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Short Report for Intensive Archeological Survey of the Proposed Denton Municipal Electric Long Road Substation Denton County, Texas

Darren Schubert

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January 20, 2015

DENTON MUNICIPAL ELECTRIC

Short Report for Intensive Archeological Survey of the Proposed Denton Municipal Electric Long Road Substation Denton County, Texas

POWER ENGINEERS, INC.
HOUSTON, TEXAS

Texas Antiquities Permit #7064

PROJECT NUMBER:
129697

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POWER ENGINEERS

Short Report for Intensive Archeological Survey of the Proposed Denton Municipal Electric Long Road Substation

Texas Antiquities Permit # 7064

PREPARED FOR: *DENTON MUNICIPAL ELECTRIC*

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ACRONYMS AND ABBREVIATIONS

Cm	centimeters
DME	Denton Municipal Electric
kV	kilovolt
POWER	POWER Engineers, Inc.
ROW	right-of-way
THC	Texas Historical Commission

1.0 INTRODUCTION AND MANAGEMENT SUMMARY

On October 28, archeologists from POWER Engineers, Inc. (POWER) conducted an intensive archeological survey for the proposed Long Road electrical substation project (Project) in Denton County, Texas. The survey was undertaken on behalf of Denton Municipal Electric (DME) for a proposed substation facility that will connect with the existing Texas Municipal Power Agency 138 kV transmission line extending from the Denton North Interchange to the Arco Substation. No archeological materials were recorded as a result of the survey.

The proposed substation will be constructed on land that will be owned by Denton Municipal Electric, a department of the City of Denton, a political subdivision of the State of Texas. Thus, the survey was performed under Texas Antiquities Permit No. 7064 (Appendix A), and this report serves as partial fulfillment of the requirements of the permit.

Darren Schubert, M.A., RPA, was the Principal Investigator for the Project, and the survey was conducted by Darren Schubert and Jahleen Sefton. Mr. Schubert authored the report. A total of 10 person-hours were spent completing the field survey. The field data was processed by Gray Rackley, and report maps were produced by Aaron Wolf and Gray Rackley. No artifacts were collected during the survey. Project-related documents, including shovel test forms, photo logs, and photographs, will be curated at the Texas Archeological Research Laboratory.

2.0 DESRIPTION OF PROJECT AREA AND ANTICIPATED IMPACTS

The Project area is located 2.3 miles north of the intersection of North Locust Street and University Drive, west of Farm-to-Market Road 2164, in Denton, Texas (Figure 1). The proposed substation will be similar in appearance and construction to other DME substations in the area. The station will be fenced with a 10-foot precast concrete wall that will be painted to appear as stone. The area inside the substation fence is expected to be in the range of four to five acres depending on the final design and site plan. The exact location and size of the area to be owned by DME and the area to be fenced have not been determined. The potential impacts will be limited primarily to the portion of the site within the substation fence; however, the entire area of potential ownership, approximately 6.1 acres, was surveyed. The surface of the substation inside the fence will be covered with crushed stone, except for paved drives. Specific construction impacts have not been provided at this time, although it is expected that impacts would include grading of the area; construction of foundations for equipment, poles, steel structures, and fence columns; installation of drainage facilities required by the City of Denton; construction of concrete drives; placement of rock; installation of landscaping outside the station fence; and, other items necessary to make the station complete and functional. Anticipated impact depths are not expected to exceed 40 feet below the surface for pole pier-type foundations.

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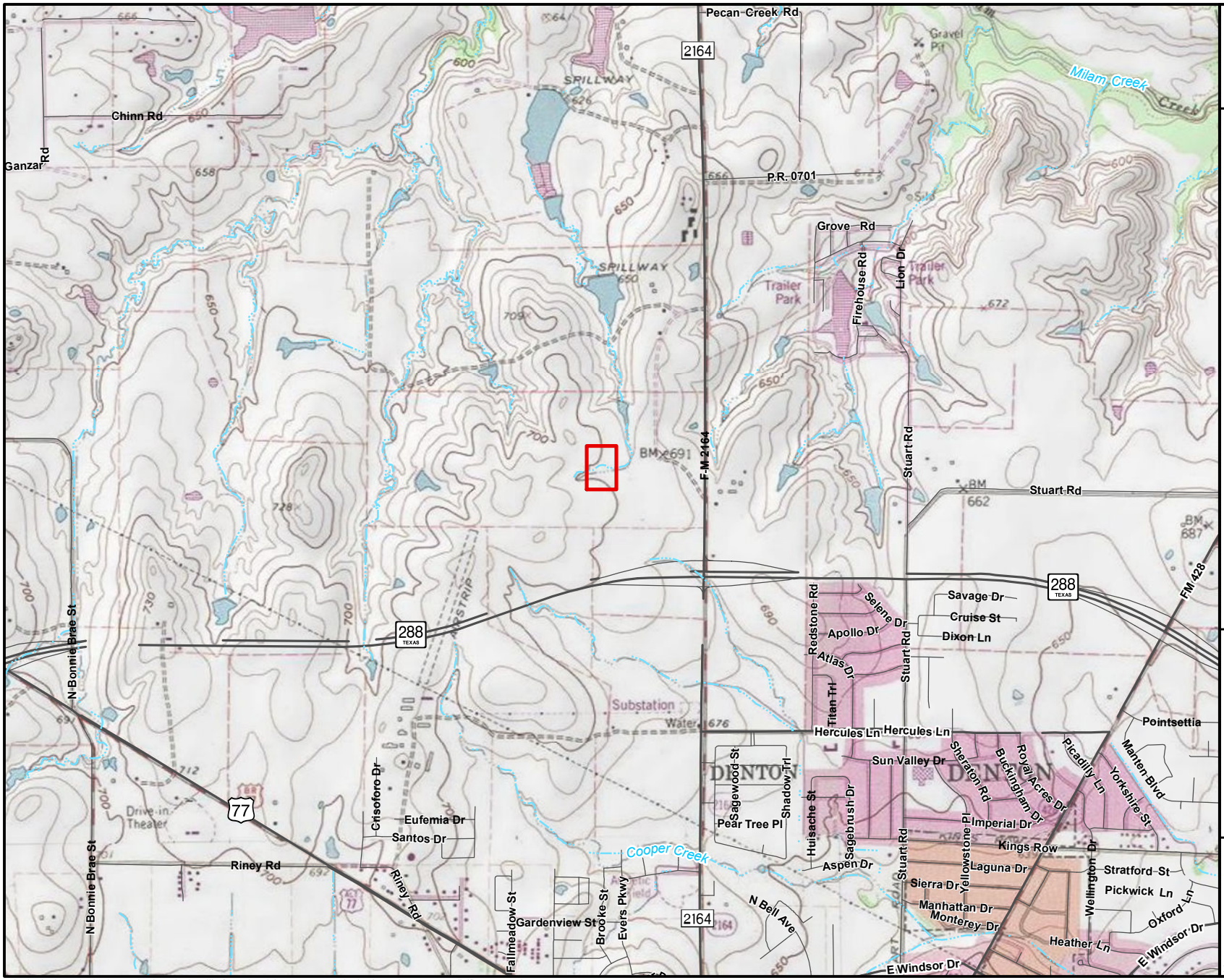

Figure 1: Project Study Area

DME Long Road Substation Project

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3.0 RESEARCH DESIGN

Prior to the fieldwork, POWER archeologists performed a review of the Texas Historical Commission (THC) online Texas Archeological Sites Atlas on October 24, 2014 to identify sites and surveys recorded within one mile of the Project area. Additionally, the Soil Survey for Denton County (Ford and Pauls 1980) and Geologic Atlas of Texas, Sherman Sheet (McGowen et al. 1991) were consulted to assess the archeological potential for the Project area.

POWER archeologists conducted an intensive 100-percent pedestrian survey of 6.1 acres for the proposed Long Road Substation. The survey exceeded the minimum survey standards established by the THC for project areas larger than 3 acres, and less than 10 acres (a minimum of 2 shovel tests per acre). The entire Project area was pedestrian surveyed along transects spaced no more than 30 meters apart. Ground surface visibility was poor across much of the Project area, obscured by low grasses; therefore, a total of 17 shovel tests were excavated in an effort to identify cultural materials below the ground surface. Shovel tests were a minimum of 30 x 30 centimeters in size and excavated in arbitrary 10-centimeter levels. All soil matrix removed from the shovel tests was screened through ¼ -inch wire mesh in an effort to recover artifacts. All relevant data from the shovel tests was recorded on standardized shovel test logs, and each shovel test plotted with hand-held global positioning system receivers. Photographs, including general views of the Project area, were taken to document the current conditions within the Project area.

4.0 RESULTS

4.1 File Review

Information on previously recorded cultural resources obtained from the Texas Archeological Sites Atlas indicated that no archeological sites have been recorded within one mile of the Project area. To date, very few archeological investigations have been undertaken in northern Denton near the Project area. Only one survey is recorded within one mile of the Project area. The northern extent of an archeological survey for the proposed City of Denton North/South Pipeline Route is located approximately ¾ mile southwest of the Project area. No sites were recorded as a result of this survey (Todd 2009).

Four soil series, Lindale, Justin, Wilson, and Navo, are mapped within the Project area (Ford and Pauls 1980). Lindale series soils consist of moderately deep, slowly permeable upland soils that formed in marine clays and limestone rubble on stream divides and low ridges. Justin series soils are very deep upland soils that formed in clayey and loamy sediments on gently sloping uplands. Wilson series soils are very deep upland soils that formed in alkaline clayey sediments on stream terraces and terrace remnants. Lastly, Navo series soils are deep soils that formed in clayey sediments on high stream terraces (Ford and Pauls 1980). These soils are on the Cretaceous-aged Grayson Marl and Main Street Limestone, undivided (McGowen et al. 1991). The age of these deposits predate known human occupation in Texas, so there is little potential for them to contain deeply buried archeological material. However, surficial and shallowly buried archeological materials are possible in the Project area.

4.2 Survey

The Project area is gently sloping pasture bisected east to west by the headwaters of an unnamed tributary to Milam Creek (Figure 2). Milam Creek is approximately 1.5 miles north of the Project area. The existing transmission that will connect to the Long Road Substation runs north to south along the western edge of the Project area, with two structures located within the Project area. A smaller electrical distribution line, with three poles located within the Project area, runs east of and

parallel to the TMPA transmission line. A dirt road bisects the Project area south of the unnamed tributary to Milam Creek (Figure 3).

Low dense grass across much of the Project area afforded poor ground surface visibility (Figure 4). Near the unnamed tributary under young mesquite trees, cow trails, and heavy use of the area by cattle afforded 40-50 percent ground surface visibility. In an effort to identify archeological sites obscured on the surface or beneath the surface, 17 shovel tests were excavated in the Project area, all of which proved negative for cultural materials (Figure 5). In general, very hard silty clay loams were underlain by dry, hard clayey loams, often with few to many ironstone gravels. The shovel tests were excavated to an average depth 38 cm below the surface (Table 1).

FIGURE 2 UNNAMED TRIBUTARY TO MILAM CREEK, FACING WEST. NOTE GOOD GROUND SURFACE VISIBILITY FROM CATTLE TRAFFIC.

FIGURE 3 EXISTING TRANSMISSION LINE, DISTRIBUTION LINE, AND DIRT ROAD IN PROJECT AREA, FACING WEST.

FIGURE 4 GENERAL VIEW OF PROJECT AREA, FACING SOUTH FROM SHOVEL TEST DS1.

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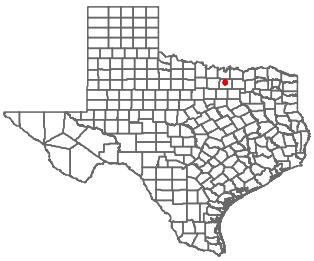
Legend

Negative Shovel Test

Project Area



DME Long Road Substation Project

Figure 5
Shovel Test Location

0 200

Feet

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POWER ENGINEERS

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TABLE 1 SHOVEL TEST RESULTS

SHOVEL TEST	POSITIVE OR NEGATIVE	TERMINATION DEPTH (CM BELOW SURFACE)	DESCRIPTION
DS1	Negative	40	brown clay loam underlain by dark brown clay loam with few ironstone gravels at 10 cmbs
DS2	Negative	40	dark brown silty clay loam underlain by strong brown blocky clay loam with few ironstone gravels
DS3	Negative	50	brown clay loam underlain by dark gray silty clay at 40 cmbs
DS4	Negative	50	brown clay loam underlain by dark gray silty clay at 40 cmbs
DS5	Negative	50	brown clay loam underlain by dark gray silty clay at 40 cmbs
DS6	Negative	40	Light brown silty clay loam underlain by grayish brown gravelly clay loam at 20 cmbs underlain by dark gray clay loam at 30 cmbs
DS7	Negative	40	Light brown silty clay loam underlain by grayish brown gravelly clay loam at 20 cmbs underlain by dark gray clay loam at 30 cmbs
DS8	Negative	50	light brown dry hard silty loam underlain by grayish brown silty clay loam at 30 cmbs
DS9	Negative	50	dark yellowish brown silty clay loam underlain by strong brown gravelly clay loam with red mottles at 40 cmbs
LS1	Negative	30	silty clay loam underlain by reddish brown silty clay loam with many ironstone gravels at 20 cmbs
LS2	Negative	40	dark yellowish brown silty clay loam with few gravels underlain by strong brown silty clay loam at 30 cmbs
LS3	Negative	30	grayish brown silty clay loam with few ironstone gravels underlain by dark grayish brown silty clay loam at 20 cmbs
LS4	Negative	20	light yellowish brown clay underlain by dark grayish brown clay very hard, compact soil at 20 cmbs
LS5	Negative	30	grayish brown silty clay loam with few ironstone gravels underlain by dark grayish brown silty clay loam at 20 cmbs
LS6	Negative	30	yellowish brown silty clay loam underlain by dry, compact dark grayish brown clay at 20 cmbs
LS7	Negative	30	grayish brown silty clay loam underlain by dark grayish brown clay at 25 cmbs
LS8	Negative	30	grayish brown silty clay loam underlain by dark grayish brown clay at 20 cmbs

5.0 CONCLUSIONS AND RECOMMENDATIONS

POWER archeologists performed an intensive pedestrian survey of 6.1-acres that will be owned by DME for the proposed Long Road 138 kV Electrical Substation. The substation will connect to an existing transmission line that crosses the western side of the Project area. Grassy pasture afforded poor ground surface visibility for much of the survey. Seventeen negative shovel tests were excavated within the Project area, all of which proved negative for cultural material. No cultural materials were observed on the ground surface during the survey. The lack of cultural materials may be attributed to the lack of a reliable source of fresh water and other natural resources in or near the Project area. Due to the lack of cultural materials in the Project area, POWER recommends that construction activities within the Project area be allowed to proceed without further consultation. If, during construction of the substation, cultural resources are encountered, all activities at the location should be halted until the THC is notified and an appropriate course of action is determined. POWER offers this report in partial fulfillment of Texas Antiquities Permit No. 7064.

6.0 REFERENCES

Ford, A., and Ed Pauls. 1980. Soil Survey of Denton County, Texas. United States Department of Agriculture Soil Conservation Service in cooperation with the Texas Agricultural Experiment Station.

McGowen, J.H., Hentz, T.F., Owen, D.E., Pieper, M.K., Shelby, C.A., Barnes, V.E., Humble Oil and Refining Co., Pure Oil Co., Branson, C.C., Mankin, C.J., Morgan, H.J., Cordell, R.J., Nolte, W.J., Hendricks, Leo, and Heuer, Edward. 1991. Geologic Atlas of Texas, Sherman Sheet. Bureau of Economic Geology, The University of Texas at Austin.

Todd, Jesse. 2009. Archaeological Survey of a Portion of the Proposed City of Denton North/South Pipeline Route, Denton County, Texas. Cultural Resources Report 2009-08. AR Consultants, Inc.: Dallas.

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APPENDIX A PROJECT CORRESPONDENCE

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TEXAS HISTORICAL COMMISSION
real places telling real stories

October 29, 2014

Darren Schubert
POWER Engineers, Inc.
509 North Sam Houston Parkway East, Suite 200
Houston, TX 77060

Re: Project review under the Antiquities Code of Texas
Denton Municipal Electric Long Road Substation, Denton County, Tx
Texas Antiquities Permit Application **#7064**

Dear Colleague:

Thank you for your Antiquities Permit Application for the above referenced project. This letter presents the final copy of the permit application from the Executive Director of the Texas Historical Commission (THC), the state agency responsible for administering the Antiquities Code of Texas.

Please keep this copy for your records. The Antiquities Permit investigations requires the production and submittal of one printed copy of the final report, a completed abstract form submitted via our online system, two copies of the final report on a tagged PDF CD (one with site location information & one without), and verification that any artifacts recovered and records produced during the investigations are curated at the repository listed in the permit. The abstract form maybe submitted via the THC website (www.thc.state.tx.us) or use url: http://106.thc.state.tx.us:4444/Abstract/Secure/index.aspx. Additionally, you must send the THC shapefiles showing the boundaries of the project area *and* the areas actually surveyed via email to archeological_projects@thc.state.tx.us.

If you have any questions concerning this permit or if we can be of further assistance, please contact Lillie Thompson at 512/463-1858. The reviewer for this project is Rebecca Shelton, 512/463-6096.

Sincerely,

William A. Martin

for
Mark Wolfe
Executive Director

MW/lft

Enclosures

Cc: Brent Heath, Denton Municipal Electric

State of Texas

TEXAS ANTIQUITIES COMMITTEE

ARCHEOLOGY PERMIT # 7064

This permit is issued by the Texas Historical Commission, hereafter referred to as the Commission, represented herein by and through its duly authorized and empowered representatives. The Commission, under authority of the Texas Natural Resources Code, Title 9, Chapter 191, and subject to the conditions hereinafter set forth, grants this permit for:

Intensive Survey

To be performed on a potential or designated landmark or other public land known as:

Title: ***Denton Municipal Electric Long Road Substation***

County: ***Denton***

Location: ***2.3 miles north of North Locust Street and University Drive, Denton, approximately 1/4 mile west of FM 2164***

Owned or Controlled by: (hereafter known as the Permittee):

Private

Sponsored by (hereafter known as the Sponsor

Denton Municipal Electric
1701 C Spencer Road
Denton, TX 76205

The Principal Investigator/Investigation Firm representing the Owner or Sponsor is:

Darren Schubert
POWER Engineers, Inc.
569 North Sam Houston Parkway East, Suite 200
Houston, TX 77060

This permit is to be in effect for a period of:

5 Years and 0 Months

and Will Expire on:

10/22/2019

During the preservation, analysis, and preparation of a final report or until further notice by the Commission, artifacts, field notes, and other data gathered during the investigation will be kept temporarily at:

POWER Engineers, Houston, TX

Upon completion of the final permit report, the same artifacts, field notes, and other data will be placed in a permanent curatorial repository at:

Texas Archeological Research Lab.

Scope of Work under this permit shall consist of:

Intensive survey/shovel testing of approximately 8 acres. For details, see scope of work submitted with permit application.

ARCHEOLOGY PERMIT # 7064

This permit is granted on the following terms and conditions:

1) This project must be carried out in such a manner that the maximum amount of historic, scientific, archeological, and educational information will be recovered and preserved and must include the scientific, techniques for recovery, recording, preservation and analysis commonly used in archeological investigations. All survey level investigations must follow the state survey standards and the THC survey requirements established with the projects sponsor(s).

2) The Principal Investigator/Investigation Firm, serving for the Owner/Permittee and/or the Project Sponsor, is responsible for insuring that specimens, samples, artifacts, materials and records that are collected as a result of this permit are appropriately cleaned, and cataloged for curation. These tasks will be accomplished at no charge to the Commission, and all specimens, artifacts, materials, samples, and original field notes, maps, drawings, and photographs resulting from the investigations remain the property of the State of Texas, or its political subdivision, and must be curated at a certified repository. Verification of curation by the repository is also required, and duplicate copies of any requested records shall be furnished to the Commission before any permit will be considered complete.

3) The Principal Investigator/Investigation Firm serving for the Owner/Permittee, and/or the Project Sponsor is responsible for the publication of results of the investigations in a thorough technical report containing relevant descriptions, maps, documents, drawings, and photographs. A draft copy of the report must be submitted to the Commission for review and approval. Any changes to the draft report requested by the Commission must be made or addressed in the report, or under separate written response to the Commission. Once a draft has been approved by the Commission, one (1) printed, unbound copy of the final report containing at least one map with the plotted location of any and all sites recorded and two copies of the report in tagged PDF format on an archival quality CD or DVD shall be furnished to the commission. One copy must include the plotted location of any and all sites recorded and the other should not include the site location data. A paper copy and an electronic copy of the completed Abstracts in Texas Contract Archeology Summary Form must also be submitted with the final report to the Commission. (Printed copies of forms are available from the Commission or also online at www.thc.state.tx.us.)

4) If the Owner/Permittee, Project Sponsor or Principal Investigator/Investigation Firm fails to comply with any of the Commission's Rules of Practice and Procedure or with any of the specific terms of this permit, or fails to properly conduct or complete this project within the allotted time, the permit will fall into default status. A notification of Default status shall be sent to the Principal Investigator/Investigation Firm, and the Principal Investigator will not be eligible to be issued any new permits until such time that the conditions of this permit are complete or, if applicable, extended.

5) The Owner/Permittee, Project Sponsor, and Principal Investigator/Investigation Firm, in the conduct of the activities hereby authorizes, must comply with all laws, ordinances and regulations of the State of Texas and of its political subdivisions including, but not limited to, the Antiquities Code of Texas; they must conduct the investigation in such a manner as to afford protection to the rights of any and all lessees or easement holders or other persons having an interest in the property and they must return the property to its original condition insofar as possible, to leave it in a state which will not create hazard to life nor contribute to the deterioration of the site or adjacent lands by natural forces.

6) Any duly authorized and empowered representative of the Commission may, at any time, visit the site to inspect the fieldwork as well as the field records, materials, and specimens being recovered.

7) For reasons of site security associated with historical resources, the Project Sponsor (if not the Owner/Permittee), Principal Investigator, Owner, and Investigation Firm shall not issue any press releases, or divulge to the news media, either directly or indirectly, information regarding the specific location of, or other information that might endanger those resources, or their associated artifacts without first consulting with the Commission, and the State agency or political subdivision of the State that owns or controls the land where the resource has been discovered.

8) This permit may not be assigned by the Principal Investigator/Investigation Firm, Owner/Permittee, or Project Sponsor in whole, or in part to any other individual, organization, or corporation not specifically mentioned in this permit without the written consent of the Commission.

9) Hold Harmless: The Owner/Permittee hereby expressly releases the State and agrees that Owner/Permittee will hold harmless, indemnify, and defend (including reasonable attorney's fees and cost of litigation) the State, its officers, agents, and employees in their official and/or individual capacities from every liability, loss, or claim for damages to persons or property, direct or indirect of whatsoever nature arising out of, or in any way connected with, any of the activities covered under this permit.The provisions of this paragraph are solely for the benefit of the State and the Texas Historical Commission and are not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

10) Addendum: The Owner/Permittee, Project Sponsor and Principal Investigator/Investigation Firm must abide by any addenda hereto attached.

Upon a finding that it is in the best interest of the State, this permit is issued on 10/22/2014.

Pat Mercado-Allinger

Pat Mercado-Allinger, for the
Texas Historical Commission