

**RESOLUTION NO. 23-R-119**

**A RESOLUTION BY THE CITY COUNCIL OF THE CITY OF SCHERTZ, TEXAS AUTHORIZING EXPEDITURES WITH HALFF ASSOCIATES, INC., TOTALING NO MORE THAN \$985,000, FOR PROFESSIONAL ENGINEERING-RELATED SERVICES ON THE LOWER SEGUIN ROAD RECONSTRUCTION PROJECT, AND OTHER MATTERS IN CONNECTION THEREWITH**

WHEREAS, the City staff of the City of Schertz (the "City") has determined that the City requires professional services relating to engineering, preliminary design, and environmental clearance for the Lookout Road Reconstruction Project; and

WHEREAS, City staff has determined that Halff Associates, Inc. is uniquely qualified to provide such services for the City; and

WHEREAS, Halff Associates, Inc. is an approved On-Call Engineering Firm for the City of Schertz; and

WHEREAS, pursuant to Section 252.022(a)(4), the City is not required to seek bids or proposals with respect to a procurement for personal, professional, or planning purposes; and

WHEREAS, the City Council has determined that it is in the best interest of the City to contract with Halff Associates, Inc. pursuant to the On-Call Task Order Agreement attached hereto as Exhibit A (the "Agreement") up to a maximum total aggregate amount of \$985,000.

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SCHERTZ, TEXAS THAT:

Section 1. The City Council hereby authorizes the City Manager to execute and deliver the Task Order Agreement with Halff Associates, Inc. in accordance with their approved Master Agreement in substantially the form set forth on Exhibit A in the amount of \$975,100.80 and authorize the City Manager to execute and deliver the Task Order in a not to exceed total aggregate amount of \$985,000.00.

Section 2. The recitals contained in the preamble hereof are hereby found to be true, and such recitals are hereby made a part of this Resolution for all purposes and are adopted as a part of the judgment and findings of the City Council.

Section 3. All resolutions, or parts thereof, which are in conflict or inconsistent with any provision of this Resolution are hereby repealed to the extent of such conflict, and the provisions of this Resolution shall be and remain controlling as to the matters resolved herein.

Section 4. This Resolution shall be construed and enforced in accordance with the laws of the State of Texas and the United States of America.

Section 5. If any provision of this Resolution or the application thereof to any person or circumstance shall be held to be invalid, the remainder of this Resolution and the application of such provision to other persons and circumstances shall nevertheless be valid, and the City Council hereby declares that this Resolution would have been enacted without such invalid provision.

Section 6. It is officially found, determined, and declared that the meeting at which this Resolution is adopted was open to the public and public notice of the time, place, and subject matter of the public business to be considered at such meeting, including this Resolution, was given, all as required by Chapter 551, Texas Government Code, as amended.

Section 7. This Resolution shall be in force and effect from and after its final passage, and it is so resolved.

PASSED AND ADOPTED, this \_\_\_\_ day of \_\_\_\_\_, 2023.

CITY OF SCHERTZ, TEXAS

\_\_\_\_\_  
Ralph Gutierrez, Mayor

ATTEST:

\_\_\_\_\_  
Sheila Edmondson, City Secretary

(CITY SEAL)

**EXHIBIT A**  
**TASK ORDER NO. 16 SERVICES AGREEMENT**

# Exhibit A

This is Task Order  
No. 16, consisting of  
24 pages and 5 sheets.

## Task Order

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In accordance with Paragraph 1.01 of the Agreement Between Owner and Engineer for Professional Services – Task Order Edition, dated October 17, 2019 ("Agreement"), Owner and Engineer agree as follows:

### 1. Background Data

- a. Effective Date of Task Order: November \_\_, 2023
- b. Owner: City of Schertz
- c. Engineer: Halff, Inc.
- d. Lower Seguin Road 30% Schematic and Environmental Permitting
- e. Specific Project (description):  
Development of a Schematic Design and associated Environmental Services for a 2.9 mile segment of Lower Seguin Road starting at approximately 100 feet east of Loop 1604 in the City of Converse to Farm-to-Market (FM) Road 1518 in the City of Schertz.

### 2. Services of Engineer

- A. The specific services to be provided or furnished by Engineer under this Task Order are as follows:

### PROJECT ASSUMPTIONS

- The Project Design Criteria for the section of Lower Seguin Road from approximately 100 feet East of Loop 1604 to approximately 400 feet west of Hollering Vine will be as follows:
  - All engineering documents released, issued, or submitted by or for a registered engineering firm, including preliminary documents, must clearly indicate the engineering firm name and registration number. Additionally, all completed documents submitted for final approval or issuance or a permit must bear the seal with signature and date adjacent thereto of a Professional Engineer licensed to practice in the State of Texas;
  - The design standards to be used will include but not be limited to the TxDOT Roadway Design Manual, TxDOT Bridge Design Manual – LRFD, TxDOT Hydraulic Design Manual, Highway Capacity Manual, the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets (Green Book), AASHTO LRFD Bridge Design Specifications, Texas Manual on Uniform

Traffic Control Devices, ADA Accessibility Guidelines, Texas Pollutant Discharge Elimination System (TPDES) Guidelines, and applicable City of Schertz Design Guidelines.

- The environmental scope of work includes the preparation of documentation necessary to comply with National Environmental Policy Act (NEPA) requirements for an anticipated Categorical Exclusion (CE) determination for improvements to a 2.9-mile long section of Lower Seguin Road from Loop 1604 in the City of Converse to Farm-to-Market Road 1518 in the City of Schertz, Bexar County, Texas

**PROJECT SCOPE OF WORK**

**SEE EXHIBIT A (20 PAGES)**

**PROJECT FEE SCHEDULE**

**SEE EXHIBIT B (5 SHEETS)**

**PROJECT FEE SUMMARY**

Lower Seguin Road (FM 1518 to Loop 1604) Level of Effort - Fee Estimate 30% Design, Environmental, Public Outreach		
<u>SUMMARY OF FEE BY TASK</u>		
<u>PRELIMINARY ENGINEERING PHASE SERVICES (30%/Schematic)</u>		
1) Engineering Services	\$489,624.00	<u>% BREAKDOWN</u> 55%
2) Environmental and Public Involvement Services	\$186,175.00	21%
3) Subsurface Utility Engineering Services	\$90,415.00	10%
4) Surveying Services	\$119,140.80	13%
<b>PRELIMINARY ENGINEERING PHASE SUBTOTAL</b>	<b>\$885,354.80</b>	<b>91%</b>
<u>SPECIFIED ADDITIONAL SERVICES</u>		
5.0 Geotech Engineering Services	\$8,146.00	<u>% BREAKDOWN</u>
17.0 Additional Environmental	\$81,600.00	9%
<b>SPECIFIED ADDITIONAL SERVICES SUBTOTAL</b>	<b>\$89,746.00</b>	<b>9%</b>
<u>UNSPECIFIED ADDITIONAL SERVICES</u>		
1) Unspecified Additional Services	_____	<u>% BREAKDOWN</u>
<b>UNSPECIFIED ADDITIONAL SERVICES SUBTOTAL</b>	<b>_____</b>	<b>_____</b>
<b>GRAND TOTAL</b>	<b>\$975,100.80</b>	

**3. Owner's Responsibilities**

Owner shall have those responsibilities set forth in Article 2 of the Agreement and in Exhibit B:

**4. Task Order Schedule**

In addition to any schedule provisions provided in Exhibit A or elsewhere, the parties shall meet the following schedule:

<u>Party</u>	<u>Action</u>	<u>Schedule</u>
Engineer	<b>Furnish:</b> <b>1. The consultant will submit five set of plans at 6 months.</b>	<b>Half personnel will be available to commence work upon written notice to proceed.</b>
Owner	<b>1. As Built drawings for public utilities within R.O.W.</b> <b>2. Adjacent development plats.</b> <b>3. Future projected utility layouts</b>	<b>As Coordinated</b>

**5. Payments to Engineer**

A. Owner shall pay Engineer for services rendered under this Task Order as follows:

Fee provided shall be considered lump sum for the services described in this Task Order. **See attached Exhibit B for Fee Schedule.**

B. The terms of payment are set forth in Article 4 of the Agreement and in the applicable governing provisions of **Exhibit C.**

**6. Terms and Conditions**

Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is to be determined

OWNER:

By: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Address: \_\_\_\_\_

Email Address: \_\_\_\_\_

Phone: \_\_\_\_\_

ENGINEER:

By: *Lamberto J. Ballí*

Print Name: Lamberto J. Ballí, PE

Title: VP/Director of Public Works

Engineer License or Firm's: F-312  
State of: Texas

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: Luis Cardona, PE

Title: Public Works Team Leader

Address: 100 NE 410, Ste 200, SA, TX 78016

Email Address: lcardona@half.com

Phone: (210) 704-1379

## EXHIBIT A

### TASK ORDER #16

#### SERVICES TO BE PROVIDED BY CONSULTANT

**CITY OF SCHERTZ** ("CITY") is proposing to develop a 2.9 mile segment of Lower Seguin Road starting at approximately 100 feet east of Loop 1604 in the City of Converse to Farm-to-Market (FM) Road 1518 in the City of Schertz. Through a separate City of Schertz Development Agreement, the section of Lower Seguin Road from approximately 400 feet west of Hollering Vine to FM 1518 will be designed and constructed by a private developer.

The work to be performed under this work authorization by **Halff** ("CONSULTANT") will consist of the preparation of Schematic level design in the form of a Preliminary Engineering Report (PER).

#### 1.0 PROJECT ADMINISTRATION AND COORDINATION SERVICES

The CONSULTANT Project Manager and Task Leaders will be responsible for project oversight and the daily management of the project. Frequent and appropriate communications will be maintained between the CONSULTANT and CITY in an effort to expedite completion of the PER/Schematic.

Project Administration Services will include the following:

- 1.1 Prior to the Project Kick-Off Meeting, the CONSULTANT will designate in writing, one (1) Professional Engineer licensed to practice in the State of Texas to be the Project Manager throughout the duration of the project for project management and all communications, including billing. The CONSULTANT will not replace the designated Project Manager without the written approval of CITY;
- 1.2 The CONSULTANT will submit to CITY its invoices of services performed and compensation due, arranged by tasks. The CONSULTANT will show the budgeted and currently authorized amounts for each task, along with the invoiced and to-date amounts. The invoice must be submitted to CITY by the 10<sup>th</sup> calendar day of each month;
- 1.3 Each month, and included with the submission of each invoice, the CONSULTANT will update the Project Schedule and related documents in accordance with the Project Schedule.
- 1.4 Each month, and included with the submission of each invoice, the CONSULTANT will submit a monthly report of the status of work performed through the end of the previous month. The CONSULTANT will summarize decisions or agreements made, and will outline unresolved or pending issues requiring CITY's involvement or decision.

Project Coordination Services will include the following:

- 1.5 The CONSULTANT will attend a Project Kick-Off Meeting with CITY. The CONSULTANT will prepare and distribute meeting minutes within three (3) business days of the meeting.
- 1.6 The CONSULTANT will meet with CITY's Representative monthly. The CONSULTANT will prepare and distribute the monthly meeting agenda twenty-four (24) hours before the meeting. The CONSULTANT will prepare and distribute meeting minutes within three (3) business days of each meeting.
- 1.7 The CONSULTANT will attend a Design Concept Meeting with CITY. At this meeting, the project design criteria will be compiled and documented into a Design Summary Report format which the CONSULTANT will prepare. The CONSULTANT will prepare and distribute meeting minutes within three (3) business days of the meeting; and

- 1.8 The CONSULTANT will attend a 30% Design review meeting with CITY. The CONSULTANT will prepare the necessary documents for the review meeting.
- 1.9 The CONSULTANT will attend Comment Resolution Meetings after the schematic submittal to discuss review comments. The CONSULTANT will respond in writing to reviewer comments for each submittal. Responses will include explanations for any items in disagreement. The CONSULTANT will prepare and distribute meeting minutes within three (3) business days of each meeting.

## **2.0 PROJECT DESIGN CRITERIA**

The Project Design Criteria for the section of Lower Seguin Road from approximately 100 feet East of Loop 1604 to approximately 400 feet west of Hollering Vine will be as follows:

- 2.1 All engineering documents released, issued, or submitted by or for a registered engineering firm, including preliminary documents, must clearly indicate the engineering firm name and registration number. Additionally, all completed documents submitted for final approval or issuance or a permit must bear the seal with signature and date adjacent thereto of a Professional Engineer licensed to practice in the State of Texas;
- 2.2 The design standards to be used will include but not be limited to the TxDOT Roadway Design Manual, TxDOT Bridge Design Manual – LRFD, TxDOT Hydraulic Design Manual, Highway Capacity Manual, the American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets (Green Book), AASHTO LRFD Bridge Design Specifications, Texas Manual on Uniform Traffic Control Devices, ADA Accessibility Guidelines, Texas Pollutant Discharge Elimination System (TPDES) Guidelines, and applicable City of Schertz Design Guidelines.

## **3.0 ENVIRONMENTAL SERVICES**

This environmental scope of work includes the preparation of documentation necessary to comply with National Environmental Policy Act (NEPA) requirements for an anticipated Categorical Exclusion (CE) determination for improvements to a 2.9-mile long section of Lower Seguin Road from Loop 1604 in the City of Converse to Farm-to-Market Road 1518 in the City of Schertz, Bexar County, Texas (see **Project Location Map**).

Environmental Services include the following:

- 3.1 It is anticipated that an open ended (d)-list Categorical Exclusion (CE) would be required for environmental clearance. The CONSULTANT shall prepare the below listed items for review and approval by the State, if required;
  - a. Open-Ended (d) CE Classification Request Form; and,
  - b. TxDOT Environmental Compliance Oversight System Work Plan Development entries
    - 3.1.c.1 One (1) electronic copy will be provided for review to CITY. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide one (1) electronic copy to CITY for submittal to TxDOT; and
    - 3.1.c.2 The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the documents to CITY for review and resubmittal to TxDOT;
- 3.2 The CONSULTANT will prepare a Hazardous Materials Initial Site Assessment (ISA). The

ISA will meet requirements outlined in TxDOT's Environmental Handbook for Hazardous Materials;

- a. The CONSULTANT will determine existing site and site vicinity conditions. The site reconnaissance will consist of field observations of the subject property and adjacent land areas that are reasonably accessible or visible from the existing ROW by the CONSULTANT's personnel. A site and vicinity visit will be conducted to observe and record visual surficial evidence of potential environmental impairment. The CONSULTANT staff will visually inspect the site for the indications or confirmed presence of underground storage tanks, aboveground storage tanks, surface stains, distressed vegetation, electrical transformers, land scars, or obvious evidence of improper disposal of toxic or hazardous materials. A reconnaissance of the surrounding area will be conducted to identify activities that may have environmentally impaired the site;
- b. The CONSULTANT will review state, federal and local regulatory databases and historical aerial photographs to identify registered or documented facilities and historical areas of concern, if any, that may present environmental concerns to the site. The search radii and database review are in accordance with current ASTM standards and guidelines. The information obtained from these databases will be reviewed to identify facilities of potential environmental concern within the vicinity of the site;
- c. Pertinent data and observations will be compiled and presented in the ISA. The ISA will include an opinion by the CONSULTANT with regard to the absence or presence of potential environmental impairment, including the presence of hazardous and toxic substances, as identified through the scope of services performed. Should the results of the study reveal evidence of potential environmental impairment, the CONSULTANT will formulate a recommendation to address these findings;
- d. One (1) electronic copy of the ISA will be provided to CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide one (1) electronic copy for CITY submittal to TxDOT;
- e. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the ISA to CITY for review and resubmittal to TxDOT;

3.3 The CONSULTANT will conduct field investigations and prepare a Surface Water Analysis Form, Waters of the U.S. Delineation Report, and Section 404/10 Impacts Table for CITY in accordance with TxDOT policy and current federal delineation methodology including the 1987 Corps of Engineers Wetland Delineation Manual and 2010 Regional Supplement for the Great Plains Region;

- a. The CONSULTANT will obtain and review pertinent data to identify potential waters of the U.S within the project area. Sources include, but are not limited to, aerial photographs, soil surveys, local and national hydric soils lists, U.S Department of Agriculture plant species data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, U.S. Geological Survey (USGS) topographic maps, and Federal Emergency Management Agency (FEMA) map(s);
- b. The CONSULTANT will identify and delineate the boundaries of all potential waters of the United States, including traditional navigable waters, relatively permanent waters, non- relatively permanent waters, and special aquatic features including wetlands that are adjacent, abutting, or isolated to these waters. Methodology and documentation will be consistent with the 1987 Corps of Engineers Wetland Delineation Manual and 2010 Regional Supplement for the Great Plains Region or the most recent USACE guidance, as applicable. During field activities, waters of the U.S. (including wetlands, ordinary high-water marks, etc.), will be mapped

using either sub-meter accurate GPS equipment (such as a Geneq SX Blue II GPS receiver paired with an iPad utilizing Collector for ArcGIS) or other method approved by CITY. For each wetland, the CONSULTANT will complete a minimum of one (1) soil station inside and outside the wetland area and will complete additional soil stations as necessary in conformance with USACE guidance and industry best practices. The CONSULTANT will complete all appropriate field data forms for inclusion in the report. Upon request, the CONSULTANT will provide electronic files (properly georeferenced in a coordinate system) for the boundaries of all waters of the U.S. identified in the field. The CONSULTANT may provide GIS shapefiles along with coordinate system documentation;

- c. The CONSULTANT will complete a Surface Water Analysis Form, Waters of the U.S. Delineation Report, and Section 404/10 Impacts Table. These documents will include discussions regarding the following:
    - i. Brief description of the project, methods/sampling procedures, regulatory context, and results as required by the USACE;
    - ii. Acreage of the project area investigated with boundaries indicated;
    - iii. Location of each observation point/data point/soil station (if applicable);
    - iv. Photographs from each water resource found during the site investigation;
    - v. Data forms completed in accordance with ERDC/EL TR-08-28 (if applicable);
    - vi. Acreage of each water and total jurisdictional areas (all waters of United States) including polygons of jurisdictional areas (surveyed by GPS) shown on an exhibit;
    - vii. Historical information (including USGS quad maps, aerial photography, Federal Emergency Management Agency maps, and soil surveys) to document the limits of USACE jurisdiction for isolated and adjacent waters of the United States;
    - viii. Water quality including Section 401, 303(d), and 402 compliance, and a summary of aquifer zone (if applicable);
    - ix. Floodplain impacts; and
    - x. Permitting requirements;
  - d. One (1) electronic copy of the draft Surface Water Analysis Form, Waters of the U.S. Delineation Report, and Section 404/10 Impacts Table will be provided to the CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will submit one (1) electronic copy to CITY for submittal to TxDOT;
  - e. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the documents to CITY for review and resubmittal to TxDOT;
  - f. Upon incorporation of all comments, the CONSULTANT will provide one (1) electronic information package for waters of the U.S. to CITY. The package will contain all data collected and to allow CITY to produce duplicates, as necessary.
- 3.4 The CONSULTANT will prepare a Species Analysis Form, Species Analysis Spreadsheet, and Documentation of Texas Parks and Wildlife (TPWD) Best Management Practices (BMP) Form. The biological assessments will be in compliance with guidance and templates on the TxDOT Environmental Toolkit and the 2021 TPWD and TxDOT Memorandum of Understand (MOU);
- a. The CONSULTANT will perform a preliminary data review of data from the USFWS, TPWD Natural Diversity Database (NDD), TPWD Ecological Mapping System of

Texas (EMST),  
USGS topographic maps, NRCS soil data, project aeriels, and other additional resources that may indicate the presence of potentially suitable threatened and endangered species habitat;

- b. The CONSULTANT will perform a field investigation to identify potentially suitable threatened and endangered species habitat, and species of greatest conservation need habitat, within the project area. Site conditions will be documented with regards to vegetation, soils, geology, and any species observations or evidence of species habitat and/or species that is observed in the field. The CONSULTANT will delineate any potentially suitable species habitat or species occurrence with a GPS unit;
- c. Based on the data collection and the field visit, the CONSULTANT will develop the Species Analysis Form, Species Analysis Spreadsheet, and Documentation of TPWD BMP Form in accordance with the TxDOT requirements, including all necessary attachments;
- d. One (1) electronic copy of the Species Analysis Form, Species Analysis Spreadsheet, and Documentation of TPWD BMP Form will be provided to the CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will submit one (1) electronic copy of each form to CITY for submittal to TxDOT; and
- e. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the Species Analysis Form, Species Analysis Spreadsheet, and Documentation of TPWD BMP Form to CITY for review and resubmittal to TxDOT.

3.5 The CONSULTANT will perform an Archeological Background Study in conformance with the TxDOT Environmental Compliance Toolkit, the Antiquities Code of Texas, the Archeological Resources Protection Act, and Section 106 of the National Historic Preservation Act (NRHP), as applicable;

- a. The CONSULTANT will conduct a background study/literature review to establish appropriate cultural contexts for the project area, determine information requirements and, if required, direct the field survey effort. The study will include discussion of previously documented archeological sites, historic properties, and other cultural resources within 1 kilometer (0.6 miles) of the project area to foster development of appropriate contextual analysis. Explicit reference to the Texas Archeological Sites Atlas, Texas Historic Sites Atlas, the NRHP, and the list of State Archeological Landmarks, the list of Recorded Texas Historic Landmarks, and Official Texas Historical Markers will be included as appropriate.
- b. The CONSULTANT will complete the Archeological Background Study and make recommendations for additional work, if necessary. If the CONSULTANT recommends an intensive archeological survey, then at the direction of CITY, the CONSULTANT may be requested to perform an intensive archeological survey as described in Specified Additional Services;
- c. One (1) electronic copy of the draft Archeological Background Study will be provided to CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide one (1) electronic copy for submittal to TxDOT;

- d. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the report to CITY for review and resubmittal to TxDOT; and
  - e. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide up to five (5) hardcopies and five (5) electronic files of the final Archeological Background Study to CITY. If applicable, the electronic file will contain all data collected and scanned signature pages with signatures to allow CITY to produce duplicates, as necessary. The final Archeological Background Study will be suitable for submittal to the USACE, the THC, TxDOT ENV, as appropriate. If any agency requests clarifications and/or alterations, the CONSULTANT will accommodate the requests and provide revised copies suitable for the agencies;
- 3.6 The CONSULTANT will prepare a Traffic Noise Analysis Report in accordance with TxDOT 2019 Traffic Noise Policy, requirements, and guidance. The CONSULTANT shall:
- a. Identify adjacent, land use development and photo document representative receivers that might be impacted by roadway traffic noise and may benefit from feasible and reasonable noise abatement;
  - b. Collect ambient noise level readings;
  - c. Perform computer modeling of existing noise levels and predicted (future) noise levels. Computer modeling shall be accomplished with the latest FHWA approved Traffic Noise Model (TNM) software program;
  - d. Identify impacted receivers in accordance with the absolute and relative impact criteria;
  - e. Consider and evaluate all required noise abatement measures for impacted receivers in accordance with the feasible and reasonable criteria;
  - f. Propose noise abatement measures that are both feasible and reasonable;
  - g. Determine predicted (future) noise impact contours where there is adjacent undeveloped property where residential or commercial development is likely to occur in the near future;
  - h. One (1) digital copy of the Traffic Noise Analysis Report will be provided to the CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide one (1) electronic copy to CITY for submittal to TxDOT;
  - i. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the report to CITY for review and resubmittal to TxDOT; and
  - j. Upon incorporation of all comments, the CONSULTANT will provide one digital file of the Traffic Noise Analysis Report and all data collected and modeled to CITY. The file will allow CITY to produce duplicates, as necessary;
- 3.7 The CONSULTANT will prepare a Project Coordination Request (PCR) for Historical Studies Project in accordance with TxDOT guidance;
- a. The CONSULTANT will review various historical database resources from the Texas Historic Sites Atlas and any other pertinent sources;
  - b. The CONSULTANT will prepare maps showing the ROW boundaries, the area of potential effects (APE), parcel boundaries for properties within the APE, and map showing results of Texas Historic Sites Atlas including National Historic Landmarks (NHL), National Register of Historic Places (NRHP), State Antiquities Landmark (SAL), and Recorded Texas Historic Landmarks (RTHL) resources as well as

TxDOT's Google Earth layer of NRHP-eligible bridges, properties, and districts, located within 0.25 mile of the project area;

- c. Representative and dated photographs showing buildings/structures in the APE and those adjacent, road features such as culverts, bridges, and landscaping, and areas of proposed construction may be included as part of the PCR for Historical Studies Project;
  - d. One (1) electronic copy of the PCR for Historical Studies Project and applicable attachments will be provided to the CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT one (1) electronic copy to CITY for submittal to TxDOT;
  - e. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the PCR for Historical Studies Project and attachments to CITY for review and resubmittal to TxDOT; and
  - f. Upon incorporation of all comments, the CONSULTANT will provide an electronic file of the PCR for Historical Studies Project to CITY. The electronic transmission will contain all data collected and to allow CITY to produce duplicates, as necessary;
  - g. The CONSULTANT will complete the PCR for Historical Studies Project. If TxDOT recommends a survey for non-archeological historic-age resources then, at the direction of CITY, the CONSULTANT may be requested to perform a survey for non-archeological historic-age resources as described in Specified Additional Services;
- 3.8 The CONSULTANT will prepare a Community Impacts Assessment Technical Report Form in accordance with TxDOT requirements and guidance. The CONSULTANT will document potential impacts on Environmental Justice (EJ) and Limited English Proficiency (LEP) populations, community cohesion and access and travel patterns within the community study area.
- a. One (1) electronic copy of the Community Impacts Assessment Technical Report Form will be provided to the CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT one (1) electronic copy to CITY for submittal to TxDOT;
  - b. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) electronic copy of the Community Impacts Assessment Technical Report Form to CITY for review and resubmittal to TxDOT; and
  - c. Upon incorporation of all comments, the CONSULTANT will provide an electronic file of the Community Impacts Assessment Technical Report Form to CITY. The electronic file will contain all data collected and to allow CITY to produce duplicates, as necessary.
- 3.9 The CONSULTANT will prepare air quality documentation in accordance with the current version of TxDOT's Air Quality Toolkit. This task includes the following deliverables:
- a. Project level conformity determination documentation
  - b. Congestion management process (CMP) analysis documentation

#### 4.0 SURVEYING SERVICES

The CONSULTANT will obtain the services of a Registered Professional Land Surveyor to perform field surveys for the Project. All survey services will comply with the latest revision of the Professional Land Surveying Practice Act of the State of Texas and will be accomplished under the direct supervision of a currently licensed State of Texas Registered Professional Land Surveyor.

Surveying Services will include the following:

- 4.1 Using Bexar County Appraisal District (BCAD) and Bexar County Clerk Websites, the CONSULTANT will gather ownership and deed information for base drawing;
- 4.2 The CONSULTANT will prepare Right-of-Entry (ROE) agreements for adjacent landowners, obtain CITY signature on ROE agreements, and coordinate with landowners as required to acquire approval of ROE agreements for field work outside of the existing public Right-of-Way (ROW).  
CITY will provide the outline of the agreement. The CONSULTANT will submit agreements to CITY for signature and the CONSULTANT will mail the signed agreements to the landowners via regular and certified mail, with a return self-addressed stamped envelope. The CONSULTANT will track receipt of executed agreements. If the initial notice requesting ROE is not returned within one (1) week of delivery, a second notice requesting ROE will be sent by the CONSULTANT. If after one (1) week of delivery of the second notice the property owner is still unresponsive, CITY will be notified, and the process escalated with assistance from CITY. The CONSULTANT will maintain a contact list of the property owners which will be made available to CITY;
- 4.3 The CONSULTANT will establish control for the site in NAD 83 horizontal datum, Texas State Plane Coordinate System South Central Zone surface coordinates and NAVD 88 vertical datum;
- 4.4 The CONSULTANT will research existing plats, ROW maps, deeds, easements and survey for fence corners, monuments, iron pins, etc., within the existing ROW and analyze to establish apparent existing ROW. Apparent ROW is defined as the existing ROW with a plus/minus 1-foot tolerance. The preliminary base map will display the apparent ROW along with Bexar County Appraisal District records of lot or property lines, land ownership, and addresses as publicly available through BCAD.
- 4.5 The CONSULTANT will perform a topographic survey of the site in general conformance to a Category 6 Condition 1 standard as referenced in the Manual of Practice for Land Surveying in the State of Texas, latest edition. Topography elements within the existing ROW (including 200' along side streets), including but not limited to surface features such as pavement edges, concrete curb, driveways, sidewalks and ramps, handrails, fences, street signs, trees, ground boxes, fire hydrants, manholes, valves, meters, utility risers, utility poles, mail boxes, etc.;
- 4.6 The CONSULTANT will collect survey data of existing driveways adjacent to the Project within the existing ROW;
- 4.7 The CONSULTANT will survey elevations at key points, pipe sizes, and the locations of structures at all existing driveways;
- 4.8 The CONSULTANT will survey existing visible utility facilities (e.g., manholes, valve boxes, any available ground markings showing horizontal location, etc.);
- 4.9 The CONSULTANT will contact Texas One-Call to mark underground utilities and then survey the existing utilities as located;
- 4.10 The CONSULTANT will locate up to ten (10) proposed soil/rock borings as drilled;

- 4.11 Locate and Survey "Ordinary High-Water Mark"
- 4.12 The CONSULTANT will prepare in Microstation V8 or V8i, 2D drawing files with an ASCII file, along with .tin and .dat files for the DTM model in GEOPAK; and

## **5.0 GEOTECHNICAL ENGINEERING SERVICES**

Geotechnical Engineering Services will include the following:

- 5.1 The CONSULTANT will obtain bulk samples (2 at each proposed culvert location for a total of 4 bulk samples) in order to provide Grain-Size Distribution Curves with D50 and D90 values for scour analyses by others. The use of a hand-auger or other similar device may be used to collect bulk samples for Grain Size Distribution Curves.

## **6.0 UTILITY COORDINATION SERVICES**

Utility Coordination Services will include the following:

- 6.1 The CONSULTANT will gather utility location information using available records from known local utilities in the area as well as Texas One-Call locates provided by survey. The CONSULTANT will correlate the record information with utility features surveyed to determine any potential conflicts;
- 6.2 The CONSULTANT will attend one (1) group project meeting with land and utility owners. Additional utility coordination meetings will be combined with design review meetings/progress meetings. The CONSULTANT will coordinate with the utility owners to determine scope of utility relocations and minimize utility conflicts through design where reasonable and adequate information is provided;
- 6.3 The CONSULTANT will review utility alignments for conflicts and develop a utility tracking report;
- 6.4 The CONSULTANT will reference in proposed utility lines as background if Microstation V8 files are provided and received prior to the submittal of schematic document.

## **7.0 SUBSURFACE UTILITY ENGINEERING (SUE) SERVICES**

SUE Services will include the following:

- 7.1 The CONSULTANT will obtain services of a SUE sub-consultant to perform a Level "B" SUE service. The Level "B" SUE will be performed per the standard of care guideline, *Standard Guideline for the Collection and Depiction of Existing Utility Data, ASCE/CI 38-22*.
  - a. As part of the Records Research effort the CONSULTANT will perform the following:
    - i. Contact Texas One-Call and acquire records from all available utility owners including local municipalities (cities, counties, etc.);
    - ii. Perform in-field visual site inspection. Compare utility record information with actual field conditions. Record indications of additional utility infrastructure and visual discrepancies with record drawings; and
    - iii. Interview available utility owners for needed clarification, resolution of found discrepancies, and details not provided on the record drawings;
  - b. As part of the Designating Effort the CONSULTANT will perform the following:
    - i. Select and employ the appropriate suite of industry standard geophysical equipment to search for existing utilities within the limits specified on the

project. For metallic/conductive utilities (e.g. steel pipe, electrical cable, telephone cable) electromagnetic induction, and magnetic equipment will be employed. The CONSULTANT will attempt, based on the judgement of the SUE Engineer, to designate non-metallic/non-conductive utilities using other proven methods, such as rodding, probing, and Ground Penetrating Radar (GPR). This scope of work includes mapping of the following utilities: water, wastewater, natural gas, gas/oil pipelines, electric, telephone, fiber, duct banks, cable TV, and storm sewer. 50,000 linear feet of utilities are anticipated on the project. Unless specifically requested, utility service lines and irrigation lines are not included in this scope;

- ii. Interpret the surface geophysics, and mark the indications of utilities with paint or pin flags on the ground surface for subsequent depiction on deliverable utility maps;
- iii. Record all marks on electronic field sketches and correlate such data with utility records and above ground appurtenances obtained from visual inspection to resolve differences and discrepancies. Denote any utilities found where ownership/utility type is not available from records as "unknown" facilities;
- iv. Provide field sketch for survey of the existing utility designating marks and above ground utility appurtenances according to the project control and record the data for subsequent depiction on the plan deliverables. Review survey data of the existing utility designating marks and above ground utility appurtenances provided and record the data for subsequent depiction on the plan deliverables; and
- v. The CONSULTANT will require that adequate traffic control is provided during this phase of the project;

## **8.0 TRAFFIC CONTROL PLAN SERVICES**

- 8.1 The CONSULTANT will prepare TCP concepts on a roll plot with typical sections during the schematic phase. The CONSULTANT will prepare a Traffic Control Plan (TCP), at a 1"=50' scale double stacked, a Detour Plan if required and a Sequence of Work Narrative. The Traffic Control Plan will be developed in accordance with the most recent version of the Texas Manual of Uniform Traffic Control devices (TMUTCD). The TCP will identify work areas, temporary paving, temporary shoring, signing, detour alignment, barricades, temporary drainage structures, temporary retaining walls and other TCP related items as required;
- 8.2 The CONSULTANT will prepare TCP Typical Sections for each Phase of construction as required;
- 8.3 The CONSULTANT will prepare a Sequence of Work Narrative and submit to CITY for review and incorporation into the plans. The narrative will include a phase-by-phase, step-by-step written account of the proposed activities throughout the construction process. This is intended to be a narrative account of the proposed activities shown in the TCP;

## **9.0 ROADWAY DESIGN SERVICES**

The tasks performed for the roadway design will include, but are not limited to the following:

- 9.1 The CONSULTANT will develop a Design Summary Report (DSR) documenting all design criteria for the Project, develop Form 1002 for submittal to TxDOT for review/approval;
- 9.2 The CONSULTANT will develop preliminary roadway typical sections for review and

- approval by CITY. The existing and proposed typical sections will be shown on the schematic layout;
- 9.3 The CONSULTANT will develop roadway design horizontal and vertical geometry and all roadway configuration appurtenances within a roadway design model;
  - 9.4 The CONSULTANT will prepare a roadway schematic for the submittal. The CONSULTANT will design a schematic level horizontal alignment and vertical profile, develop pavement edges, curbs, sidewalks, barriers, retaining walls, and any other pertinent roadside features as required; The schematic will be developed utilizing TxDOT standards and criteria;
  - 9.5 The CONSULTANT will develop a preliminary proposed roadway cross sections and a digital terrain model (DTM) to be used for determination of and ROW or easement requirements, location of potential retaining walls, and estimated earthwork quantities. The cross sections will utilize standard TxDOT items for curb, sidewalk, walls, barrier, etc.;
  - 9.6 The CONSULTANT, in conjunction with CITY, will determine the appropriate pavement section for the preliminary proposed roadway model;
  - 9.7 The CONSULTANT will prepare a cross-section roll-plot for the schematic submittal. Cross-sections will be created along the proposed horizontal alignment at 100-foot increments and culvert crossings. The cross-sections will show the proposed roadway, roadside features, existing ground, proposed grading, existing ROW, proposed ROW and easements. The horizontal alignment, pavement cross-slope, existing ROW and proposed ROW must all be labeled;
  - 9.8 The CONSULTANT will prepare Existing and Proposed Typical Section Sheets from the schematic preliminary roadway typical sections. The existing typical sections will include the current roadway characteristics (pavement section, pavement width, ROW, etc.). The proposed typical sections will include all pertinent information for the proposed roadway construction. Typical sections will be required for all proposed and existing roadways, including side streets, with the best available information. The proposed typical sections must include the following:
    - a. Width of travel lanes;
    - b. Width of shoulders;
    - c. Border width;
    - d. Curb offsets;
    - e. ROW width;
    - f. Centerline;
    - g. Profile grade line;
    - h. Pavement structure;
    - i. Side Slopes;
    - j. Sodding/seeding limits; and
    - k. Retaining walls;
  - 9.9 The CONSULTANT will prepare cross-sections at a scale of 1"=20' H and 1"=10' V to be included in the plan set. The cross-sections will be created along the proposed centerline alignment at 50 foot intervals, culvert locations, intersections, existing driveways, and proposed driveways. The cross-sections will show the proposed roadway, roadside features, existing ground, proposed grading, existing ROW, proposed ROW, and easements. The horizontal alignment, pavement cross-slope, existing ROW and proposed

ROW must all be labeled. Utilities and storm sewers, if required, will be shown on the cross-sections;

- 9.10 The CONSULTANT will prepare a request for any design exceptions, including all information necessary to support the request, and submit them to CITY for review and approval;
- 9.11 The CONSULTANT will prepare an Opinion of Probable Construction Cost utilizing calculated quantities, TxDOT San Antonio District average unit prices, and TxDOT Statewide average unit prices as appropriate based on the judgment of the CONSULTANT;

## **10.0 DRAINAGE DESIGN SERVICES**

The tasks performed for the drainage design will include, but are not limited to the following:

- 10.1 The CONSULTANT will obtain current hydrologic and hydraulic as-built drawings and models from the responsible government agencies;
- 10.2 The CONSULTANT will acquire current available 1-ft. LIDAR data for drainage area delineation and for model data supplementation;
- 10.3 The CONSULTANT shall obtain and review H&H data from [www.bexarfloodfacts.org](http://www.bexarfloodfacts.org) website. The hydrologic and hydraulic analyses will use the San Antonio River Basin Regional Modeling Standards for Hydrology and Hydraulic Modeling, unless otherwise directed by CITY, and will be calculated for the 100-year ultimate conditions;
- 10.4 The CONSULTANT will prepare a Hydrologic and Hydraulic Drainage Report. The report will include studies of exterior drainage and floodplain impacts and document the potential impacts associated with the Project. The intent of the report is to provide sufficient information for CITY reviewers to determine the acceptability of floodplain changes, verify additional data needs, confirm requirements for additional agency submittals (e.g. FEMA, USACE), and verify the preferred approach for culvert modifications and/or possible span bridge construction;
- 10.5 The Hydrologic and Hydraulic Drainage Report must include the following:
  - a. Exterior watershed identification for two (2) culvert crossings;
  - b. Existing conditions/effective model for the applicable creek crossings (existing hydrologic data for the 100-year ultimate development flows will be used as the basis of comparison for all analyses);
  - c. Corrections and/or modifications to the effective model required to develop the pre-project (existing) condition model;
  - d. Proposed condition model results for two (2) culvert crossings;
  - e. Analysis of ditch capacity in proposed conditions;
  - f. Identification of data gaps/assumptions;
  - g. Effect of proposed construction on the floodplain; and
  - h. Discussion of scour analysis performed;
- 10.6 The CONSULTANT will compute existing and proposed peak flows by using appropriate hydrologic methods and modeling as required;
- 10.7 The CONSULTANT will calculate peak flows for the design year and provide 100-year peak flow design verification for all hydraulic crossings;
- 10.8 The CONSULTANT will provide an exterior drainage area map providing delineation of drainage areas and hydrologic data for the culvert crossings within the Project limits;

- 10.9 The CONSULTANT will prepare exterior drainage area maps and perform hydrologic analysis for all culvert crossings. Hydrologic calculations will be determined using appropriate hydrologic methodology. Hydraulic analyses will be performed with HY-8 or HEC-RAS models as appropriate;
- 10.10 For any required inlets, the CONSULTANT will prepare runoff and inlet computations for each inlet. Inlet hydraulics will be calculated using the Rational Method. Calculated flow rates and related input must be indicated on a Runoff and Inlet Computations Sheet;
- 10.11 For any required storm sewer design, the CONSULTANT will utilize GEOPAK Drainage or other software acceptable to CITY;

**12.0 TRAFFIC, SIGNING AND PAVEMENT MARKINGS SERVICES**

The tasks performed for the traffic, signing and pavement marking design will include, but are not limited to the following:

- 12.1 The CONSULTANT will 24-hour collect turning movement counts at five (5) intersections on a Tuesday, Wednesday or Thursday;
- 12.2 The CONSULTANT will collect twenty-four (24) hour Average Daily Traffic (ADT) traffic counts during a typical Tuesday, Wednesday, or Thursday at three (3) total locations;
- 12.3 The CONSULTANT will collect crash records for the study intersections during the most recent 36-month period;
- 12.4 The CONSULTANT will prepare collision diagrams and develop a Traffic Safety Analysis based on the crash reports showing crash experience by type, location, direction of movement, severity, weather, time of day and date;
- 12.5 TP&P Traffic Projections (Option "C")

Utilizing the traffic count data collected, the CONSULTANT will prepare a TP&P (Option "C") traffic projection in accordance with the TP&P Standard Operating Procedures (SOP). Traffic projection services will include:

- a. Develop traffic projections for the opening year, design year (opening year + 20 years) and pavement design year (opening year + 30 years) for project limits identified above.
- b. The provided traffic projections shall be utilized for design and environmental analysis for no-build and build alternatives
- c. Prepare Traffic Projection Methodology memo to be approved by TxDOT
  - Prepare Line Diagram for Existing, Base year, 20-year, and 30-year traffic projections to be included in the projection methodology memo
  - A final traffic projection memo will be prepared including the methodology and line diagrams for submittal to the CITY and TxDOT
  - Memo will include TP&P Traffic Analysis for Highway Design forms filled out with projected traffic volumes, K Factor, and Percentage trucks. ESAL calculations for pavement design will be performed by TP&P.
- 12.6 The CONSULTANT will perform a Traffic Signal Warrant Analysis (TSWA) for the intersection at Citadel Peak utilizing data collected and analyzed). The TSWA will be conducted based on the guidelines established in the most recent TMUTCD and will include the following
  - a. Perform a site inspection at the intersection to record existing traffic characteristics observed in the field. The field work may include taking measurements, document the existing conditions including roadway geometry, signing, striping, speed limits and taking digital photographs of the intersection;

- b. Prepare an existing condition diagram showing details from the site inspection and field work mentioned above;
  - c. Prepare a site map of the intersection to document existing traffic and geometric conditions; and
  - d. Analyze all collected traffic count data and geometric data to perform signal warrant analysis based on the latest version of the TMUTCD. Submit draft report to Halff and CITY for review;
  - e. Update TSWA report and submit final report to Halff and CITY.
- 12.7 The CONSULTANT will review existing traffic data, existing/proposed roadway geometry, existing/proposed traffic flow patterns, and determine the existing/projected Level of Service (LOS) along the corridor utilizing the latest traffic simulation software available and accepted by the CITY.
- 12.8 The CONSULTANT will prepare a Traffic Engineering Summary Report that includes the Traffic Safety Analysis, the TP&P Traffic Projections, the Traffic Signal Warrant Analysis, and all supporting traffic data and documentation.

#### **14.0 SUBMITTAL REQUIREMENTS**

Project Design Services Submittals will include the following:

##### 14.1 Submittal and Review Meetings:

- a. Schematic submittal will be required; and
- b. The CONSULTANT will attend schematic submittal review meeting. Comments and revisions will be incorporated into the deliverables for the next submittal. The CONSULTANT will prepare meeting minutes of each review meeting and submit to CITY within three (3) business days after the meeting date.

##### 14.2 Schematic Submittal:

- a. Provide two (2) paper copies for review of the items listed below and one (1) CD or portable storage device containing electronic copies. For the schematic, provide two (2) roll-plots at a scale of 1"=50' submitted in 24" roll paper format, up to 15' long.
- b. The submittal must include the following:
  - i. Design level schematic roll-plot. Include the existing and proposed horizontal and vertical geometry, aerial topography, locations of existing utilities, drainage structures, existing, and proposed typical sections;
  - ii. Schematic cross-section roll-plot submitted in 24" roll paper format, up to 6' long;
  - iii. Preliminary Traffic Control Plan including a narrative/conceptual description of anticipated traffic handling, typical sections for phased construction and a roll-plot exhibit depicting the proposed construction phasing;
  - iv. Draft Geotechnical Engineering and Pavement Design Report;
  - v. Draft Hydrologic and Hydraulic Drainage Report;
  - vi. Draft Traffic Engineering Summary Report
  - vii. A list of Right-of-Way encroachments if needed;
  - viii. Preliminary Opinion of Probable Construction Cost; and
  - ix. Updated Project Design Schedule;

## 17.0 Public Involvement

Public Involvement will include the following:

- 17.11 The CONSULTANT will prepare a Notice and Opportunity to Comment to be held upon approval by CITY;
  - 17.11.1 The CONSULTANT will prepare and mail notices and exhibits to adjacent property owners, if necessary;
  - 17.11.2 One (1) round of comments/revisions will be completed on all public meetings/hearing materials;
  - 17.11.3 The CONSULTANT will compile and prepare responses to comments from the NAOC for incorporation into the NAOC summary report.
  
- 17.12 The CONSULTANT will prepare for one (1) public meeting and, if required, one (1) public hearing for the project to be held upon approval by CITY. Public meeting/hearing will be planned for an in-person meeting with a virtual option (powerpoint with narration);
  - 17.12.1 The CONSULTANT will secure the meeting location, date and time (includes securing A/V equipment, chairs/tables, podium, etc. as necessary) and secure a court reporter for a public meeting/hearing. The CONSULTANT should pursue non-commercial, community sites for the public meeting/hearings when possible;
  - 17.12.2 The CONSULTANT will prepare and publish meeting/hearing notices and display advertisements if necessary;
  - 17.12.3 The CONSULTANT will prepare meeting/hearing handouts, agendas, name tags, sign-in sheets, comment cards, a PowerPoint presentation and speech/speaking points if necessary. The CONSULTANT will obtain CITY's approval on all materials prior to production or publication;
  - 17.12.4 The CONSULTANT will arrange meeting/hearing with CITY prior to public meeting/hearing to review all exhibits and other materials;
  - 17.12.5 One (1) round of comments/revisions will be completed on public meeting/hearing materials;
  - 17.12.6 The CONSULTANT will provide staff to attend the public meeting/hearing including administrative and engineering staff to perform registration, make presentations, and answer questions;
  - 17.12.7 The CONSULTANT will compile and prepare a public meeting/hearing summary report; and
  - 17.12.8 The CONSULTANT will compile and prepare responses to comments at the public meeting/hearing for incorporation into the public meeting/hearing summary report.

## 17.0 SPECIFIED ADDITIONAL SERVICES

The following specified additional services will only be implemented if required and with prior approval from CITY. If additional services not specified herein are determined necessary by CITY, those services will be negotiated at that time and approved by CITY prior to commencing work.

Environmental Specified Additional Services may include the following:

- 17.1 The CONSULTANT will complete an intensive archeological survey including the following:
- a. The CONSULTANT will use the results of the Archeological Background Study to prepare a draft Antiquities Permit Application for coordination with CITY, the THC, and TxDOT. When all valid permits are secured, the CONSULTANT will conduct an intensive survey of the Area of Potential Effects (APE) in compliance with shovel test density and deep deposit investigation standards developed by the THC and the Council of Texas Archeologists (CTA). A complete record of identified resources, survey conditions, and methods employed will be kept with digital photographs and field notes;
  - b. The CONSULTANT will conduct a literature review to establish appropriate cultural contexts for the project area, determine information requirements and direct the survey effort. The review will include discussion of previously documented archeological sites and other cultural resources within 1 kilometer (0.6 miles) of the project area to foster development of appropriate contextual analysis. Explicit reference to the Texas Archeological Sites Atlas, the NRHP, and the list of State Archeological Landmarks will be included as appropriate;
  - c. The CONSULTANT will conduct a field survey. Identification, evaluation and documentation tasks shall be performed by the CONSULTANT in accordance with the provisions of the Secretary of the Interior's Standards, the Antiquities Code of Texas, and standards promulgated by the CTA. If the work to be performed intersects federal lands, the fieldwork shall also be in accordance with the provisions of the Archaeological Resources Protection Act and Sections 106/110 of the National Historic Preservation Act. The survey will be performed and documented at sufficient levels to satisfy requirements for determining the presence of archeologically significant properties in the APE in accordance with 36 CFR 60 and 13 TAC 26. Work associated with formal testing or data recovery is not anticipated by this Scope of Services and the CONSULTANT will prepare a Scope of Services for development for these services, at CITY's request, should such services be deemed necessary by CITY. Although the APE to be surveyed will be determined in consultation with the City and State, this scope of services anticipates the APE to include the proposed project area. The depth of the APE is to be determined based on the depth of proposed ground disturbance. Backhoe trenching or monitoring of deep excavations are not anticipated.
  - d. The CONSULTANT will complete an Archeological Survey Report summarizing the findings of the archeological survey and recommendations for additional work, if necessary. If the CONSULTANT recommends additional NRHP eligibility testing and/or data recovery excavations, then, at CITY's direction, the CONSULTANT may be requested to perform those services;

One (1) hardcopy and one (1) electronic copy of the draft Archeological Survey Report will be provided to CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide one (1) hard copy and one (1) electronic copy to the CITY for submittal to TxDOT;

- e. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) hard copy and one (1) electronic copy of the Archeological Survey Report to CITY for review and resubmittal to TxDOT; and
  - f. Upon incorporation of all comments, the CONSULTANT will provide up to five (5) hardcopies and up to five (5) CDs of the final Archeological Survey Report to CITY. The CDs will contain all data collected and scanned signature pages with signatures to allow CITY to produce duplicates, as necessary. The final report will be suitable for submittal to the USACE, the THC, and the CITY. If any agency requests clarifications and/or alterations, the CONSULTANT will accommodate the requests and provide revised copies suitable for the agencies;
- 17.2 The CONSULTANT will prepare a Historical Studies Research Design and Historical Resources Survey Report (HRSR), including identification evaluation, and documentation tasks, and an architectural survey report in accordance with the provisions of the Secretary of the Interior's Standards for the Identification, Evaluation, and Documentation (48 FR Parts 44716- 42). This scope of services includes surveys, research, and documentation efforts carried out in accordance with the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (Volume 48 of the Federal Register, 44716) to comply with Section 106 (Title 16, United States Code §470f) of the National Historic Preservation Act of 1966, as amended, and other state and federal historic preservation related laws and regulations. Although the APE to be surveyed will be determined in consultation with the State, this scope of work anticipates the APE to include the project area and all parcels intersected by the Project. The HRSR will include the following:
- a. The CONSULTANT will conduct a literature review to establish appropriate historical and cultural contexts for the project area, determine information requirements and prepare a Historical Studies Research Design to direct the survey effort. The Historical Studies Research Design will include discussion of previously designated historic properties within 1,300 feet of the project area to foster development of appropriate contextual analysis. Explicit reference to THC survey files and Historic Sites Atlas, the NRHP, the list of State Archeological Landmarks, as well as the list of Recorded Texas Historic Landmarks and Official Texas Historical Markers will be included;
  - b. Following the State's approval of the Historical Studies Research Design, the CONSULTANT will conduct a reconnaissance survey of each historic-age resource (defined in accordance with 36 CFR 60 as a building, structure, object, historic district, or non- archeological site at least 50 years old at the time of letting) in the APE;
  - c. Photographic documentation for each historic resource shall include an oblique view of the primary façade and a side elevation for each resource, with the subject filling the frame. All photographs shall be 3.5-inch by 5-inch color representations printed on matte finish photographic paper or comparable digital images produced with resolution that is equal to or greater than 1,200 by 1,600 pixel resolution quality with high resolution techniques. Photographs shall be attached to separately labeled pages that clearly identify project name, address of resource (or UTM coordinates), direction of the photograph, style and type of resource, National Register of Historic Places (NRHP) criteria eligibility, resource integrity issues, a project ID number keyed to the project map, and any photography limitations;
  - d. The CONSULTANT will complete a HRSR and ensure the survey report includes an inventory of all resources, provided in a table form that details project identification numbers, locations, property type and subtype classifications, stylistic influences, construction dates, integrity issues and preliminary eligibility recommendations. The report will include preliminary assessment of whether any resources meet standards for inclusion in the NRHP, either individually or as part of a potential historic district.

Furthermore, this letter report will include a comprehensive inventory of historic-age properties identified in the project APE and study area, photographs and mapped locations of these historic-age properties and other documentation of sufficient detail and clarity to provide the State with a basis for making determinations of NRHP eligibility without requiring submission of additional documentation, or alternatively, make recommendations concerning the scope of the intensive survey if necessary to finalize NRHP determinations. The HRSR will be delivered to CITY for TxDOT/THC submittal;

- e. If the CONSULTANT recommends additional NRHP eligibility research, Historic American Building Survey or Historic American Engineering Record documentation then, at CITY's direction, the CONSULTANT may be requested to perform those services;
  - f. One (1) hardcopy and one (1) CD copy of the HRSR will be provided to CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide one (1) hard copy and one (1) electronic copy to the CITY for submittal to TxDOT;
  - g. The CONSULTANT will respond to one (1) round of comments from TxDOT and will resubmit one (1) hard copy and one (1) electronic copy of the HRSR to CITY for review and resubmittal to TxDOT; and
  - h. Upon incorporation of all comments, the CONSULTANT will provide up to five (5) hardcopies and up to five (5) CDs of the final report to CITY. The CDs will contain all data collected and scanned signature pages with signatures to allow CITY to produce duplicates, as necessary. The final HRSR will be suitable for submittal to the all agencies. If any agency requests clarifications and/or alterations, the CONSULTANT will accommodate the requests and provide revised copies suitable for the agencies;
- 17.3 The CONSULTANT will prepare a Nationwide Permit (NWP) Pre-Construction Notification (PCN) application. The CONSULTANT will prepare a PCN submittal package in accordance with the NWP under which the project will seek authorization;
- a. The CONSULTANT will use its previously prepared Waters of the U.S. Delineation Report and Section 404/10 Impacts Table to quantify impacts to waters of the U.S. that were identified during the jurisdictional determination;
  - b. The CONSULTANT will schedule a pre-application meeting with USACE if determined to be beneficial. This meeting will be conducted via teleconference;
  - c. The CONSULTANT will use the current, applicable template from the USACE and include all applicable appendices. If the USACE does not have an applicable template, the CONSULTANT will use a currently existing NWP template (e.g., NWP 14) as guidance to develop a format suitable for submittal and coordinate with the CITY regarding format and attachments—the format would include: the general conditions checklist, a specific requirements checklist modified for that NWP, the regional conditions check list, and all other boxes from the guidance template;
  - d. The CONSULTANT will complete the applicable template form (or modified template form) and provide the following attachments to the PCN:
    - i. List of Property Owners;
    - ii. Delineation of Waters of the U.S., including wetlands;
    - iii. Color Photographs;
    - iv. Summary Table of Single and Complete Crossings or Summary Table of Waters

of the  
U.S. Impacted by the Proposed Project, as applicable;

- v. Required Drawings/Figures;
  - vi. Threatened or Endangered Species Reports and/or Letters; and
  - vii. Historic Properties and Cultural Resources Reports and/or Letters;
- e. Mitigation plans, TXRAM modeling, and calculation of required mitigation bank credits are not included in this scope, and if necessary for the project, will require a supplemental agreement; and
- f. One (1) hard copy and one (1) CD copy of the draft PCN package will be provided to CITY for review. CITY will review and provide comments to the CONSULTANT. Upon incorporation of revisions or other changes resulting from the review comments, the CONSULTANT will provide three (3) hardcopies and three (3) CDs of the final PCN package to CITY. The CDs will contain all data collected and scanned signature pages with signatures (as appropriate) to allow CITY to produce duplicates, as necessary. The final report will be suitable for submittal to the USACE. If the USACE requests clarifications and/or alterations, the CONSULTANT will accommodate the requests and provide revised copies suitable for the USACE, excepting only those requests for services beyond the CONSULTANT'S authorized scope of services;
- 17.4 Traffic Noise Workshops:
- a. CONSULTANT shall conduct up to two noise workshops, as required from the noise analysis, if noise barriers are reasonable and feasible and meet constructability and cost parameters.
  - b. The CONSULTANT will locate and secure locations for the traffic noise workshops.
  - c. The CONSULTANT will research and prepare a list of adjacent and first row property owners. The CONSULTANT will prepare notices, project layouts, handouts, sign-in sheets, ballots, the PowerPoint slides, and script for the noise workshops and create display boards depicting the noise abatement measures. The CONSULTANT will obtain TxDOT's approval of all exhibits and other materials prior to distribution. The CONSULTANT will mail a traffic noise workshop invitation package to affected property owners. It is assumed that TxDOT will provide the noise brochures in English and Spanish for the traffic noise workshops. After the workshops are conducted, the CONSULTANT will prepare traffic noise workshop summary reports.
  - d. This task includes the following deliverables:
    - i. Traffic Noise Analysis Report with Noise Validation Technical Report
    - ii. Traffic noise workshop notices, exhibits and handouts
    - iii. Traffic Noise Workshop Summaries

## **17.0 EXCLUSIONS**

- Technical reports or applicable documentation for the following items are excluded from the scope of services for this task: indirect impacts, cumulative impacts, Section 4(f) and 6(f) impacts, Chapter 26 impacts.
- Preparation of an Environmental Assessment and Environmental Impact Statement are not included in the scope of work for this task.
- This scope of work excludes any coordination or documentation associated with a Presidential Permit application.
- This scope of work excludes any coordination or documentation associated with the Natural Resources Code, Chapter 183.
- The scope of work for this task does not include karst, threatened or endangered species surveys or Section 7 consultation with the USFWS under the Endangered Species Act.
- This scope of work does not include a geologic assessment.
- This scope of work does not include preparation of a USACE Section 408 Application, Individual Permit Application, or a mitigation plan.
- This scope of work does not include preparation of checklists for Section 4(f) exception determinations, Section 4(f) programmatic evaluations, or individual Section 4(f) evaluations.
- Efforts for a virtual public meeting and/or public hearing are not included in this scope of work.

If the CITY, TxDOT, or a regulatory agency requires additional information other than that specified in this scope of work, then a supplemental services agreement will be required.

**EXHIBIT B - TASK ORDER NO.16  
LOWER SEGUIN ROAD  
Estimated Level of Effort for Schematic Level Engineering AND Environmental Services**

No. of Sheets	Sr. Project Manager/DGC	Project Manager/Sr. Engineer	Mid Project Engineer	Engineer EIT	CAD Technician	Admin Assistant	Sr. Environmental Architect/Engineer	Mid Environmental Architect/Engineer	Jr. Environmental Architect/Engineer	SUE Field Manager	SR Survey Tech SUI	Sub-Consultant Fee Lump Sum	Non-Labor Cost	Total Labor Hrs.	Cost
<b>PRELIMINARY ENGINEERING PHASE SERVICES (30%/Schematic)</b>															
<b>1) Engineering Services</b>															
1.0	12	24	40	15										76	\$1,520.00
1.1	8	8	12	15										76	\$1,520.00
1.2	4	4	6	12										48	\$1,180.00
1.3	4	4	6	12										24	\$4,230.00
1.4	4	4	6	12										24	\$3,590.00
1.5	8	8	12	15										48	\$5,940.00
1.6	4	4	6	12										64	\$10,512.00
1.7	4	4	6	12										60	\$8,650.00
1.8	4	4	6	12										104	\$17,692.00
1.9	8	8	12	15										178	\$30,234.00
1.10	4	4	6	12										48	\$7,414.00
1.11	4	4	6	12										48	\$8,384.00
1.12	2	2	3	6										26	\$3,726.00
1.13	24	24	36	48										272	\$41,568.00
1.14	6	6	9	12										272	\$41,568.00
1.15	24	24	36	48										272	\$41,568.00
1.16	18	18	27	36										184	\$28,504.00
1.17	4	4	6	12										64	\$9,276.00
1.18	2	2	3	6										64	\$9,276.00
1.19	2	2	3	6										64	\$9,276.00
1.20	4	4	6	12										49	\$6,112.00
1.21	4	4	6	12										49	\$6,112.00
1.22	4	4	6	12										68	\$10,760.00
1.23	2	2	3	6										28	\$3,826.00
1.24	2	2	3	6										28	\$3,826.00
1.25	4	4	6	12										56	\$14,560.00
1.26	4	4	6	12										28	\$3,826.00
1.27	4	4	6	12										44	\$6,020.00
1.28	4	4	6	12										44	\$6,020.00
1.29	4	4	6	12										60	\$10,640.00
1.30	4	4	6	12										58	\$9,920.00
1.31	4	4	6	12										44	\$7,688.00
1.32	4	4	6	12										18	\$2,260.00
1.33	4	4	6	12										20	\$2,540.00
1.34	18	18	27	36										48	\$6,080.00
1.35	4	4	6	12										60	\$10,640.00
1.36	4	4	6	12										58	\$9,920.00
1.37	4	4	6	12										44	\$7,688.00
1.38	4	4	6	12										18	\$2,260.00
1.39	4	4	6	12										44	\$6,020.00
1.40	4	4	6	12										44	\$6,020.00
1.41	2	2	3	6										6	\$768.00
1.42	2	2	3	6										6	\$768.00
1.43	410	410	615	820										2984	\$48,624.00
<b>TOTAL HOURS</b>															
<b>HOURS SUB-TOTALS</b>															
<b>AVAILABLE RATE PER HOUR</b>															
<b>TOTAL ESTIMATED SERVICES PRELIMINARY DESIGN PHASE</b>															
<b>Environmental Services</b>															
<b>3.0 Environmental (TxDOT CE)</b>															
1.0	32													72	\$14,736.00
1.1	6													56	\$10,944.00
1.2	8													72	\$14,736.00
1.3	8													66	\$11,664.00
1.4	8													60	\$10,640.00
<b>SUMMARY</b>															
<b>ESTIMATED TOTAL PROJECT COST</b>															
<b>ESTIMATED TOTAL PROJECT COST</b>															

## LOWER SEGUIN ROAD Estimated Level of Effort for Schematic Level Engineering AND Environmental Services

No. Sheets	Sr. Project Manager/DWG	Project Manager/Sr. Engineer	Mid Project Engineer	CAD Technician	Admin Assistant	Sr. Env. Scientist/Archaeologist	Jr. Env. Scientist/Archaeologist	SUE Field Manager	SR Survey Tech (SET)	Subcontractor Fee Lump Sum	Misc. Labor Cost	Total Labor hrs.	Cost
<b>PROJECT DESCRIPTION</b>													
<b>BILLABLE LABOR RATES</b>													
5. Archaeological Background Study		2					24					46	\$5,456.00
6. Traffic Noise Analysis		2					24					46	\$3,086.00
7. Traffic Impact Study		2					24					46	\$5,596.00
8. Construction Technical Report		4					48					92	\$7,542.00
9. Air Quality Analysis (Transportation Conformity Plan Form, CAPP)													
10. Public Involvement (1 Public Mtg and 1 Public Hearing)		4		2			12					46	\$7,212.00
11. Review of Ordinance and Public Comment		2		2			12					46	\$1,560.00
12. Traffic Impact Study		2		2			12					46	\$1,560.00
13. Public Meeting Notes, Agenda, Etc.		2		2			12					46	\$1,560.00
14. Prepare Meeting Minutes, Agenda, Etc.		2		2			12					46	\$1,560.00
15. Pre-Public Meeting Coordination with JRA Participants/County		2		2			12					46	\$1,560.00
16. Prepare Meeting Materials/Agenda		2		2			12					46	\$1,560.00
17. Prepare Meeting Materials/Agenda		2		2			12					46	\$1,560.00
18. Complete Public Meeting Summary Report		2		2			12					46	\$1,560.00
19. Complete and Prepare Response to Comments from Public Meeting/Hearing		2		2			12					46	\$1,560.00
<b>EMPLOYEES (NON-LABOR)</b>													
	22	96	24	30	22	213	184	0	0	\$0.00	\$7,510.00	1300	\$181,752.00
<b>SUBTOTALS</b>													
BILLABLE RATE PER HOUR	\$27,000	\$22,000	\$17,000	\$15,000	\$15,000	\$190,000	\$133,000	\$126,000	\$150,000	\$0.00	\$0.00	1300	\$181,752.00
TOTAL - Subcontractor Utility Engineering Services	\$6,534.00	\$2,077.00	\$4,248.00	\$3,976.00	\$1,768.00	\$48,473.00	\$24,843.00	\$6,000	\$4,000	\$0.00	\$7,510.00	1300	\$181,752.00

### 7.1 Subcontractor Utility Engineering Services

1. Subcontractor Utility Engineering (SUE) (Quality Level B)													
<b>SUBTOTALS</b>													
BILLABLE RATE PER HOUR													
TOTAL - Subcontractor Utility Engineering Services													

### 7.2 Surveying Services

4.0 Surveying													
1. Research													
2. Right of Entry													
3. Traffic Control													
4.1. Traffic Control													
4.2. Traffic Control													
4.3. Traffic Control													
4.4. Traffic Control													
4.5. Traffic Control													
4.6. Traffic Control													
4.7. Traffic Control													
4.8. Traffic Control													
4.9. Traffic Control													
4.10. Traffic Control													
4.11-12. OTHM and Survey Base Mapping													
<b>EXPENSES (NON-LABOR)</b>													
<b>TOTAL HOURS</b>													
		24	0	0	56	0	0	0	183	\$0.00	\$2,028.00	725	\$119,146.00
<b>SUBTOTALS</b>													
BILLABLE RATE PER HOUR	\$297.00	\$223.00	\$172.00	\$176.00	\$80.00	\$190.00	\$135.00	\$126.00	\$150.00	\$0.00	\$0.00	725	\$119,146.00
TOTAL - Surveying Services	\$6,990.00	\$5,352.00	\$9,000.00	\$8,000.00	\$4,480.00	\$34,000.00	\$24,500.00	\$21,420.00	\$27,450.00	\$0.00	\$2,028.00	725	\$119,146.00

### 7.3 Specified Additional Services

6.0 Geotech Engineering Services													
1. Collect Samples for Soar Analysis													
2. Traffic Control for Geotech Services													
3. Traffic Control for Geotech Services													
4. Traffic Control for Geotech Services													
5. Traffic Control for Geotech Services													
6. Traffic Control for Geotech Services													
7. Additional Environmental													
8. Intensive Archaeological Survey (Shovel Test Only)													
9. Intensive Archaeological Survey (Shovel Test Only)													
10. Intensive Archaeological Survey (Shovel Test Only)													
11. Historic Site Assessment (Design, Survey, Survey Report, Section 4(f) De Minimis Checklist)													
12. Section 4(f) Assessment (Design, Survey, Survey Report, Section 4(f) De Minimis Checklist)													
13. Section 4(f) Assessment (Design, Survey, Survey Report, Section 4(f) De Minimis Checklist)													
14. Traffic Noise Worksheet													
<b>TOTAL HOURS</b>													
	0	22	0	0	10	75	109	166	0	\$0.00	\$22,200.00	494	\$92,746.00
<b>SUBTOTALS</b>													
BILLABLE RATE PER HOUR	\$437.00	\$223.00	\$172.00	\$176.00	\$80.00	\$190.00	\$135.00	\$126.00	\$150.00	\$0.00	\$0.00	494	\$92,746.00
TOTAL - Subcontractor Utility Services	\$0.00	\$4,606.00	\$18,000.00	\$16,000.00	\$16,000.00	\$14,400.00	\$24,500.00	\$21,560.00	\$30,000.00	\$0.00	\$22,200.00	494	\$92,746.00

### UNSPECIFIED ADDITIONAL SERVICES

UNSPECIFIED ADDITIONAL SERVICES													
<b>TOTAL HOURS</b>													
<b>SUBTOTALS</b>													
BILLABLE RATE PER HOUR													
TOTAL - Unspecified Additional Services													

**LOWER SEGUIN ROAD**  
**Estimated Level of Effort for Schematic Level Engineering AND Environmental Services**

No. Sheets	S. Project Manager/DACC	Project Manager / Sr. Engineer	Mid Project Engineer	Engineer EIT	CAD Technician	Admin Assistant	S. Env Scientist/ Archeologist	Mid Env Scientist/ Archeologist	Jr. Env Scientist/ Archeologist	SUE Field Manager	SR Survey Tech (SIT)	Subcontractor Lump Sum	Misc Labor Cost	Total Labor hrs.	Cost
<b>Unspecified Additional Services</b>															
1. Unspecified Additional Services															
<b>SUMMARY</b>															
<b>HOURS SUB-TOTALS</b>															
TOTAL - Construction Phase Services															
TOTAL PROJECT SUMMARY															
<b>HOURS SUB-TOTALS</b>															
TOTAL PROJECT SUMMARY															