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# An Archeological Investigation Of The Proposed North Harris County Regional Water Authority Project 28E-2, Harris County, Texas

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# AN ARCHEOLOGICAL INVESTIGATION OF THE PROPOSED NORTH HARRIS COUNTY REGIONAL WATER AUTHORITY PROJECT 28E-2, HARRIS COUNTY, TEXAS

Texas Antiquities Permit No. 8111

For
HVJ Associates

By
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With contributions by
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MOORE ARCHEOLOGICAL CONSULTING, INC.
HOUSTON'S FIRST ARCHEOLOGY FIRM

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**ABSTRACT**

On July 24, 2017, Moore Archeological Consulting, Inc. of Houston, Texas conducted an intensive, linear cultural resource survey of the proposed 12-inch water line between Grant Road and the Lake Forest UD Water Plant #3 in Harris County, Texas. The overall proposed Project Area is approximately 550 meters in length. The project corridor will involve a 6 meter wide easement with a trench that will not exceed 4.5 m in width. The investigations were conducted under TAC Permit Number 8111 for HVJ Associates (the Client). The results of this survey are subject to review by the Texas Historical Commission, and the client.

A total of 11 shovel tests were excavated and an area roughly 1 acre in size was examined. All were negative for cultural resources. Based on the negative findings it is the recommendation of Moore Archeological Consulting that work on the proposed project be permitted to proceed with no further cultural resource investigations.

## CONTENTS


| | |
|---|---|
| ABSTRACT | ii |
| TABLE OF CONTENTS | iii |
| INTRODUCTION | 1 |
| ENVIRONMENTAL SETTINGS | 5 |
| ARCHEOLOGICAL BACKGROUND | 10 |
| PREVIOUS ARCHEOLOGICAL INVESTIGATIONS | 12 |
| METHODS | 14 |
| RESULTS | 16 |
| RECOMMENDATIONS | 17 |
| REFERENCES CITED | 18 |
| APPENDIX A: Photographs | 21 |
| APPENDIX B: Shovel Test Log | 23 |


## LIST OF FIGURES


| | |
|---|---|
| Figure 1. Project Corridor in Harris County | 2 |
| Figure 2. Project Area on the Satsuma USGS Quadrangle map | 3 |
| Figure 3. Detail of Project Area on the Satsuma USGS Quadrangle map | 4 |
| Figure 4. Project Corridor over a 2017 aerial photograph | 4 |
| Figure 5: Shovel tests in the Project Area | 15 |

## INTRODUCTION

On July 24, 2017, a crew from Moore Archeological Consulting, Inc., of Houston, Texas conducted an intensive, linear pedestrian archeological survey of the proposed 12-inch water line between Grant Road and the Lake Forest UD Water Plant #3 in Harris County, Texas (Figures 1-4). The project is referred to as the North Harris County Regional Water Authority Project 28E-2 and can be found on the Satsuma USGS Quadrangle map (299504). The investigations were conducted under TAC Permit Number 8111 in response to a request from HVJ Associates (the Client). The results will be subject to review by the Client and the Texas Historical Commission (THC),

The overall proposed Project Area is approximately 550 meters (m) [1,800 feet (ft)] in length. The project corridor will involve a 6 m (20 ft) wide easement with a trench that will not exceed 4.5 m (15 ft) in width. The properties involved are publicly owned and as a result it is not necessary to obtain right of entry (ROE) prior to the onset of the archeological survey. For the purposes of the archeological investigation it is assumed that significantly deep impacts (i.e. greater than 1 m [3 ft]) will occur during installation of this pipeline.

The objective of the investigation was to determine the presence or absence of cultural materials within the locations proposed for the pipeline installation. It also proposed to assess potentially impacted archeological sites and provide recommendations regarding mitigation measures, if necessary. Finally it was to provide a report of the results of the survey to the Client and the THC.

The field crew excavated 11, 40 x 40-centimeter (roughly 12 x 12-inch) shovel tests during the survey at preset intervals as described in the METHODS section of this report. The area examined was approximately 6.8 acres. Project Archeologists Rachel Goings and crewmember Tom Nuckols conducted this investigation under the supervision of the Principal Investigator, Douglas G. Mangum.

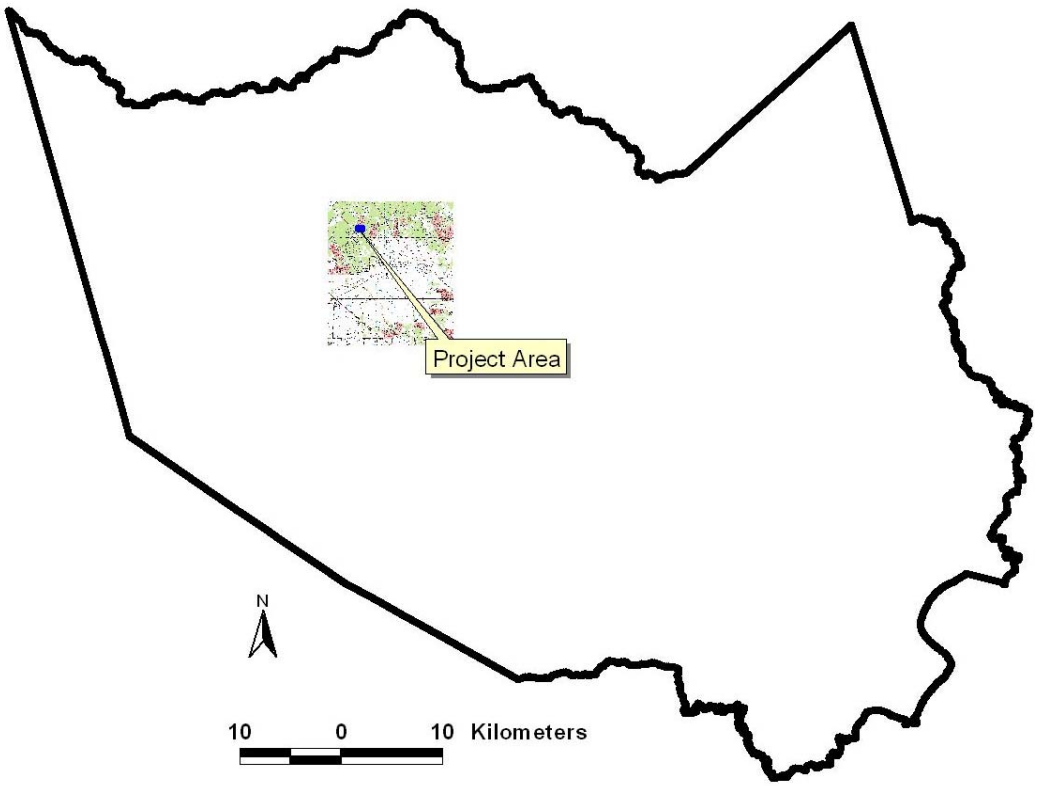


Figure 1: Project Area in Harris County

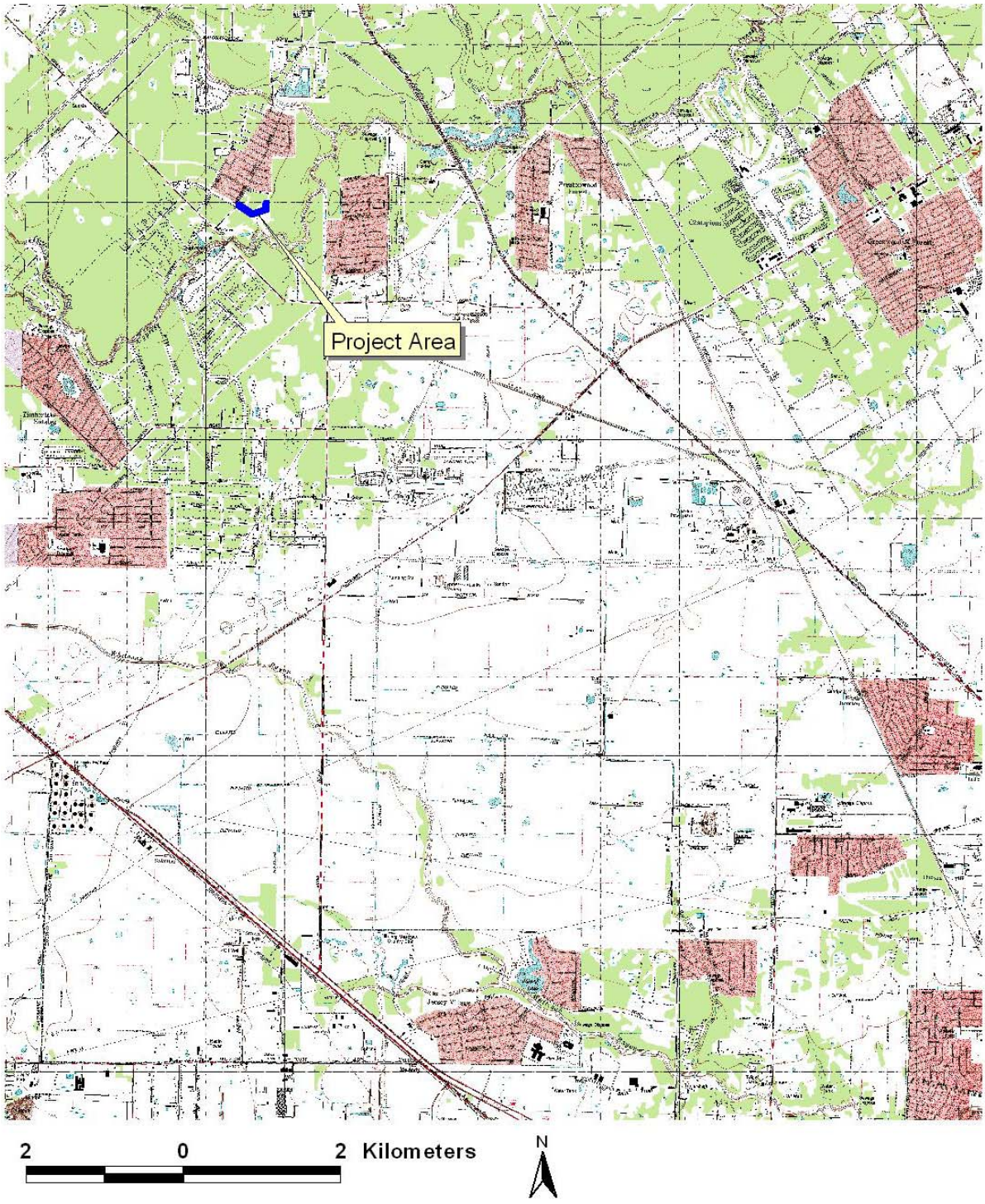


Figure 2: Project Area on the Satsuma USGS Quadrangle map (299504)

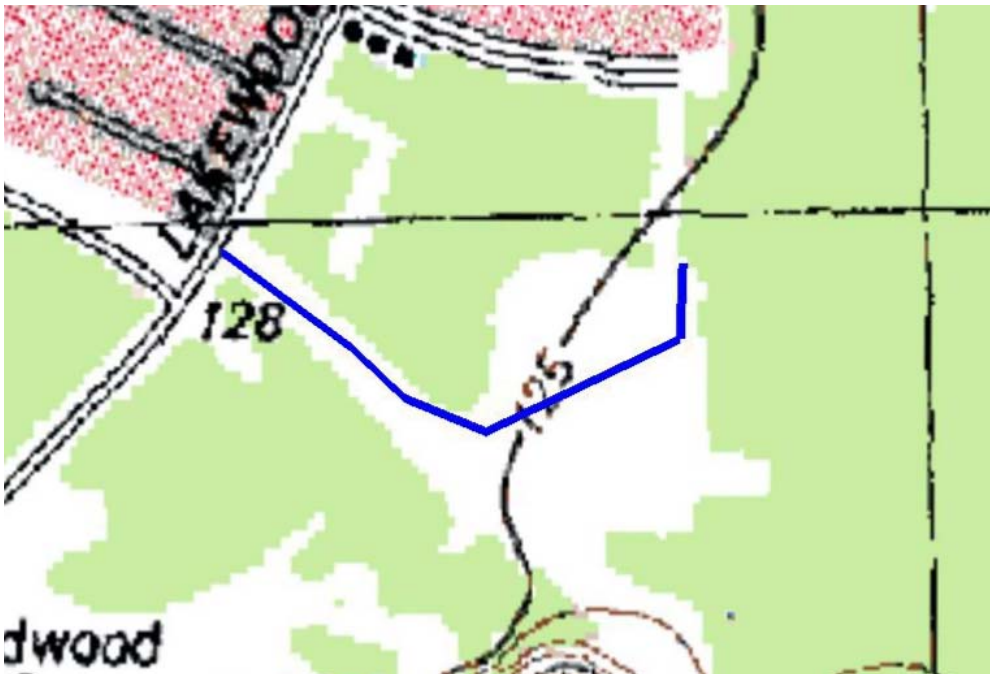


Figure 3: Detail of Project Area on the Satsuma USGS Quadrangle map

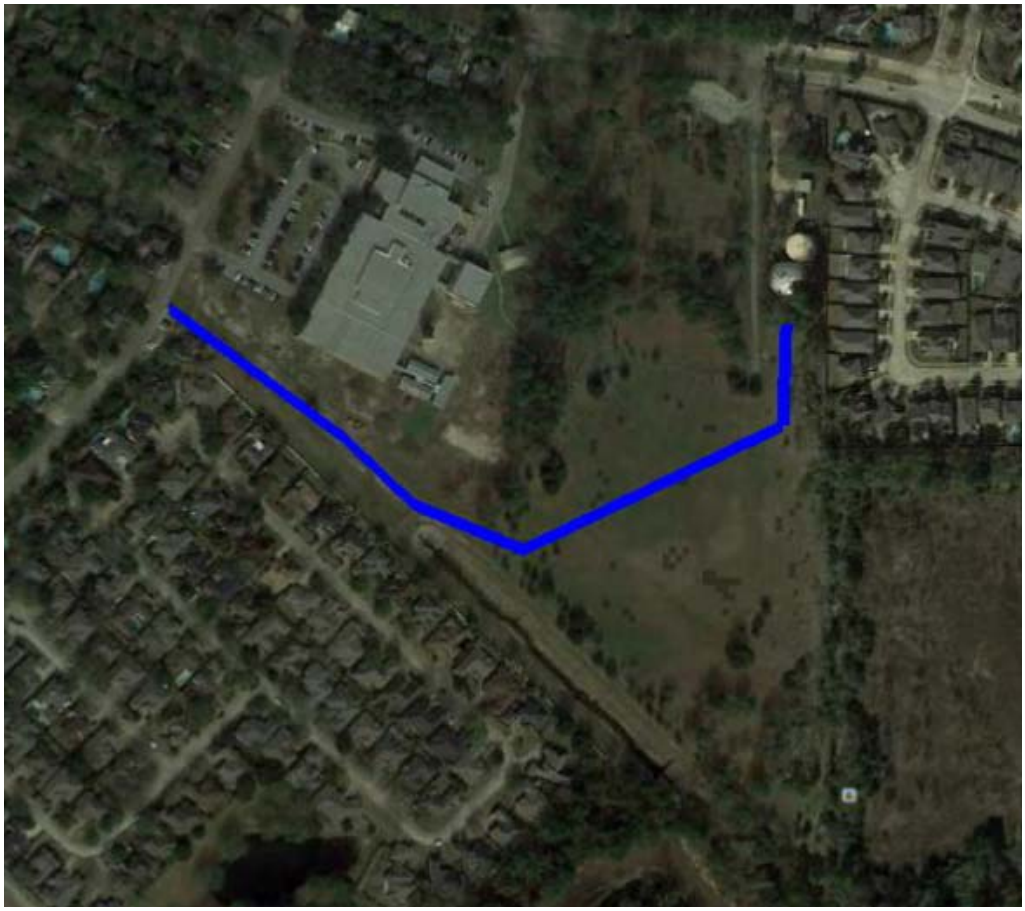

Figure 4: Project Area over a 2017 aerial photograph (via Google Earth)

## ENVIRONMENTAL SETTINGS

### Modern Climate

The modern climate of the Project Area can aptly be characterized as hot and wet for most of the year. The mean annual temperature for the Study Area region is about 20 degrees Celsius (68 F), with mean rainfalls of 117 centimeters (46”). Summer temperatures average about 34 degrees Centigrade (93 F) with temperatures above 38 degrees (100 F) common, during the months of July and August (Carr 1967; St. Clair et al. 1975). The average winter temperature is a mild 18 degrees Centigrade (64 F). Freezes are infrequent and of short duration, with an average of 271 frost-free days per year.

Rainfall varies from 7 centimeters (2.7”) in March to 11 centimeters (4.3”) in December, with July to December rainfalls often supplemented by tropical fronts and storms. The rainfall records range from a low of 45 centimeters (17.7”) to a high of 185 centimeters (72.8”). Prevailing winds are usually from the southeast except during the winter months when ‘Northers’ sweep into the area.

### Modern Flora and Fauna

Southeast Texas is within the Austroriparian biotic province near its western boundary with the Texan province (Blair 1950:98-101). This boundary, set by available moisture levels, is marked by pine-hardwood forests on the eastern Gulf Coastal Plain. The Project Area is situated within the pine-oak forest subdivision of the Austroriparian province and includes, within its western limits, portions of the coastal prairie (Tharp 1939).

Grasses within the coastal prairies and marshes vegetation area are described from a range-management perspective in Hoffman *et al.* (nd: 45). This 4046873 hectares (10,000,000-acre) area consists of 3844529 hectares (9,500,000 acres) of gulf prairies and

202343 hectares (500,000 acres) of gulf marshes. The regional vegetation of the coastal prairies is characterized as follows:

> "The principal grasses of the prairies are tall bunchgrass, including big bluestem *(Andropon gerardi)*, little bluestem, seacoast bluestem *(Schizachyrium scoparium*, var. *littorus)*, Indiangrass, eastern gamagrass *(Tripascum dactyloides)*, switchgrass, and gulf cordgrass. Seashore saltgrass is common on moist saline sites. Grazing pressures have changed the composition of the range vegetation so that the grasses now existing are broomsedge bluestem, smutgrass, threeawns, tumblegrass and many other inferior grasses. The other plants that have invaded the productive grasslands are oak underbrush, macartney rose, huisache, mesquite, pricklypear, ragweed, bitter sneezeweed, broomweed, and many other unpalatable annual weeds" (Hoffman *et al.* nd: 45).

The dominant floral species of the pine-oak forest subdivision of the Austroriparian biotic province include loblolly pine *(Pinus taeda)*, yellow pine *(Pinus echinata)*, red oak *(Quercus rubra)*, post oak *(Quercus stellata)*, and blackjack oak *(Quercus marilandica)*. Hardwood forests are found on lowlands within the Austroriparian and are characterized by such trees as sweetgum *(Liquidambar styraciflua)*, magnolia *(Magnolia grandiflora)*, tupelo *(Nyssa sylvatica)*, water oak *(Quercus nigra)* and other species of oaks, elms, and ashes, as well as the highly diagnostic Spanish moss *(Tillandsia usneiodes)* and palmetto *(Sabal glabra)*. Swamps are common in the region.

Blair (1950) and Gadus (Gadus and Howard 1990:12-15) define the following mammals as common within the Austroriparian province: white-tailed deer *(Odocoileus virginianus)*, muskrat *(Ondatra zibethicus)*, raccoon *(Procyon lotor)*, coyote *(Canis latrans)*, opossum *(Didelphis virginiana)*, eastern mole (*Scalopus aquaticus)*, eastern pipistrelle *(Pipistrellus subflavus), red bat (Lasiurus borealis), fox squirrel (Sciurus niger)*, eastern gray squirrel (*Sciurus carolinensis)*, southern flying squirrel *(Glaucomys volans)*, Baird's pocket gopher *(Geomys breviceps)*, fulvous harvest mouse (*Reithrodonomys fulvescens)*, white-footed mouse (*Peromyscus leucopus)*, marsh rice rats (*Oryzomys palustris)*, cotton rat *(Sigmodon hispidus,)*, packrat *(Neotoma floridana)*, eastern cottontail *(Sylvilagus floridanus)*, and swamp rabbit *(Sylvilagus aquaticus.).*

Bison *(Bison bison)* may have been present on nearby grasslands at various times in the past (Gadus and Howard 1990:15).

Common land turtles include eastern box turtle *(Terrapene carolina)* and western box turtle (*Terrapene ornate),* while snapping turtle *(Chelydra serpentinia),* mud turtle *(Kinosteron* spp.*),* river cooter *(Chrysemys concinna),* and diamondback terrapin *(Malaclemys terrapin)* comprise common water turtles. Common lizards include *Anolis carolinensis, Sceloporus undulatus, Leiolopisma laterale, Eumeces laticeps, Cnemidophorus sexlineatus,* and *Ophiosaurus ventralis*. Snakes and amphibians are also present in considerable numbers and diversity.

The resources provided by river-influenced estuarine and marsh environments were undoubtedly of great importance to the littoral residents of southeast Texas. These resources are admirably summarized by Gadus (Gadus and Howard 1990: 12 - 15). Estuarine fish resources cited by Gadus include sand trout *(Cynoscion arenarius),* spotted sea trout *(Cynoscion nebulosus),* Atlantic croaker *(Micropogon undulatus),* striped mullet *(Mugil cephalus),* southern flounder *(Paralichthysis lethostigma),* shortnose gar *(Lepisosteus platostomus),* channel catfish *(Ictalurus punctatus),* freshwater drum *(Aplodinotus grunniens),* red drum *(Sciaenops ocellata),* bluegill *(Lepomis macrochirus)* and other sunfishes. Common shellfish include Rangia *(Rangia cuneata), Macoma* spp., dwarf surf clam *(Mulinia lateralis),* oyster *(Crassostrea virginica), Vioscalba louisianae,* and olive nerite *(Neritina [Vitta] reclivata).* Arthropods, such as shrimp and crab, are also numerous and highly productive.

Area marshes replete with plants such as cordgrasses *(Spartina* spp.*),* reeds *(Phragmites* spp.*),* giant millet *(Setaria magna),* and bullrushes *(Scirpus* spp.*)* would have formed a highly attractive and bountiful magnet for waterfowl (Gadus and Howard 1990).

The project area crossed portions of a schoolyard and a public park. As a result, the entire alignment for the pipeline was heavily landscaped and maintained. No animal life was observed and flora was limited to a few hardwood trees and non-native grasses.

## Soils and Geology

The segment of the Texas Gulf Coast encompassing the Project Area is on soils deposited over the last million to two million years. It sits on the Beaumont Formation, bands of alluvial deltaic soils running parallel to the coastline and laid down during a series of glacial/interglacial intervals during the Middle to Late Pleistocene epoch. Downcutting and erosion processes during the most recent glacial period incised and widened many of the river drainages running through the Beaumont Formation. After the sea levels rose during the Holocene, river valleys filled with alluvial soils creating broad, level floodplains.

The proposed project area is depicted on sheets 42 and 43 of the Soil Survey of Harris County, Texas (Wheeler, 1976). Only one soil types appear within the project area as defined by the Soil Survey; Wockley fine sandy loam. Wockley soils are somewhat poorly drained, loamy ancient alluvium with a low geoarcheological potential (Abbott 2001). Wockley soils have potential for sandy mounds (sometimes referred to as pimple mounds) of the sort that were frequently used by Native Americans for occupation and activity sites. Such mounds are visible in the earliest aerial photographs of the project area. However, they are not obvious in modern aerials and none were noted by the field crew. It is presumed that whatever mounds did once exist were landscaped flat during the development of the area sometime between the 1940s and the 1970s, based on our review of available aerial imagery.

## Hydrology

Distance to water is a dominant factor affecting the probability of finding prehistoric sites. Most sites in the region are found within 300 m (984 ft) of potable water. The most significant water source within 300 m of the project area is Cypress Creek, which has a natural bend roughly 240 m (787 ft) to the south of the current investigation corridor. Cypress Creek is, at this point in its channel a perennial stream. It flows generally southwest to northeast and, eventually, merges with Spring Creek some 32 kilometers

downstream to the east. This stream has been altered somewhat in the modern era, but the banks are largely in their natural state where they are close to the current project area. The only significant change at this point in Cypress Creek is the construction of a large drain feature following the western leg of the project corridor adjacent to the elementary school which flows into the creek.

The only other water feature in close proximity to the project area is a small pond some 200 m (656 ft) to the south-southwest of the project corridor. This pond is visible in aerial images dating back to 1978, but is not visible in two aerials from 1953 and 1944. It is most likely that this pond was man-made rather than a natural impoundment, though it may have been based on an old stream channel of Cypress Creek considering its proximity to that channel. .

## ARCHEOLOGICAL BACKGROUND

The Project Area is within the Southeast Texas Archeological Region, which has been recently summarized by Patterson (1995). Other recent prehistoric summaries equally pertinent to the prehistory of the Brazoria-Fort Bend County area include Ensor (1991), and Moore and Moore (1991). The reader is referred to these works for detailed data on the prehistory of this region.

Previous investigations in Southeast Texas have demonstrated that prehistoric people occupied this area as early as 12,000 years ago. All through prehistory the inhabitants were nomadic hunter-gatherers. Ensor (1990) has proposed a prehistoric cultural sequence of periods for Southeast Texas which are as follows: Paleo-Indian (10,000-8,000 BC), Early Archaic (8,000-5,000 BC), Middle Archaic (5,000-1,000 BC), Late Archaic (1,000 BC – AD 400), Early Ceramic (AD 400-AD 800), and Late Ceramic (AD 800-AD 1750).

Evidence for prehistoric occupation of Southeast Texas is scarce in the Paleo-Indian period, and indeed, is rather ambiguous through the Middle Archaic period (Patterson 1983; Aten 1983:156-157). However, although most previously recorded sites date to the Late Archaic and Ceramic periods, it is probable that earlier dating sites have been lost to erosion, channel cutting, and, particularly in the case of very early sites, to rising sea level. In cases where early-dating artifacts have been found, such as Wheat's (1953) finds of projectile points dating from the Paleo-Indian through Middle Archaic periods at Addicks Reservoir in western Harris County, the materials occur in deposits with poor contextual integrity.

Sites dating from the Late Archaic through the Ceramic periods are much more commonly found in the project vicinity. During the late Archaic period, modern climatic conditions evolved, sea level rose and stabilized, and coastal woodlands expanded. Aten (1983) hypothesizes that an increase in population and the establishment of seasonal rounds, including regular movement from littoral to inland areas occurred during the Late

Archaic period. Particularly relevant to the prehistory of the Project Area are Hall's (1981) data from the Allens Creek project in nearby Austin County, Texas. Excavations of a large cemetery there suggest a Late Archaic trade system that linked Southeast Texas to Central Texas and areas eastward into Arkansas. The excavation of other, smaller cemeteries in this section of the Brazos River drainage, including some in Fort Bend County, has yielded similar evidence.

Aten (1983) has proposed that ceramics were introduced in the aboriginal artifact assemblage on the Upper Texas Coast at AD 100. Ensor places the beginnings of the Early Ceramic period at AD 400, which may be more applicable for areas inland from the coastline. The Early Ceramic period is characterized by a continued growth in population levels. Ensor (1991) places the beginning of the Late Ceramic at AD 800, which coincides with the introduction of the bow and arrow. A plain sand-tempered pottery dominates throughout both parts of the Ceramic era. Story et al. (1990) has defined the Mossy Grove Cultural Tradition for Late Prehistoric cultures in Southeast Texas with sandy paste pottery being the principle diagnostic artifact type.

European settlement did not begin to seriously disrupt aboriginal habitation in the areas inland from the Upper Texas Coast until after AD 1700 (Patterson 1995; 249). European diseases, probably introduced by explorers and early traders, did begin to have impacts as early as AD 1528. At least 7 epidemics were recorded among the tribes of the study area between that date and AD 1890 (Ewers, 1974).

The Native American group that resided in this portion of Harris County during the historic era was the Akokisa, a tribe linguistically linked to the Atakapan. During the eighteenth and nineteenth centuries, epidemic diseases (discussed above), the mission system, and the fur trade essentially exterminated these indigenous populations.

## PREVIOUS ARCHEOLOGICAL INVESTIGATIONS

There have been at least four prior archeological investigations that have taken place within 500 m of the current project area. The first of these was conducted by Moore Archeological Consulting, Inc. in 1995 (Moore et al., 1995). This survey was conducted for the Harris County Flood Control District (HCFCD) and examined a 43 acre tract for a proposed floodwater detention basin site. The survey was immediately southeast of the current project area. As a result of this investigation a total of 13 previously unrecorded archeological sites were found. All 13 had prehistoric elements though one had both prehistoric and historic. Of these sites, nine were determined to be eligible State Archeological Landmarks (SAL) designation, another two were undetermined, and the remaining two were deemed not eligible.

Another survey was conducted by Geo-Marine, Inc. in 1996 (Ensor et al., 1996). This survey was conducted for the U.S. Army Corps of Engineers, Galveston District. This survey was performed under TAC Permit Number 1621 and examined roughly 120 acres on two non-contiguous tracts. The purpose was to investigate two possible alternatives for a flood control project. One of these, Alternative 19, was almost immediately southwest of the current project area. Although two prehistoric sites were found during this investigation, both of these were located in the other alternative unit which is a considerable distance from the current project locale.

In 2003, Moore Archeological Consulting conducted another survey of a 47 acre tract immediately south of the current project area on the other bank of Cypress Creek (Porter and Moore 2003). This survey was conducted under TAC Permit Number 3014 for the HCFCD as part of a proposed floodplain preservation area. As a result of this investigation, 3 previously unrecorded prehistoric sites were found. None of these sites were considered to have further research value.

The last previous archeological survey to have taken place within 500 m of the current project area was conducted by Paul Price Associates, Inc. in 2006 (Schroeder and Weaver

2006). This survey was conducted for Naismith Engineering, Inc. and Harris County Municipal Utility District under TAC Permit Number 3530. The purpose of this investigation was to examine a proposed hike and bike trail and park, a portion of the trail of which was planned to run along the western edge of the current survey area. As a result of this investigation, 13 previously examined sites were assessed for the potential impact of the trail and park upon them, and one additional previously unrecorded prehistoric site was found.

There are a total of 23 previously identified archeological sites within 1 km of the project corridor. No other archeological investigations have occurred within close proximity to the current project area.

## METHODS

The pedestrian cultural resources survey covered 100% of the proposed Project Area. The Project Archeologist and one field assistant conducted the survey. All areas of exposed soil were examined for surface exposure of cultural remains and features. Particular attention was paid to any landforms or features that have been determined of high archeological probability. The survey was conducted in accordance with prevailing standards accepted by the THC, the Council of Texas Archeologists, and Section 106 regulations.

Shovel testing was conducted in an attempt to identify buried cultural resources. A single transect was established within the proposed project corridor. One small (40 cm by 40 cm) shovel test was excavated every 50 meters along the transect. This resulted in the excavation of 11 total shovel tests. Shovel tests were excavated to at least one meter deep or until intact basal clay is reached. Each test was documented, including information on location (utilizing a hand-held GPS), soil profile and cultural yield. Soil fill from tests was screened (when possible) through ¼-inch hardware cloth and examined for cultural materials, and the units were backfilled immediately. The UTM location of all shovel tests was recorded utilizing WAAS-enabled GPS unit and plotted onto a USGS map using ArcView 3.3 (Figure 5). All visible surfaces were examined for historic or prehistoric archeological materials. Surface visibility varied throughout the Project Area, from 0% in the grassy portions to 50% in some cleared areas close to the schoolyard.

Based on the soils described in the county soil manual it was not anticipated that deep reconnaissance (in the form of backhoe trenching) would be necessary for this project. As a result no backhoe trenching was proposed for the investigation. If deep soils with the potential for intact cultural deposits were observed during this survey then the need for trenching would be reevaluated. However, no such soils were observed in the shovel tests excavated for this project.

Any locality producing either prehistoric or historic cultural remains was recorded on

State of Texas archeological site forms for submission to THC. In addition to form information, photographs, plan and stratigraphic sketches and measured drawings and crewmembers' daily field notes documented any sites and features.


Figure 5: Shovel tests in the Project Area (red squares).

## RESULTS

On July 24, 2017, a crew from Moore Archeological Consulting performed an intensive pedestrian archeological survey of the proposed Lake Forest UD Water Plant #3. As mentioned in the METHODS section, this survey was performed utilizing shovel testing and visual examination of all visible surfaces. This sampling methodology resulted in the excavation of 11 shovel tests during the survey and the visual inspection of approximately 1 acre of ground surface within the Project Area (Figure 5). All of the shovel tests excavated within the Project Area during the survey were negative for historic or prehistoric cultural resources.

All of the 11 shovel tests reached basal or sterile clay soils (See Appendix B). A total of four contained some disturbed matrices containing fill or modern debris in the upper levels. Only one shovel test, ST10, contained soils that seemed to closely match the anticipated Wockley soils described in the Soil Survey of Harris County, Texas (Wheeler, 1976). This, along with the absence of the expected pimple mounds and the debris found in four of the tests suggests that this landform has been altered and perhaps scraped for the purpose of leveling at some point in the last 50-80 years.

## RECOMMENDATIONS

It is the recommendation of Moore Archeological Consulting that no additional archeological investigation is necessary in the project area before commencement of work on the proposed construction. This recommendation is based on the negative findings of this archeological investigation reported herein. It is felt that sufficient shovel testing and surface examination has been conducted, with negative results. Therefore no further archeological investigations are merited.

Should archeological deposits or features be encountered during work on the improvements, it is advised that work on the improvements cease in the immediate area of the finds and the Archeology Division of the Texas Historical Commission should be contacted for consultation.

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# APPENDIX A: Photographs


Photograph 1: Northern end of the project corridor.

Photograph 2: Eastern end of project corridor.

Photograph 3: Segment of project corridor alongside the elementary school.

Photograph 4: Segment of project corridor traversing the park.

# APPENDIX B: Shovel Test Log

| ST No. | Depth | Description | Comments |
|---|---|---|---|
| 1 | 0-16 | 10yr 4/2 grayish brown, moist loose, clayey sand. | Nickel at 10cmbs (1989 date) small pieces of concrete and pebbles between 16-21 cmbs |
| | 16-50 | 10yr 6/3 pale brown with 10yr 6/8 brownish yellow, dry sandy mottled friable clay. | |
| 2 | 0-20 | Highly disturbed with concrete, limestone, and gravel; very dry sandy clay, hard to dig. | 50m Southeast of 2 where playground starts |
| | 20-35 | 10yr 7/2 light gray with 7.5yr 6/8 reddish yellow mottles, few femg concretions present. Very hard, dry clay, compact. | |
| 3 | 0-7 | 10yr 4/2 grayish brown, moist loose, clayey sand. | |
| | 7-17 | 10yr 6/3 pale brown with 10yr 6/8 brownish yellow and 10yr 6/1 light gray, dry compact mottled clay. | |
| | 17-60 | 10yr 7/3 very pale brown dry loose clayey sand. | |
| 4 | 0-16 | 10yr 6/3 pale brown loamy clay, dry and compact | 50m Southeast of shovel test 3 next to fence line of drainage |
| | 16-30 | 10yr 8/2 very pale brown with 10yr 7/8 yellow clay, dry and hard, compact, with calcium carbonate concretions present. | |
| 5 | 0-6 | 10yr 3/2 very grayish brown, moist clayey sand. | 1 piece of clear bottle glass at 29cmbs and 3 small brick fragments (modern) at 38 cmbs. |
| | 6-49 | 10yr 7/3 very pale brown dry loose clayey sand with small pebbles and marble size pieces of calcium carbonate. | |
| | 49-70 | 10yr 6/3 pale brown with 10yr 6/8 brownish yellow, moist mottled friable clay. | |
| 6 | 0-26 | 10yr 3/2 very grayish brown, moist clayey sand. | 1 small brick fragment (similar to shovel test 5 at 15 cmbs. |
| | 26-60 | 10yr 6/3 pale brown with 10yr 6/8 brownish yellow, moist mottled friable clay. | |

| | | | |
|---|---|---|---|
| 7 | 0-22 | 10yr 3/2 very grayish brown, moist clayey sand. | Inside fence South of school with an approximately 6" square piece of concrete with rebar encountered at 20 cmbs |
| | 22-60 | 10yr 6/3 pale brown with 10yr 6/8 brownish yellow, dry friable clay. | |
| 8 | 0-16 | Disturbed, 10yr 5/2 grayish brown loamy clay with golf ball pieces, charcoal, and orange burned clay mixed in, friable. | 50m Northeast of shovel test 7 in field. |
| | 16-48 | 10yr 8/2 very pale brown with 10yr 7/8 yellow clay and 10yr 5/8 yellowish brown, dry and hard, compact. | |
| 9 | 0-21 | 10yr 7/3 very pale brown dry loose clayey sand. | Inside fence South of school, end of Southwest/Northeast line. |
| | 21-60 | 10yr 6/3 pale brown dry friable clay. | |
| 10 | 0-35 | 10yr 4/3 brown sandy clay loam, moist and friable | At fence line of water treatment facility. |
| | 35-60 | 10yr 7/3 very pale brown loamy sand, moist and friable. | |
| | 60-70 | 10yr 5/3 brown with 10yr 5/8 yellowish brown clay, dry, hard and compact, few femg concretions. | |
| 11 | 0-50 | 10yr 6/2 light brownish gray with 10yr 6/8 brownish yellow, moist mottled friable clay. | Open field West of school. This location is in a slightly sunken area and probably retains water occasionally. |