car parking lots, boat parking lots, RV pads and dump station, storage buildings, restrooms, and motor boat fuel lines as depicted on the enclosed maps.

Thank you for coordinating this effort with the Cultural Resources Program.

4200 Smith School Road
Austin, TX 78744-3291
512-389-4800
www.tpwd.state.tx.us

TPWD MISSION: To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation for the use and enjoyment of present and future generations.

TEXAS PARKS AND WILDLIFE

TPWD Project Review Request Form

For All PROJECTS that could impact natural, archeological, or historical resources

Property: RRLSP - Jordan Park UnitDate: 5/4/2018

Project – Lower Task – Lower Task Org Number (assigned by Infrastructure Division):

Project: Sewer Line/Utility connectionsProject Initiator: Greg Waller

TO WHOM AND WHEN IS THIS FORM SUBMITTED? The Project Initiator/administrator is responsible for submitting this form **electronically** to all appropriate and necessary TPWD reviewers (see below). The time allotted for project review will ensure sufficient time for scoping, planning, design and construction review, and review by other state or federal agencies, when necessary. **TxDOT** projects begin construction approximately 2 years after inclusion on the TxDOT MOA four-year priority list, so all projects, unless needed to address a health or safety issue (emergency), will be prioritized and scheduled accordingly. The TxDOT Coordinator will route to the appropriate reviewer(s).

State Parks Projects: Send Copies of This Form to the Reviewer(s) below (complete all that apply).

NOTE: You will receive separate responses from each reviewer.

Wildlife Projects: Submit to the Wildlife Division Cultural Resources Specialist

All other Divisions: Submit to the Cultural Resources Program Director

1. ALL State Parks Division projects must receive approval from the Regional Director **prior to** submitting to the reviewers below.

Regional Director Approval Date: **Enter Date**

Project Type	Lead Time*	Reviewer	Date Submitted
2. Archeological Resources Projects that disturb the ground or otherwise disturb cultural resources—on any park/historic site	60 or 30 days	Cultural Resources Coordinator <u>Rich Mahoney</u>	Enter Date
3. Natural Resources Projects that may affect habitat, vegetation, wildlife, water resources or other physical resources—on any park/historic site	60 or 30 days	Natural Resources Coordinator <u>Brandon Childers</u>	Enter Date
4. Historic Sites, Buildings, Structures, Features, & CCC parks Any project on a designated Historic Site or a CCC park and/or any project affecting a building, structure, or feature 45 years old or older—on any park/historic site	60 days	State Parks Historic Architect <u>Dennis Gerow</u>	Enter Date
5. Facility Planning/Development Any visible addition or alteration e.g. building, road, utility, trail, parking, playground, fence, traffic circulation, monument, memorial, exhibit—on any park/historic site	60 days	State Parks Planner <u>Matt Fougerat</u>	Enter Date
6. Exhibit Installation Any exhibit, wayside, kiosk or other interpretive display—on any park/historic site	60 days	Cultural Resources Coordinator Select Reviewer Natural Resources Coordinator Select Reviewer Interpretive Specialist Select Reviewer	Enter Date Enter Date Enter Date Enter Date

Upon documented completion of all requirements made in the reviewers' responses, the project may proceed.

WHEN IS THIS FORM REQUIRED? This Project Review Request Form must be used for all projects on TPWD lands that may disturb the ground, disturb above-ground cultural resources (e.g., rock art or surface sites), impact a building or structure 45 years old or older, affect the aesthetic of a park, and/or impact natural resources—including state or federally listed species or habitats/communities of special concern. This form is to be completed by the Project Initiator/administrator, who is responsible for fully describing a proposed project or undertaking so that appropriate action may be taken to ensure compliance with TPWD Policy and state and federal laws relating to cultural and natural resources on TPWD lands. Consultation with reviewers during the development of project plans is appropriate and *highly recommended*. Consultation should take place well in advance of submittal of the Project Review Request Form. *Lack of consultation during the planning stage may cause postponement or cancellation of the project.*

WHEN MAY MY PROJECT PROCEED? On receipt of required Review Responses, the Project Initiator/administrator is responsible for ensuring that all requirements are implemented. Upon documented completion of all requirements made in the reviewers' responses, the project may proceed. [All Review Responses are filed here: O: Project Review Responses.](#) [There is a folder for each fiscal year, then each park/historic site.](#)

TPWD Project Review Request Form

Property: RRLSP - Jordan Park Unit Project: Sewer Line/Utility connections
 Project Initiator/administrator: Greg Waller Phone: 940-637-2294
 Region # 6 Superintendent: Greg Waller
 Funding Source: Lone Star Lodge/City of Pilot Point general funds
 Brief Project Description: Connecting and running local city sewer to park

Attach a detailed project description on an Interoffice Memo (PWD0036).

Does TPWD own the property? ☐ Yes ☒ No If not, who is landowner? Federal Government

Does a lease or easement exist? ☒ Yes ☐ No If yes, with whom? US Corps of Engineers

Does project require notification to a governing entity on leased property? ☒ Yes ☐ No If yes, date: 5/7/2018

Is this project on federal property or does it use federal funds or federal permits? ☒ Yes ☐ No

Is this project new construction and/or a new addition? ☒ Yes ☐ No

Is this project maintenance and/or repair? ☐ Yes ☒ No If yes, what is the age of the building/facility? _____

Who will be conducting the work? Private construction companies

e.g., park staff, contractor, TDCJ, volunteers, Friends Group, Force Account, etc.

Will borrow/fill material be used? ☒ Yes ☐ No If yes, source: Division Approved sites

Will fill materials/refuse soils be produced? ☒ Yes ☐ No If yes, disposal site: Off site land fill

Describe any other work associated with the project: Marina construction/expansion

e.g., clearing, equipment turnarounds and parking, berms, culverts, etc.

Total size of area that will be disturbed (length and width): See attachment

Give measurement in acres or in feet. Include all other work associated with the project.

Maximum Depth of Disturbance: 6ft

Planning and Design Completion Date: 5/4/2018 Proposed Construction Start Date: 7/1/2018

Traditional use in the project area – *state parks, give pre-park use:* State Park/Lodge

Previous ground disturbance in the project area: Park construction

Can a building, structure, or human-made feature over 45 years old be seen from the project area? ☐ Yes ☒ No

Does the project directly involve a building or structure over 45 years old? ☐ Yes ☒ No

Will this project cross or come near a known archeological site(s)? ☒ Unknown ☐ Yes ☐ No

ALL Project Review Request Forms MUST include the following attachments:

- ☒ General locational data on park facility map
- ☒ Specific locational data (choose one of the following):
 - ☐ Shapefile ☒ Google Earth KML File ☐ Coordinates (UTM) ☐ Plotting on USGS map
- ☒ Written detailed project description and/or plans – *use Interoffice Memo PWD0036*
- ☒ Schematic plans, if available – *do not send CAD file, place plans on O Drive and provide network file location*
 Schematic plan network file location: _____
- ☐ Digital photographs (where necessary)

Total # attached pages: _____

OFFICE MEMORANDUM

Date: May 4, 2018

COORDINATION — ROUTING

Div.	Name	Initial	Date

To: Project Reviews
From: Greg Waller
Johnson Branch Unit Superintendent
Subject: Jordan Park Unit PRR
Re: Local Utility Connections

Remarks:

Return To:

The Jordan Park Unit of Ray Roberts Lake State Park Complex is connecting to the City of Pilot Point's sewer services. This will allow future expansion of Lone Star Lodge and Marina facilities located within the Jordan Park Unit. The Lone Star Lodge and Marina ownership has contracted all the engineering documents in consultation with our Infrastructure Division and the City of Pilot Point. The proposed work will involve the full length of the main road, the boat ramp area and the current lodge location. It will involve placing below ground utilities and lift stations throughout the park at various depths specified on the attached documents. All plans have been reviewed by Infrastructure Division employee Jeff Kester. For more detailed questions on ground disturbances please forward to Mr. Kester.

**Introduction**

Texas Parks and Wildlife Department (TPWD) commercial concessionaire Lone Star Lodge and Marina proposes to make improvements to the amenities offered at the Jordan Unit of Ray Roberts Lake State Park Complex in Denton County (Figure 1). The improvements will occur on land owned by US Army Corps of Engineers (USACE), managed under lease by TPWD, and operated under sublease by the concessionaire. A private contractor will be responsible for completing the improvements, and private dollars will fund the investment. This letter report is submitted to USACE for cultural resources coordination under Section 106 of the National Historic Preservation Act.

The purpose of the project is to improve and increase the breadth of visitor amenities offered by the concessionaire at Jordan Unit State Park. The primary focus of the project is to construct a marina with approximately 500 boat slips in the general vicinity of the existing small boat rental concession (Figure 2). Ancillary terrestrial features include car parking lots, boat trailer parking, RV pads, storage buildings, a maintenance building, and a restroom. In addition, underground utilities to service these improvements will include water, boat motor fuel, gravity sewer, and force main sewer.

The terrestrial portion of the project will directly impact 17.5 acres. The areal component of this project, consisting of pavement and building construction, totals roughly 15 acres in area. This includes five separate paved areas ranging in size from 1.5 acres to 5.0 acres. While the depth of impact from these areas is not specified, typical building foundations and utility installations are at a maximum of about 2 m. The linear component of the project consists of a little over 4,800 m of new line and, at a projected width of impact at 2.0 m, it will impact approximately 2.4 acres. The estimated maximum depth of impact resultant from utility line and associated features (e.g., lift station) is 2.0-3.0 m.

Archeological Background

Three previously recorded archeological sites are mapped within or in very close proximity to the current project area (Figure 3). Site 41DN165 was originally recorded during the 1980s reservoir surveys as a historic farmstead with a residence and a number of outbuildings. In 1981, the site was recorded as occupied or recently abandoned, with a small storage shed, pump house, two barns, and a storm/root cellar. The farmstead appears on the 1912 USDA soil survey map and on aerial imagery dating to 1937. All buildings and structures were removed prior to park operations.

Site 41DN168 was also recorded during the 1980s reservoir survey as a possible historic farmstead. Clusters of ornamental irises, sandstone boulders that could have served as foundation piers, and a sparse artifact scatter lead to the site recording in 1981. A 1985 revisit failed to identify any additional artifacts associated with the sandstone. No indication of a residence or other structure was noted on any of the historic maps of the project area. A two-track road passes next to the site as early as 1912, was evident through 1937, and now serves as a portion of the park's equestrian trail.

Similar to 41DN165, site 41DN348 was recorded during the 1980s reservoir survey as a historic farmstead with associated outbuildings. In 1985, the farmstead was recorded as abandoned for approximately 10 years, with the residence then being used for hay storage. Other structures included a log crib, small storage shed, collapsed root/storm cellar, windmill with collapsed well, and a capped well or septic tank.

A moderate density artifact scatter consistent with a farmstead was encountered amongst the complex of structures. Artifacts suggest a primarily early 20th century component, and the residence appears on maps as early as 1912.

Methods

Prior to initiation of the field investigations, a comprehensive review of all available archeological reports and databases was conducted to identify and characterize cultural resources known to occur in the vicinity of the project area. At least in part, the compilation of known cultural resources is based on the Texas Archeological Sites Atlas, Texas Historic Sites Atlas, and THC and TPWD map files. In addition, the literature and archival review inspected historic United States Geological Survey topographic maps and Natural Resources Conservation Service soil surveys.

An archeological survey was recently conducted for the proposed development project. The pedestrian survey covered 100 % of the proposed areal component of the project and was augmented by the excavation of shovel tests at select locations. The shovel tests measured roughly 30 cm ø and were excavated in 20-cm thick levels. Sediments were screened through ¼" hardware cloth. Shovel tests were terminated when basal clay was encountered, which varied between ground surface and 25 cmbs. Notes for each test were taken in a field notebook along with general observations of field conditions. Digital pictures of the general project area were taken. All records will be housed at the TPWD Archeology Laboratory in Austin.

Results

While the pedestrian survey covered all of the areal component of the project, shovel testing was focused in those areas where the project footprint was nearest the known historic archeological sites. The pedestrian survey failed to encounter any cultural features or deposits associated with the known sites or locate any evidence for previously unrecorded sites.

Pedestrian survey and shovel testing in the vicinity of 41DN165 failed to encounter any evidence of the site extending into the current project area. An abandoned road, visible on historic aerial imagery and maps, and larger oak trees are testament to the former occupation, but no significant deposits or features occur within or are visible from the project area.

Similarly, no evidence of features or deposits were encountered at 41DN168. A small portion of the project area is actually slated to occur within a portion of the mapped site, and this area was targeted for shovel testing. No artifacts were encountered in the test, no artifacts or features were visible atop the ground surface, and no material was recovered from searching the extensive erosion evident in the eastern part of the site.

No shovel testing was conducted for site 41DN348, as only one utility line is slated to come near the site. Based on project schematics and archeological site form site maps, utility line trenching should not come closer than 30 m from the sensitive portion of the site.

Apart from the known site areas, a monolithic concrete slab with associated debris was encountered in one of the pavement areas. None of the material encountered appeared to be old enough to warrant recording as an archeological site, though. Specifically, the cultural material consists of recent screw top bottles, painted metal angle iron segments, concrete chunks, and dimensional lumber waste. In addition, the structure was not noted on any of the historic maps reviewed for the project.

Recommendations

The archeological background study and field investigations failed to locate any significant cultural deposits or features within the area proposed for marina development and associated improvements. No previously unrecorded archeological sites and no known archeological sites will be impacted by the proposed project. The TPWD Cultural Resources Program therefore: (1) recommends that the proposed project be allowed to proceed without further cultural resources investigations; and (2) requests that USACE concur and grant project approval. Should archeological deposits or features be encountered during construction, though, work shall cease in the immediate area and a TPWD Archeologist shall be contacted to adequately record and evaluate impact.

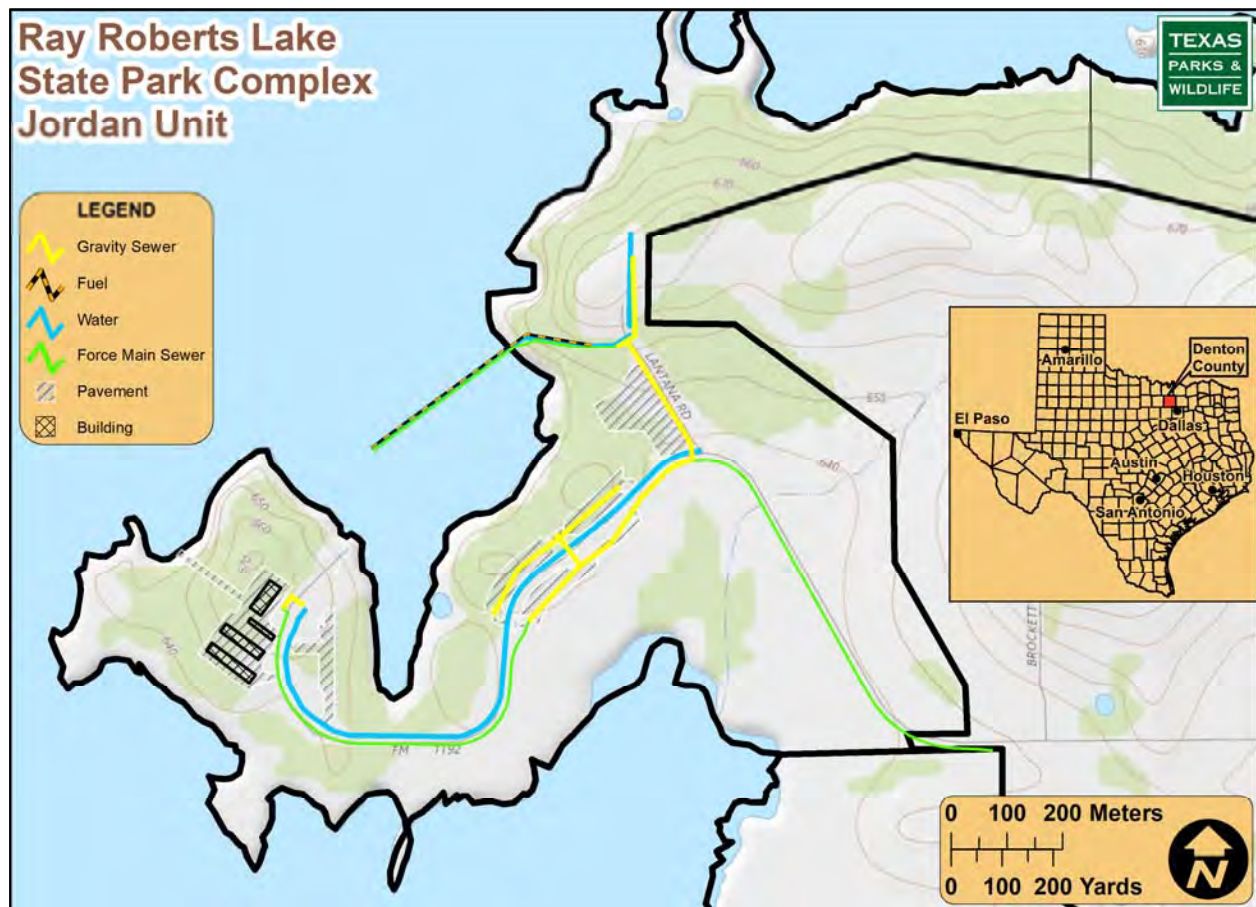


Figure 1. Topographic map of park depicting areal and linear components of project area.

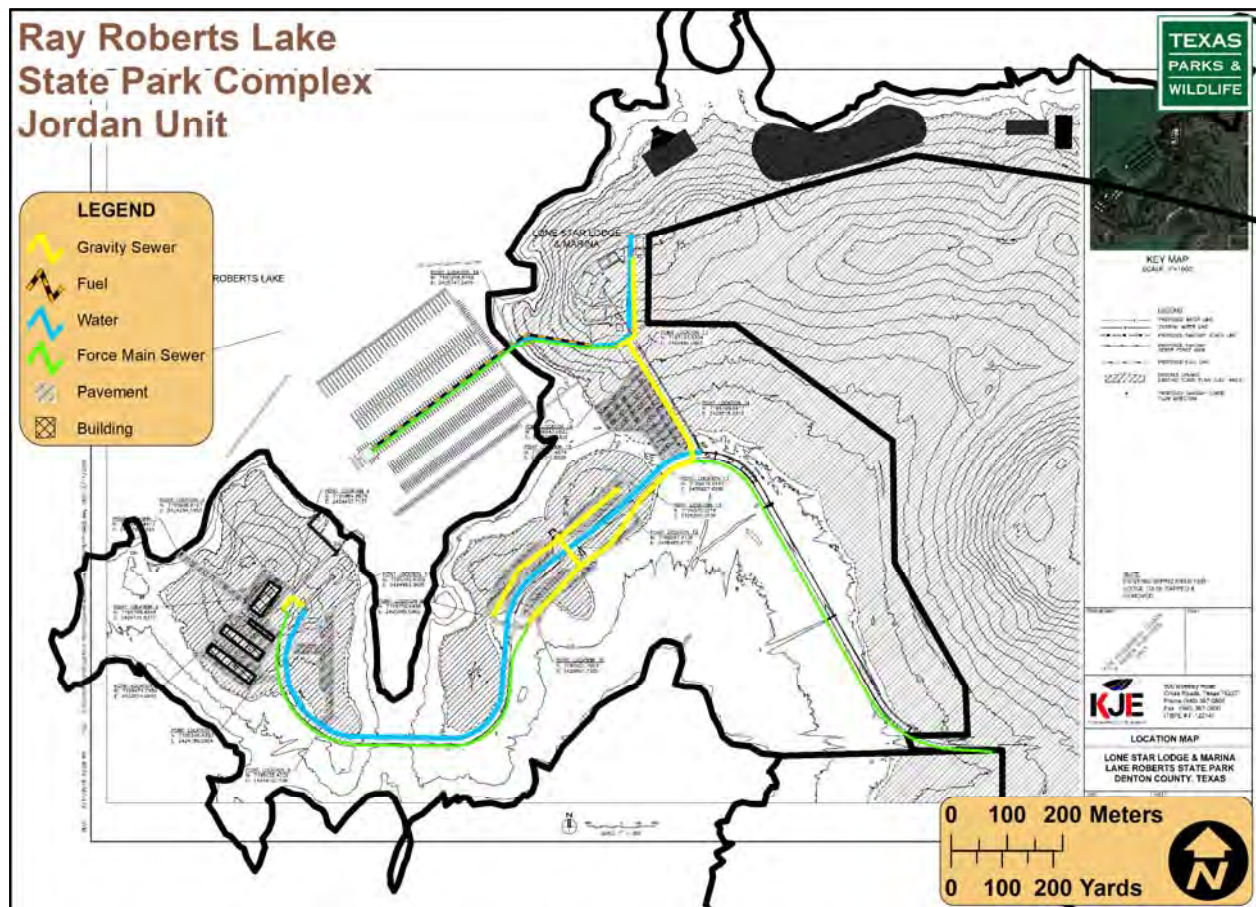


Figure 2. Schematic of park depicting terrestrial as well as aquatic components of project.

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REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
FORT WORTH DISTRICT, U.S. ARMY CORPS OF ENGINEERS
TRINITY REGIONAL PROJECT OFFICE
1801 NORTH MILL STREET
LEWISVILLE, TEXAS 75057-1821

May 29, 2018

Lewisville Lake Office

Mr. Chis True
Park Superintendent
Texas Parks and Wildlife Department

Dear Mr. True:

This is in response to your e-mail to Lake Manager Rob Jordan, dated May 9, 2018, on behalf of The Texas Parks and Wildlife Department. In this e-mail you referenced TPWD's concessionaire, Lone Star Lodge and Marina, is requesting approval of their April 25, 2018 utility master plan.

The utility master plan request as outlined would be conceptually acceptable. As mentioned in your request, additional plans and a more formal submittal will need to be reviewed and approved prior to construction. At this time this office does not see any major reason for the continuance of TPWD's review not to continue.

If you have any questions regarding this matter, please contact Mr. Nick Wilson, Lead Park Ranger, Lewisville Lake Project Office at 469-645-9100.

Sincerely,

A handwritten signature in blue ink that reads "Rob Jordan".

Rob Jordan
Lake Manager
Lewisville/Ray Roberts Lakes

Rich Mahoney

From: McGregor, Daniel E CIV USARMY CESWF (US) <Daniel.E.McGregor@usace.army.mil>
Sent: Thursday, September 13, 2018 10:47 AM
To: Rich Mahoney
Subject: FW: Ray Roberts Lake Marina

Rich,

Good news on the Lone Star Lodge and Marina project. SHPO concurs that no historic properties will be affected.

Thank you,
Dan McGregor

-----Original Message-----

From: Arlo McKee [mailto:Arlo.McKee@thc.texas.gov]
Sent: Thursday, September 13, 2018 10:41 AM
To: McGregor, Daniel E CIV USARMY CESWF (US) <Daniel.E.McGregor@usace.army.mil>
Subject: [Non-DoD Source] RE: Ray Roberts Lake Marina

Hi Dan,

I apologize for the delayed response.

I just conducted a review of this project and find that we can concur that no historic properties will be affected by the proposed lodge and marina development. Let me know if you need a formal letter and I can send one your way.

Sincerely,
Arlo

Arlo McKee
Archeologist
Texas Historical Commission
PO Box 12276
Austin, TX 78711-2276
Phone: 512.463.5711
Blockedwww.thc.texas.gov

-----Original Message-----

From: McGregor, Daniel E CIV USARMY CESWF (US) <Daniel.E.McGregor@usace.army.mil>
Sent: Thursday, August 16, 2018 9:19 AM
To: Bill Martin <Bill.Martin@thc.texas.gov>; Arlo McKee <Arlo.McKee@thc.texas.gov>
Subject: FW: Ray Roberts Lake Marina

Bill & Arlo,

TPWD is reviving development of this lodge and marina project at Ray Roberts Lake. In the early 2000s it was called Lantana (see attached SHPO coordination letters). Please review this information and let me know if you believe the determination of "no historic properties affected" still applies.

Hope you both are doing well.

Thank you,
Dan McGregor
817-886-1573

-----Original Message-----

From: Rich Mahoney [mailto:Rich.Mahoney@tpwd.texas.gov]
Sent: Thursday, June 28, 2018 12:55 PM
To: McGregor, Daniel E CIV USARMY CESWF (US) <Daniel.E.McGregor@usace.army.mil>
Subject: [Non-DoD Source] Ray Roberts Lake Marina

Hi Dan,

TPWD concessionaire, Lone Star Lodge & Marina, proposes to undertake improvements to their sublease at the Jordan Unit of Ray Roberts Lake State Park Complex in Denton County. In compliance with Section 106 of the National Historic Preservation Act, TWPD conducted an archeological survey of the proposed project area, and a cultural resources letter report is attached for your review. In brief synopsis of the attached, no significant cultural deposits or features should be adversely impacted by the proposed project, and we seek your concurrence with our recommendations contained therein.

Please let me know if any additional information is needed.

Best,

Rich Mahoney, RPA

Cultural Resources Coordinator

Texas Parks & Wildlife Department

APPENDIX F

Conceptual Mitigation Plans

Section #	Description
F1.	Spill Prevention, Control, and Countermeasure (SPCC) Plan (28 pages)
F2.	Conceptual Mitigation Areas Map (1 page)



2200 FM 1192
Pilot Point, TX 76258
(940) 686-0261

Spill Prevention, Control, and Countermeasure (SPCC) Plan

Tier I Qualified Facility SPCC Plan

Facility Description

Facility Name Lonestar Lodge & Marina

Facility Address 2200 FM 1192

City Pilot Point State TX ZIP 76258

County Denton Tel. Number (940) 686-0261

Owner or Operator Name Ross Garrett

Owner or Operator Address 2200 FM 1192

City Pilot Point State TX ZIP 76258

County Denton Tel. Number (940) 686-0261

I. Self-Certification Statement (§112.6(a)(1))

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

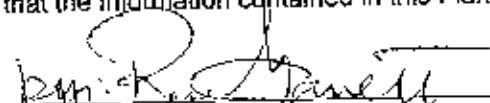
- I Ross Garrett certify that the following is accurate:
1. I am familiar with the applicable requirements of 40 CFR part 112;
 2. I have visited and examined the facility;
 3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
 4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
 5. I will fully implement the Plan;
 6. This facility meets the following qualification criteria (under §112.3(g)(1)):
 - a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
 - b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
 - c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.
 7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include any measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
 8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
 - a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
 - b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
 - c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature



Title: Owner

Name Ross Garrett

Date: 05 / 15 / 2018

II. Record of Plan Review and Amendments

Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility, if applicable. Implement any SPCC Plan amendment as soon as possible, but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))

This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	<input checked="" type="checkbox"/>
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. (§112.6(a)(2)) [See Technical Amendment Log in Attachment 1.2]	<input checked="" type="checkbox"/>

III. Plan Requirements

1. Oil Storage Containers (§112.7(a)(3)(i)):

Table G-2 Oil Storage Containers and Capacities		
This table includes a complete list of all oil storage containers (aboveground containers ^a and completely buried tanks ^b) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimated number of containers, types of oil, and anticipated capacities are provided.		<input checked="" type="checkbox"/>
Oil Storage Container (indicate whether aboveground (A) or completely buried (B))	Type of Oil	Shell Capacity (gallons)
A – Horizontal, multiple wall, rectangle UL-142 Con-vault steel/concrete tank on pad with secondary containment dike.	Gasoline	6000

Total Aboveground Storage Capacity ^c 6000 gallons
Total Completely Buried Storage Capacity 0 gallons
Facility Total Oil Storage Capacity 6000 gallons

^a Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment, such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

^b Although the criteria to determine eligibility for qualified facilities focuses on the aboveground oil storage containers at the facility, the completely buried tanks at a qualified facility are still subject to the rule requirements and must be addressed in the template; however, they are not counted toward the qualified facility applicability threshold.

^c Counts toward qualified facility applicability threshold.

2. Secondary Containment and Oil Spill Control (§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2)):

Table G-3 Secondary Containment and Oil Spill Control	
Appropriate secondary containment and/or diversionary structures or equipment ^a is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	<input checked="" type="checkbox"/>

^a Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

Table G-4 below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge					
Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method ^a	Secondary containment capacity (gallons)
<i>Bulk Storage Containers and Mobile/Portable Containers^b</i>					
<i>Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)^c</i>					
None					
<i>Piping, Valves, etc.</i>					
Aboveground piping between gasoline AST and dispensers	Fitting leak or failure	1-6000	West	Spill kit	Absorbs up to 30
<i>Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)</i>					
Gasoline fuel transfer area	Receiving tank overfull, fitting leak or failure, fuel transfer hose failure	1-20	South West	Spill kit	Absorbs up to 30
Refueling on dock between dispenser and personal boat, or watercraft(s).	Receiving container overfill, fitting leak or failure, fuel transfer hose failure	1-20	Radial	Spill kit	Absorbs up to 30
<i>Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)</i>					
None					

^a Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

^b For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.

^c For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

Table G-5 Inspections, Testing, Recordkeeping and Personnel Training	
An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this facility. [§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]	<input checked="" type="checkbox"/>
<p>The following is a description of the inspection and/or testing program (e.g. reference to industry standard utilized, scope, frequency, method of inspection or test, and person conducting the inspection) for all aboveground bulk storage containers and piping at this facility:</p> <ol style="list-style-type: none"> 1. All employees are trained to do visual inspections of oil storage and transfer areas and equipment. An assigned knowledgeable employee does periodic visual inspections of the aboveground oil storage containers using Attachment 3.1 to document inspections; records of inspections consist of the monthly inspection checklist and the annual inspection checklist in the Steel Tank Institute (STI) SP001 inspection standard. Visual inspections of oil storage containers follow the inspection schedule in Attachment 3.2 of this plan. For ASTs which have a concrete outer shell (such as Convault), there are some SP001 inspection checklist items which cannot be performed, because the steel primary tank is inside the concrete. Convault ASTs may be inspected using either the STI-SP001 checklist (as much as possible), or the Convault Maintenance inspection checklist. Per NAVFAC-SE discussion with the Convault engineering supervisor, weekly inspections listed on the Convault checklist, are a recommendation only and can be performed monthly to maintain tank warranty. If Convault ASTs are suspected of having internal leakage or structural damage, then use the Convault manufacturer instructions for testing and repair as needed. 2. An assigned employee also visually inspects the dispensers on the kerosene AST and at the gasoline island for indications of deterioration and discharges, including the transfer hoses, valves, and other fittings, at least daily following the manufacturer's procedures. 3. If an employee encounters a spill during an inspection of the oil storage or transfer equipment, the employee will immediately take the necessary actions outlined in Table G-7. 4. An assigned employee inspects spill kits monthly to check equipment serviceability and ensure fully stocked kits. 	
Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. [§112.7(e)]	<input checked="" type="checkbox"/>
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. [§112.7(e)] [See Inspection Log and Schedule in Attachment 3.1]	<input checked="" type="checkbox"/>
Inspections and tests are signed by the appropriate supervisor or inspector. [§112.7(e)]	<input checked="" type="checkbox"/>
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. [§112.7(f)]	<input checked="" type="checkbox"/>
A person who reports to facility management is designated and accountable for discharge prevention. [§112.7(f)]	<input checked="" type="checkbox"/>
Name/Title: <u>Brandon Jonker / General Manager</u>	
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. [§112.7(f)] [See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]	<input checked="" type="checkbox"/>

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures

Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area.



The following is a description of how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges:

1. When the facility is open for gasoline sales an attendant is required to dispense fuel to the customers boat or watercraft(s).
2. The dispenser pump controls are inside the ship store. The attendant can shut off pumps remotely from the attendant station in the ship store; the entrance to the ship store is kept locked when the marina is closed.
3. The dock that the ship store sits on has a security gate that requires a keycode for entry outside business hours.
4. The gasoline fuel transfer area at the Convault AST has a perimeter fence that remains locked when not in use.

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications

The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines [§112.7(a)(3)(iv) and 112.7(a)(5)]:

1. Shutdown pumping in event of a spill during any fuel transfer operation or an emergency at the fuel dispensers.
2. Eliminate potential sources of ignition such as open flames or sparks.
3. If possible, safe, and trained to do so, identify and secure source of the discharge and contain the discharge with sorbents, sandbags, or other material from the spill kits.
 - a. The main spill kit is kept on the fueling dock.
 - b. The second spill kit is kept near the secondary containment and fuel transfer area.
4. Contact regulatory authorities and other response personnel and organizations (see next page).

6. Contact List (§112.7(a)(3)(vi)):

Table G-8 Contact List	
Contact Organization / Person	Telephone Number
National Response Center (NRC)	(800) 424-8802
Cleanup Contractor(s) Emergency Environmental Services	(817) 750-0595
Key Facility Personnel	
Designated Person Accountable for Discharge Prevention: Brandon Jonker / General Manager	Office: (940) 686-0261
	Cell phone: (214) 460-8914
Carr Freeman / General Manager	Office: (940) 686-0261
	Cell phone: (580) 306-1257
Ray McAnarney / Head Mechanic	Office: (940) 686-0261
	Cell phone: (580) 306-5553
Ross Garrett / Owner	Office: (940) 686-0261
	Cell Phone: (817) 239-5745
State Oil Pollution Control Agencies TCEQ spill report hotline SERC (reporting a spill to the state's spill reporting hot line, (800) 832-8224, constitutes reporting to the SERC)	(800) 832-8224
Other State, Federal, and Local Agencies EPA Region 6 US Army Corps of Engineers – Fort Worth District	(214) 665-6711 (817) 886-1444
Local Fire Department Pilot Point Fire Department	(940) 686-5038 (if emergency dial 911)
Local Police Department Pilot Point Police Department	(940) 686-2969 (If emergency dial 911)
Hospital Baylor Emergency Medical Center – 26791 US-380, Aubrey, TX 76227	(972) 347-2525
Texas Health Presbyterian Hospital Denton - 3000 Interstate 35, Denton, TX 76201	(940) 898-7000
Other Contact References (e.g., downstream water intakes or neighboring facilities)	

7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):

Table G-9 NRC Notification Procedure	
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines [See Discharge Notification Form in Attachment 4]: [§112.7(a)(4)]	<input checked="" type="checkbox"/>
<ul style="list-style-type: none">• The exact address or location and phone number of the facility;• Date and time of the discharge;• Type of material discharged;• Estimate of the total quantity discharged;• Estimate of the quantity discharged to navigable waters;• Source of the discharge;	<ul style="list-style-type: none">• Description of all affected media;• Cause of the discharge;• Any damages or injuries caused by the discharge;• Actions being used to stop, remove, and mitigate the effects of the discharge;• Whether an evacuation may be needed; and• Names of individuals and/or organizations who have also been contacted.

8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

- A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
- Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve-month period

You must submit the following information to the RA:

- (1) Name of the facility;
- (2) Your name;
- (3) Location of the facility;
- (4) Maximum storage or handling capacity of the facility and normal daily throughput;
- (5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
- (6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
- (7) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
- (8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence
- (9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

A. Onshore Facilities (excluding production) (§§112.8(b) through (d), 112.12(b) through (d)):

The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions may be applicable to all owners/operators. For example, a facility may not maintain completely buried metallic storage tanks installed after January 10, 1974, and thus would not have to abide by requirements in §§112.8(c)(4) and 112.12(c)(4), listed below. **In cases where a provision is not applicable, write "N/A".**

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. [§§112.8(b)(1) and 112.12(b)(1)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Valves of manual, open-and-closed design are used for the drainage of diked areas. [§§112.8(b)(2) and 112.12(b)(2)]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. [§§112.8(c)(1) and 112.12(c)(1)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). [§112.6(a)(3)(ii)]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: [§§112.8(c)(3) and 112.12(c)(3)]		
<ul style="list-style-type: none"> Bypass valve is normally sealed closed 	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines 	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Bypass valve is opened and resealed under responsible supervision 	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Adequate records of drainage are kept [See Dike Drainage Log in Attachment 3.3] 	<input checked="" type="checkbox"/>	<input type="checkbox"/>
For completely buried metallic tanks installed on or after January 10, 1974 at this facility [§§112.8(c)(4) and 112.12(c)(4)]:		
<ul style="list-style-type: none"> Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<ul style="list-style-type: none"> Regular leak testing is conducted. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For partially buried or bunkered metallic tanks [§112.8(c)(5) and §112.12(c)(5)]:		
<ul style="list-style-type: none"> Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions. 	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. [See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2] [§112.8(c)(6) and §112.12(c)(6)(i)]	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. [See Inspection Log and Schedule in Attachment 3.1] [§§112.8(c)(6) and 112.12(c)(6)]	<input checked="" type="checkbox"/>	<input type="checkbox"/>
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. [See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2] [§112.12(c)(6)(ii)]	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Table G-10 General Rule Requirements for Onshore Facilities		N/A
<p>Each container is provided with a system or documented procedure to prevent overfills for the container. Describe:</p> <p><u>Tank truck gasoline delivery procedures:</u></p> <ol style="list-style-type: none"> 1) Manually gauge receiving tank to confirm liquid level in tank and quantity to be delivered to prevent tank overfill; reconcile with inventory records and ATG, as applicable. Tanks will not be filled beyond 90% of their capacity. 2) Set parking brake and use chock blocks to prevent movement; inspect fittings and fueling hose for damage before starting fuel transfer operation. The fuel delivery person makes all hook-ups. 3) Place drip pans under valve-hose fitting connections. 4) The person responsible for monitoring the delivery will remain attentive and observe the entire fuel delivery, be prepared to stop the flow of fuel from the truck to the tank at any time, and respond to any unusual condition, leak, or spill which may occur during delivery. Secure all valves on tank truck before truck departure and inspect for leakage. 5) Following complete delivery, the fuel delivery person is responsible for disconnecting all hook-ups. 6) Record accurate readings for product and water in tank after fuel delivery, verify the amount of fuel received and make sure fill ports are properly secured. 7) If an oil spill occurs, the spill kit will be used to contain the spill. The maximum spill that would occur during an overfill while unloading gasoline is estimated at 20 gallons (a 4-inch truck fuel delivery hose, 30 feet in length, holds about 20 gallons). The maximum heating oil and kerosene unload rate is 25 gallons per minute (gpm) or 0.4 gallons per second (gps); the expected maximum amount to be spilled in an overfill incident during heating oil or kerosene unloading is about 3 gallons (0.4 gps x 8 seconds maximum to shutdown fuel transfer pump). <p><u>Gasoline dispenser customer fueling procedures:</u></p> <ol style="list-style-type: none"> 1) Before dispenser filling, shutoff engine and cell phone. 2) Do not top off tank after automatic shut-off. 3) The act of fueling the boat, or watercraft(s) must be completed by trained staff only. 4) If an oil spill occurs, the spill kit will be used to contain the spill. The maximum dispenser pumping rate is 10 gpm or less than 0.2 gps. In the event of a dispenser equipment failure such as a filling hose rupture or a vehicle fuel tank overfill, the expected maximum amount to be spilled is about 2 gallons (0.2 gps x 10 seconds maximum to shutdown dispenser fuel delivery pump). 	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liquid level sensing devices are regularly tested to ensure proper operation [See Inspection Log and Schedule in Attachment 3.1] . <i>[§112.6(a)(3)(iii)]</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. <i>[§§112.8(c)(10) and 112.12(c)(10)]</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. [See Inspection Log and Schedule in Attachment 3.1] <i>[§§112.8(d)(4) and 112.12(d)(4)]</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. [See Inspection Log and Schedule in Attachment 3.1] <i>[§§112.8(d)(4) and 112.12(d)(4)]</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

ATTACHMENT 1 – Five Year Review and Technical Amendment Logs

ATTACHMENT 1.1 – Five Year Review Log

I have completed a review and evaluation of the SPCC Plan for this facility and will/will not amend this Plan as a result.

Table G-13 Review and Evaluation of SPCC Plan for Facility

Review Date	Plan Amendment		Name and signature of person authorized to review this Plan
	Will Amend	Will Not Amend	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	
	<input type="checkbox"/>	<input type="checkbox"/>	

ATTACHMENT 1.2 – Technical Amendment Log

Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template.

Table G-15 Description and Certification of Technical Amendments

Review Date	Description of Technical Amendment	Name and signature of person certifying this technical amendment

ATTACHMENT 2 – Oil Spill Contingency Plan and Checklist

An oil spill contingency plan and written commitment of resources is required for:

- Flowlines and intra-facility gathering lines at oil production facilities and
- Qualified oil-filled operational equipment which has no secondary containment.

An oil spill contingency plan meeting the provisions of 40 CFR part 109, as described below, and a written commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful is attached to this Plan.

☐

Complete the checklist below to verify that the necessary operations outlined in 40 CFR part 109 - Criteria for State, Local and Regional Oil Removal Contingency Plans - have been included.

Table G-15 Checklist of Development and Implementation Criteria for State, Local and Regional Oil Removal Contingency Plans (§109.5)^a

(a) Definition of the authorities, responsibilities and duties of all persons, organizations or agencies which are to be involved in planning or directing oil removal operations.	<input type="checkbox"/>
(b) Establishment of notification procedures for the purpose of early detection and timely notification of an oil discharge including: <ul style="list-style-type: none"> (1) The identification of critical water use areas to facilitate the reporting of and response to oil discharges. (2) A current list of names, telephone numbers and addresses of the responsible persons (with alternates) and organizations to be notified when an oil discharge is discovered. (3) Provisions for access to a reliable communications system for timely notification of an oil discharge, and the capability of interconnection with the communications systems established under related oil removal contingency plans, particularly State and National plans (e.g., NCP). (4) An established, prearranged procedure for requesting assistance during a major disaster or when the situation exceeds the response capability of the State, local or regional authority. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
(c) Provisions to assure that full resource capability is known and can be committed during an oil discharge situation including: <ul style="list-style-type: none"> (1) The identification and inventory of applicable equipment, materials and supplies which are available locally and regionally. (2) An estimate of the equipment, materials and supplies which would be required to remove the maximum oil discharge to be anticipated. (3) Development of agreements and arrangements in advance of an oil discharge for the acquisition of equipment, materials and supplies to be used in responding to such a discharge. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
(d) Provisions for well defined and specific actions to be taken after discovery and notification of an oil discharge including: <ul style="list-style-type: none"> (1) Specification of an oil discharge response operating team consisting of trained, prepared and available operating personnel. (2) Predesignation of a properly qualified oil discharge response coordinator who is charged with the responsibility and delegated commensurate authority for directing and coordinating response operations and who knows how to request assistance from Federal authorities operating under existing national and regional contingency plans. (3) A preplanned location for an oil discharge response operations center and a reliable communications system for directing the coordinated overall response operations. (4) Provisions for varying degrees of response effort depending on the severity of the oil discharge. (5) Specification of the order of priority in which the various water uses are to be protected where more than one water use may be adversely affected as a result of an oil discharge and where response operations may not be adequate to protect all uses. (6) Specific and well defined procedures to facilitate recovery of damages and enforcement measures as provided for by State and local statutes and ordinances. 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

^a The contingency plan must be consistent with all applicable state and local plans, Area Contingency Plans, and the National Contingency Plan (NCP)

ATTACHMENT 3 – Inspections, Dike Drainage and Personnel Training Logs**ATTACHMENT 3.1 – Inspection Log and Schedule****Table G-16 Inspection Log and Schedule**

This log is intended to document compliance with §§112.6(a)(3)(iii), 112.8(c)(6), 112.8(d)(4), 112.9(b)(2), 112.9(c)(3), 112.9(d)(1), 112.9(d)(4), 112.12.(c)(6), and 112.12(d)(4), as applicable.

Date of Inspection	Container / Piping / Equipment	Describe Scope (or cite Industry Standard)	Observations	Name/ Signature of Inspector	Records maintained separately ^a
	AST 6000-gal Convault steel/concrete tank	Monthly and annual visual inspections as all containers meet Category 1 criteria (STI SP001, Standard for the Inspection of Aboveground Storage Tanks)			<input type="checkbox"/>
	Secondary containment dike	Weekly visual inspections and after heavy rainfall			<input type="checkbox"/>
	Dispensers	Daily visual inspections of the dispenser sumps, fill nozzles, hoses, and fittings (manufacturer instructions)			<input type="checkbox"/>
	Spill kits	Monthly visual inspections and equipment/supply inventory			<input type="checkbox"/>
					<input type="checkbox"/>

^a Indicate in the table above if records of facility inspections are maintained separately at this facility.

ATTACHMENT 3.2 – Bulk Storage Container Inspection Schedule – onshore facilities (excluding production):

To comply with integrity inspection requirement for bulk storage containers, inspect/test each shop-built aboveground bulk storage container on a regular schedule in accordance with a recognized container inspection standard based on the minimum requirements in the following table.

Table G-17 Bulk Storage Container Inspection Schedule	
Container Size and Design Specification	Inspection requirement
Portable containers (including drums, totes, and intermodal bulk containers (IBC))	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas
55 to 1,100 gallons with sized secondary containment	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas plus any annual inspection elements per industry inspection standards
1,101 to 5,000 gallons with sized secondary containment and a means of leak detection ^a	
1,101 to 5,000 gallons with sized secondary containment and no method of leak detection ^a	Visually inspect monthly for signs of deterioration, discharges or accumulation of oil inside diked areas, plus any annual inspection elements and other specific integrity tests that may be required per industry inspection standards

^a Examples of leak detection include, but are not limited to, double-walled tanks and elevated containers where a leak can be visually identified.

ATTACHMENT 3.3 – Dike Drainage Log**Table G-18 Dike Drainage Log**

Date	Bypass valve sealed closed	Rainwater inspected to be sure no oil (or sheen) is visible	Open bypass valve and reseal it following drainage	Drainage activity supervised	Observations	Signature of Inspector
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

ATTACHMENT 3.4 – Oil-handling Personnel Training and Briefing Log**Table G-19 Oil-Handling Personnel Training and Briefing Log**

Date	Description / Scope	Attendees
	Spill prevention / Emergency shut-off	

ATTACHMENT 4 – Discharge Notification Form

In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information will be provided to the National Response Center **[also see the notification information provided in Section 7 of the Plan]**:

Table G-20 Information provided to the National Response Center in the Event of a Discharge

Discharge/Discovery Date		Time	
Facility Name			
Facility Location (Address/Lat-Long/Section Township Range)			
Name of reporting individual		Telephone #	
Type of material discharged		Estimated total quantity discharged	Gallons/Barrels
Source of the discharge		Media affected	<input type="checkbox"/> Soil
			<input type="checkbox"/> Water (specify)
			<input type="checkbox"/> Other (specify)
Actions taken			
Damage or injuries	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify)	Evacuation needed?	<input type="checkbox"/> No <input type="checkbox"/> Yes (specify)
Organizations and individuals contacted	<input type="checkbox"/> National Response Center 800-424-8802 Time		
	<input type="checkbox"/> Cleanup contractor (Specify) Time		
	<input type="checkbox"/> Facility personnel (Specify) Time		
	<input type="checkbox"/> State Agency (Specify) Time		
	<input type="checkbox"/> Other (Specify) Time		

ATTACHMENT 5 – Maps and Drawings

Attachment 5.1 (S-1 Skaggs Engineering)

S-1 - Tank Pad Option B is the option that was chose for the current gas tank pad in use now.

See drawing on page 21.

Attachment 5.2 (Willborn Fuel Systems)

TANK PAD 1.0 – This depicts the current location of the 6,000-gal AST on the gas tank pad in use now. (Containment wall not shown on this drawing)

See drawing on page 22.

Attachment 5.3 (Willborn Fuel Systems)

TANK PAD 1.1 – This depicts a future expansion for two 10,000-gal AST(s) if ever needed.

See drawing on page 23.

Attachment 5.4 (Willborn Fuel Systems)

TOP OF TANK – This depicts the top of the current 6,000-gal AST in use and where items are located on the tank. (Pipes, valves, etc.)

See drawing on page 24.

Attachment 5.5 (Willborn Fuel Systems)

DETAILS 1.0 – This depicts the piping details of the above ground pipe and the remote fill unit.

See drawing on page 25.

ATTACHMENT 5 – Maps and Drawings

Attachment 5.6 (Willborn Fuel Systems)

DETAILS 1.1 – This depicts the current pump setup on the dock, and the onshore above-ground transition.

See drawing on page 26.

Attachment 5.7 (Willborn Fuel Systems)

SITE – This depicts the old location of the 6000-gal AST as you can see it is still in the parking lot in the aerial photo. The tank has been moved to the concrete pad that has been constructed outlined in the yellow and the 6000-gal AST placed within the pad inside the concrete containment wall.

See drawing on page 27.

Tank Pad Option B is the option that was chose for the current gas tank pad in use now.

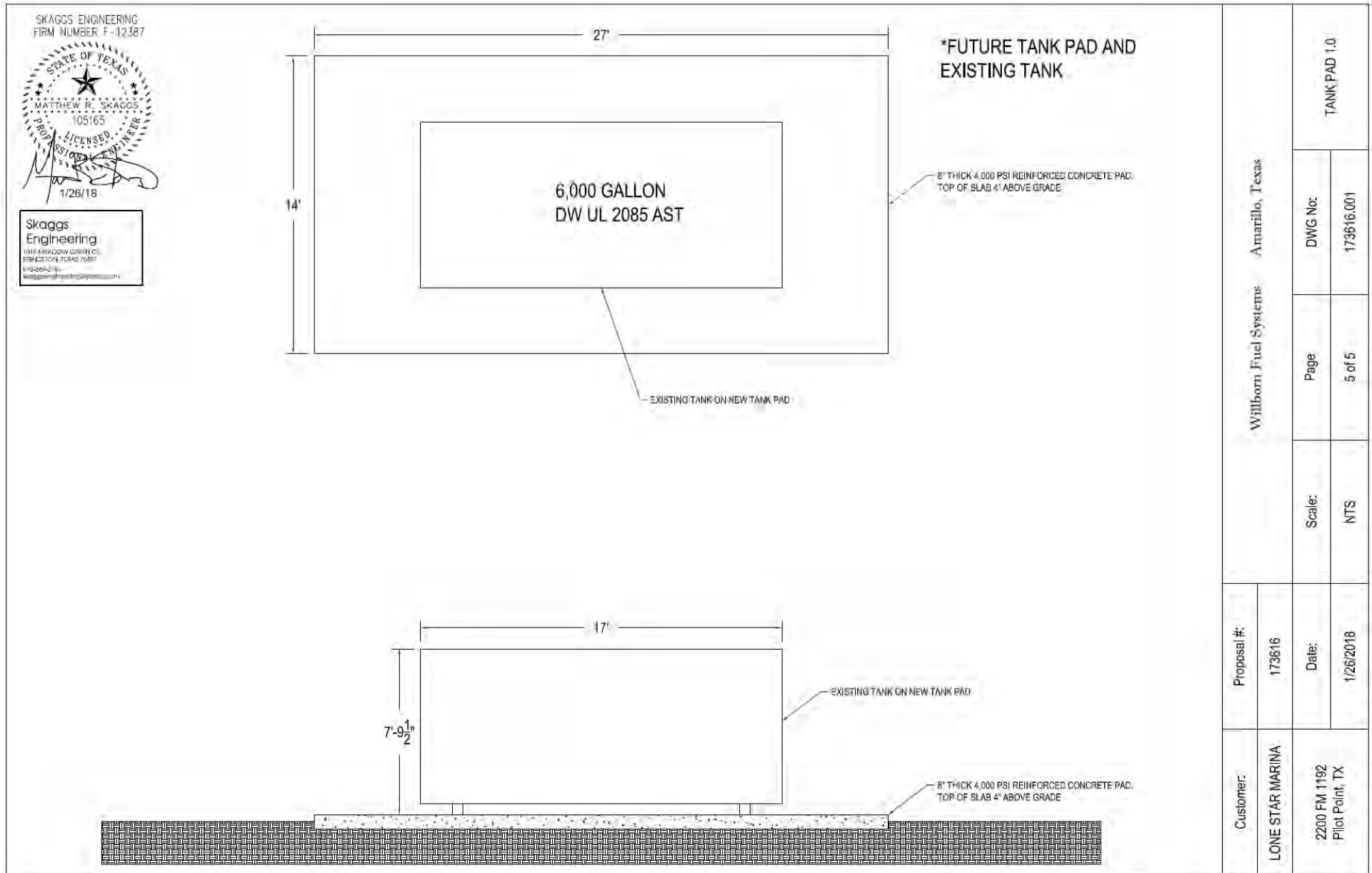


-
- Technical drawing of a bollard detail. The drawing shows a cross-section of a bollard with a central vertical shaft. The shaft has a diameter of 4" (101.6 mm). The shaft is surrounded by a base. The base has a total width of 12" (304.8 mm) and a total height of 12" (304.8 mm). The shaft is 12" (304.8 mm) high. The drawing includes dimension lines and labels for the shaft diameter and the base dimensions.
- 5 BOLLARD DETAIL**

REVISIONS	
Desg. 3/2/12	
mm	
SHEET INFO	
Sheet	
S-1	

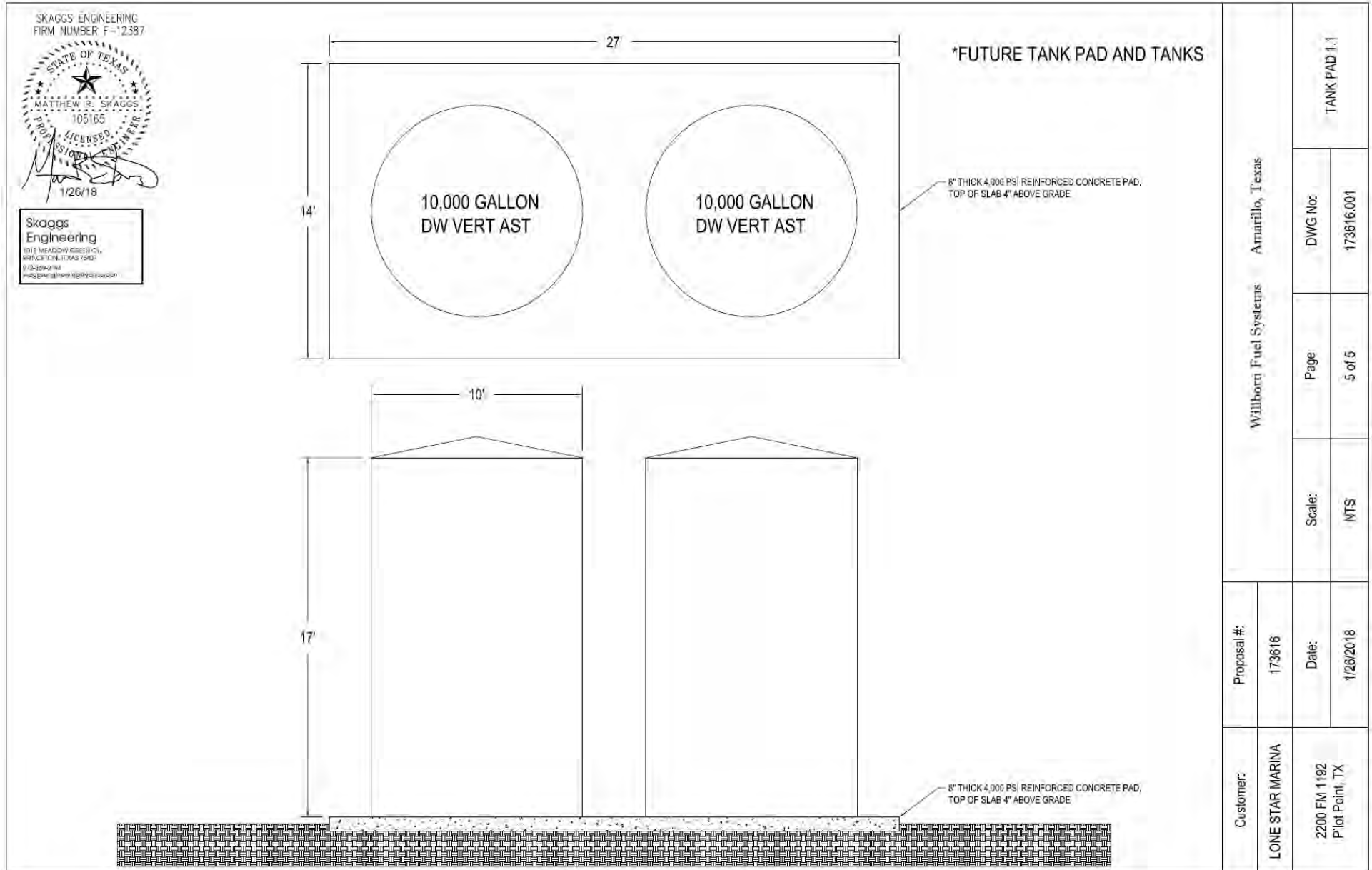
Attachment 5.2 (Willborn Fuel Systems)

This depicts the current location of the 6,000-gal AST on the gas tank pad in use now. (Containment wall not shown on this drawing)



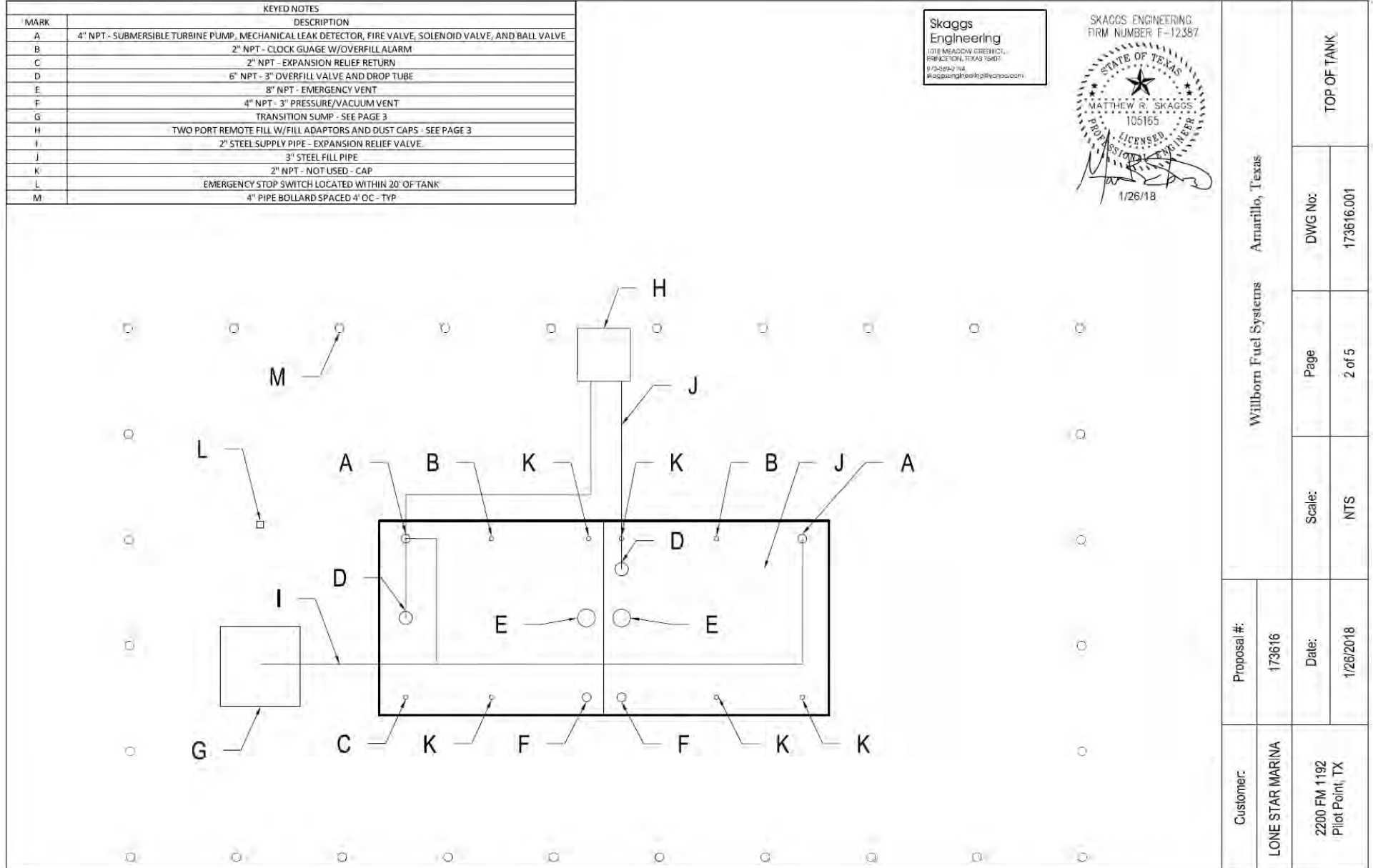
Attachment 5.3 (Willborn Fuel Systems)

This depicts a future expansion for two 10,000-gal AST(s) if ever needed. They would replace the current Convault tank that is in use now.



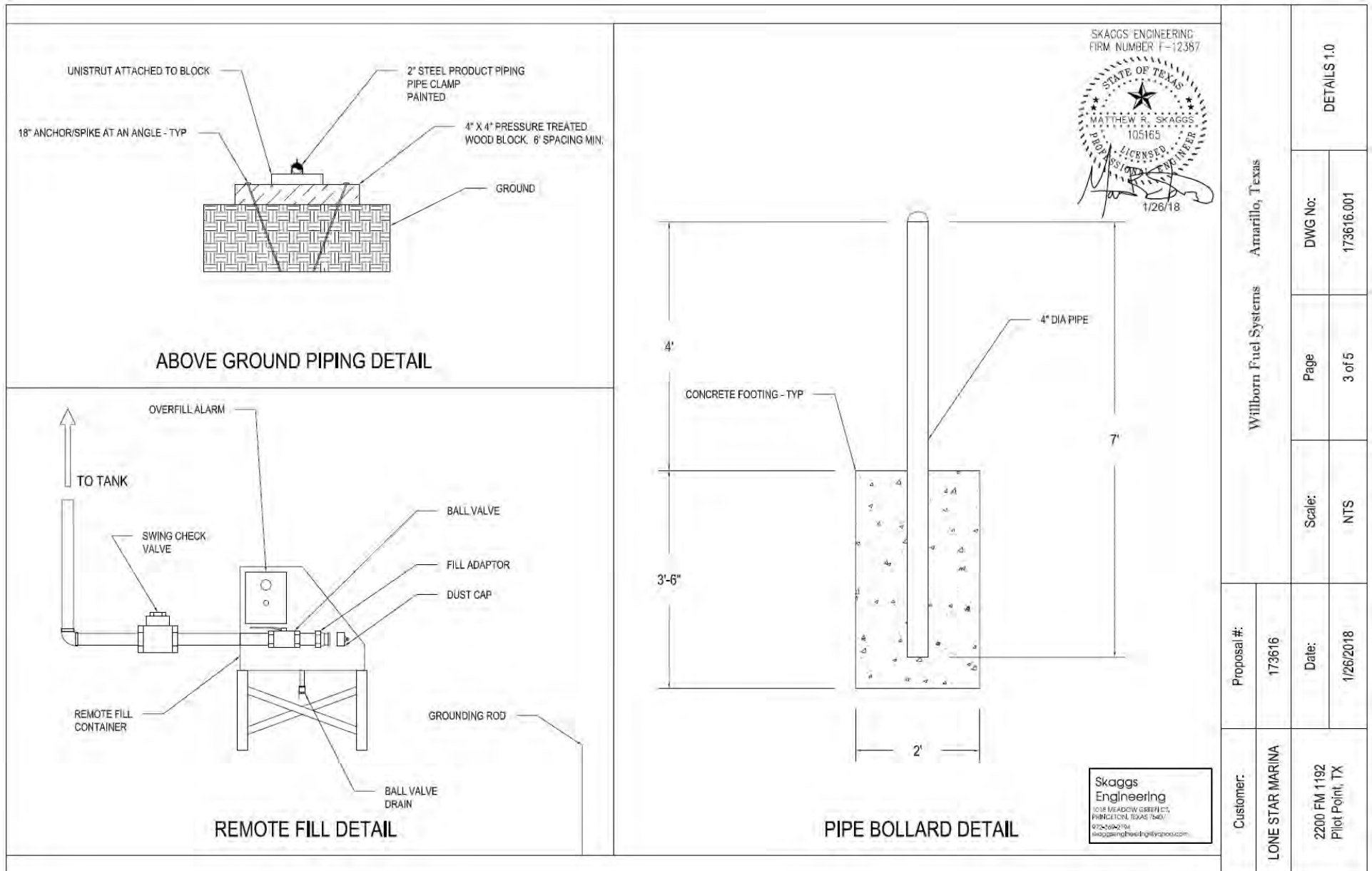
Attachment 5.4 (Willborn Fuel Systems)

This depicts the top of the current 6,000-gal AST in use and where items are located on the tank. (Pipes, valves, etc.)



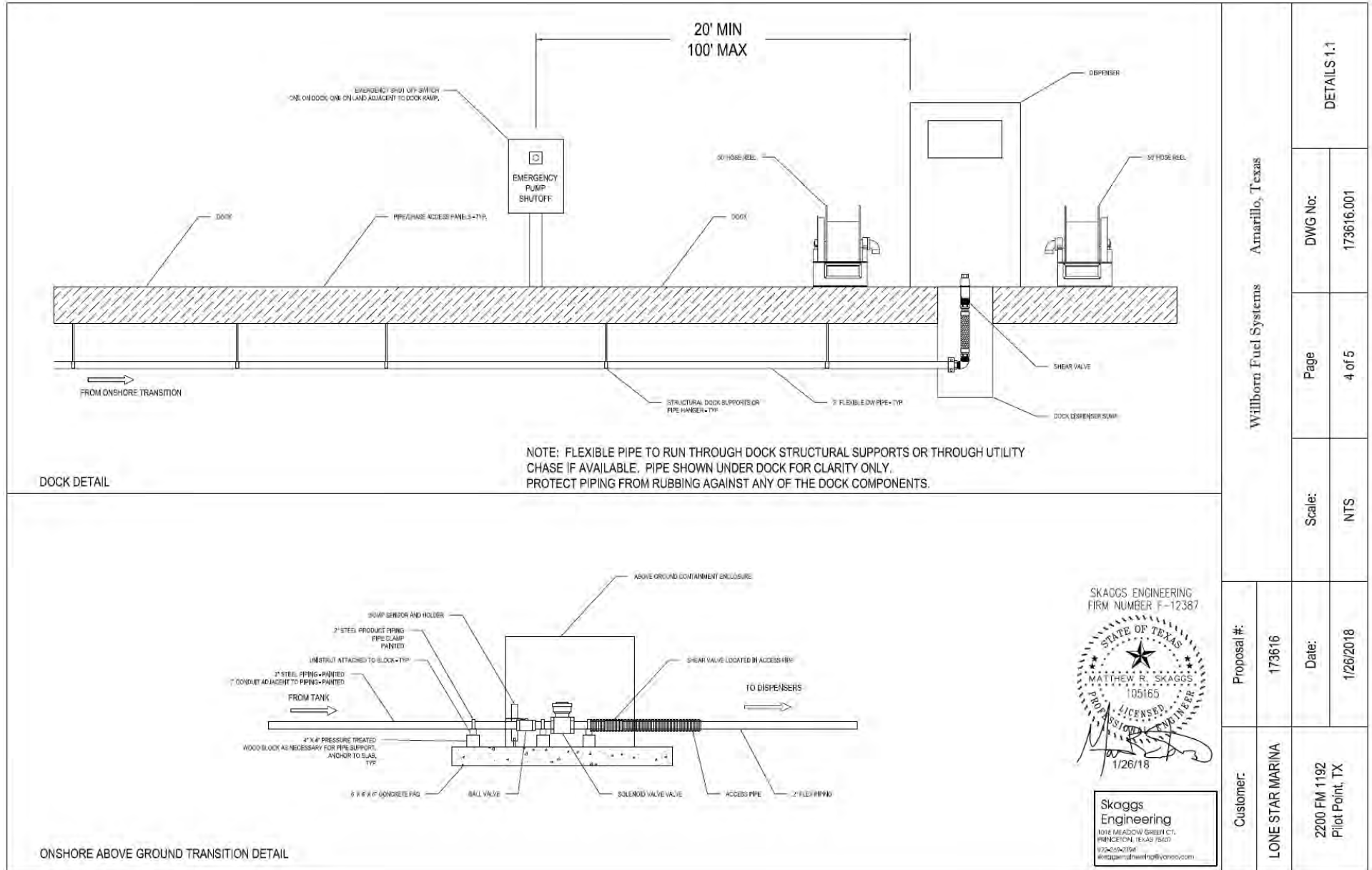
Attachment 5.5 (Willborn Fuel Systems)

This depicts the piping details of the above ground pipe and the remote fill unit.



Attachment 5.6 (Willborn Fuel Systems)

This depicts the current pump setup on the dock, and the onshore above-ground transition.



Attachment 5.7 (Willborn Fuel Systems)

This depicts the old location of the 6000-gal AST as you can see it is still in the parking lot in the aerial photo. The tank has been moved to the concrete pad that has been constructed outlined in the yellow and the 6000-gal AST placed within the pad inside the concrete containment wall.

The same hose reel system be used on the new marina an additional 4 dispenser pumps will be added in the future, if needed.



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