



## SCOPE OF SERVICES

Solicitation Number: CLMP283

Project Name: Lakeline Boulevard Improvements

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### **PROJECT FOR:**

CITY OF AUSTIN, *AUSTIN TRANSPORTATION DEPARTMENT*, THROUGH ITS CAPITAL CONTRACTING OFFICE

### **PROJECT TITLE:**

*LAKELINE BOULEVARD IMPROVEMENTS*

### **OBJECTIVES OF THE PROJECT:**

The City of Austin (COA) anticipates selecting an engineering firm (consultant) to provide engineering services to design and deliver geotechnical investigation, preliminary engineering reports, and Plans Spec & Estimates (PS&E) for Lakeline Boulevard Improvements.

The Lakeline Boulevard Improvements project is Federally funded through a Capital Area Metropolitan Planning Organization (CAMPO) grant and shall follow Federal level National Environmental Policy Act (NEPA) requirements and Labor Compliance requirements managed by Texas Department of Transportation (TxDOT).

### **BACKGROUND:**

The Austin Transportation Department (ATD) sponsors and manages the Lakeline Boulevard Improvements project. The project was placed on the 2019-2022 Transportation Improvement Program (TIP) by Capital Area Metropolitan Planning Organization (CAMPO) and approved for funding on the 2019-2022 CAMPO Project Call. Please see Attachment 2: Advanced Funding Agreement – Funding Requirements of this Scope of Services.

The intent of the project is to improve mobility and safety on Lakeline Blvd between US-183 and FM 734 Parmer Lane.

The existing roadway is a major collector roadway with two undivided lanes and one sidewalk. To improve vehicle, bicycle, and pedestrian connectivity on Lakeline Boulevard between US-183 and FM 734 (Parmer Lane). The project will widen traffic lanes from two lanes undivided to four lanes divided and add new stormwater, pedestrian and bicycle facilities.

### **ANTICIPATED SERVICES:**

The Consultant shall provide survey, drafting, engineering and other services required for the preparation of preliminary engineering and plans, Federal level environmental clearance, (PS&E) and deliver related documents for the City of Austin (COA) Austin Transportation Department (ATD). These services may include, but are not limited to, survey services,

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geotechnical engineering, environmental clearance, roadway and structure design, hydrological analysis and hydraulic design, safety illumination design, traffic signal design, and construction phasing necessary to support the design process and if requested, provide support and testimony as the Consultant of Record at Right-of-Way hearings.

Detailed scope of work and required deliverables are available on the technical scope Attachment 1: Services to be Provided by the Engineer.

***Task 1 Field Investigation:***

Selected consultant shall provide accurate, reliable, and comprehensive land surveying and mapping as necessary to support design, right-of-way acquisition, and construction of City of Austin projects. A Registered Professional Land Surveyor (RPLS) is responsible for the final accuracy, reliability, and comprehensiveness of survey and mapping work.

The Consultant will evaluate existing pavements and soil conditions throughout the roadway and provide recommendations for rehabilitation and construction of the pavement and provide the associated remaining design life for the pavement rehabilitation options.

Consultant shall perform drilling, field testing, laboratory testing, logging and data report preparation necessary to perform pavement and geotechnical engineering services.

The Consultant shall perform engineering services generally described as Subsurface Utility Engineering and Investigations. Utility Engineering Investigations include subsurface and above ground utility investigations in accordance with AASHTO standards and Utility Quality Levels.

***Task 2 Engineering Design:***

The Consultant shall prepare an alignment and proposed roadway schematic layout with proposed typical sections. The Engineer shall produce the schematic with 3D design computer software. Supporting attachments and exhibits shall accompany the schematic layout.

The Consultant shall provide design, engineering and other services required for the preparation of plans, specifications and estimates (PS&E) and related documents for the City of Austin (City) Austin Transportation Department (ATD). These services may include, but are not limited to, preparing roadway and bridge design, hydrologic and hydraulic design, safety illumination design, traffic signal design, and construction phase services necessary to support the design process.

The Consultant shall provide, plan production drawings using CADD standards as required by COA. Existing and proposed right-of-way lines must be shown.

***Task 3 Drainage Study and Design:***

The Consultant shall conduct Drainage Study and design to determine and evaluate the ROW needed to accommodate the proposed roadway and drainage system. Identify the peak flows and water surface elevations, identify and locate outfalls, drainage outfall descriptions, provide overall drainage area map, storm water inlet and pipe sizing, and detention facilities.

***Task 4 Environmental Documentation and Clearance:***

The Consultant shall complete Environmental Documentation as required to comply with and fulfill the requirements for projects under Federal, State, and City rules, regulations, ordinances, and development codes. Federally funded projects require coordination and document preparation following the TxDOT Environmental Compliance Toolkits.

**PROPOSED PROJECT SCHEDULE:**

The anticipated total completion time for this agreement is approximately 36 to 48 months after the contract is executed.

**PROPOSED PROCUREMENT SCHEDULE**

PRE-RESPONSE: December 6, 2019

RFQ Submittals Due: December 31, 2019

INTERVIEWS (if needed): Week of February 17, 2020

COUNCIL DATE (tentative): April 9, 2020 TARGET

CONTRACT EXECUTION: June 4, 2020

**COST ESTIMATE:**

The professional services fee is estimated to be \$2,700,000.00 and the estimated total construction cost is \$14,425,000.00. This is a Federally Funded Project.

**MAJOR AND OTHER SCOPES OF WORK:**

Below is a list of the major scopes of work that the City has identified for this project. ***\*There must be representation for all major scopes of work listed in the prime's statement of qualifications.*** The experience of the firms listed to perform the Major Scopes of Work, whether a subconsultant or prime firm, will be evaluated under Consideration Item 6 – Major Scopes of Work – Comparable Project Experience.

In addition, the City has identified Other Scopes of work that MAY materialize during the course of the project. The City does not guarantee that the scopes listed under Other Scopes of work will materialize on this contract. If the prime consultant intends to enter into a subconsulting agreement on a scope of work not listed below, the prime consultant is required to contact SMBR and request an updated availability list of certified firms in each of the scopes of work for which the prime consultant intends to utilize a subconsultant.

**\* Major Scopes of Work**

Civil Engineering

Transportation Engineering

**Other Scopes of Work**

Environmental Engineering

Geotechnical Engineering

SUE

Surveying

Cost Estimating

**Notes:**

- Construction Inspection and Public Information and Communications are **NOT** a subconsultant opportunity. These services will be performed in-house or under a separate contract, if needed, and will be determined when project assignment is made.
- Participation at the prime or subconsultant level may create a conflict of interest and thus necessitate exclusion from future contracting opportunities with the City.
- If the City determines that a conflict of interest exists at the prime or subconsultant level, the City reserves the right to replace/remove the prime or instruct the prime consultant to remove the subconsultant with the conflict of interest and to instruct the prime consultant to seek a post-award change to the prime consultant's compliance plan as described in City Code § 2-9B-23. Such substitutions will be dealt with on a case-by-case basis and will be considered for approval by Small and Minority Business Resources (SMBR) in the usual course of business. The City's decision to remove a prime or subconsultant because of a conflict of interest shall be final.
- A consultant performance evaluation will be performed on all professional services contracts. This evaluation will be conducted at the end of each Design and Construction phase.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

The Consultant (Engineer or Surveyor) shall provide survey, drafting, engineering and other services required for the preparation of preliminary engineering and plans, specifications and estimates (PS&E) and related documents for the City of Austin (COA) Austin Transportation Department (ATD). These services may include, but are not limited to, survey services, geotechnical engineering, environmental clearance, roadway and structure design, hydrological analysis and hydraulic design, safety illumination design, traffic signal design, and construction phasing necessary to support the design process and if requested, provide support and testimony as the Consultant of Record at Right-of-Way hearings.

The Engineer shall perform Quality Control / Quality Assurance on all deliverables before submitting to the City. If at any time it becomes apparent to the City that the submittal contains errors, omissions or inconsistencies, the City may return the submittal to the Engineer for appropriate action.

### **1 General Survey**

#### **1.1 General Requirements**

Surveyor shall provide accurate, reliable, and comprehensive land surveying and mapping as necessary to support design, right-of-way acquisition, and construction of City of Austin projects. Surveyor is responsible for the final accuracy, reliability, and comprehensiveness of survey and mapping work.

Consultant shall employ a survey manager to be responsible for control surveys, topographic surveys, right of way surveys, construction surveys, and other surveying work necessary to complete and produce accurate Record Drawings. Survey control data, calculations, surveying and measuring required for setting and maintaining the necessary survey control and other survey monumentation shall be confirmed/performed by the Surveyor.

#### **1.2 Administrative Requirements**

Surveyor shall verify that surveying conforms to the standards and specifications set forth in the Professional Land Surveying Practices Act, the General Rules of Procedures and Practices as promulgated by the Texas Board of Professional Land Surveying (TBPLS), and the TxDOT Survey Manual.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### 1.2.1 Right of Entry

The Consultant shall notify City of Austin and secure permission to enter private property to perform any surveying or engineering activities needed off right-of-way. The Consultant shall contact each property owner prior to any entry onto the owner's property and make every effort to comply with the wishes and concerns of affected private property owners.

### 1.2.2 Traffic Control

Surveyor shall be responsible for providing temporary signage, safety equipment, and traffic control in and around survey operations, in compliance with the provisions of the Texas Manual of Uniform Traffic Control Devices (TMUTCD).

### 1.2.3 Survey Products

Surveyor shall provide survey data files to the COA on an approved medium; and shall be fully compatible with the City's computer system and with software applications in use by the City at the time of the submission, without further modification or conversion. The current applications used by the City are: Microsoft® Office Word 2003 for word processing, Microsoft® Office Excel 2003 for spreadsheets, and Autodesk Civil 3D. Variations from these software applications or other requirements listed above shall only be allowed if requested in writing by the Surveyor and approved by the City.

### 1.3 Specifications

The basis for project coordinates and bearings shall be the Texas Coordinate System, North American Datum of 1983 (NAD-83) (2011) (EPOCH 2010) adjustment, Central Zone 4203, with linear values in U.S. Survey Feet.

Survey products shall be provided in Project Surface Coordinates, utilizing a Combined Grid-to-Surface Adjustment Factor (CAF) of 1.00011

The basis for project elevations shall be the North American Vertical Datum of 1988 (NAVD 1988).

Horizontal and vertical control shall be referenced to the National Geodetic Survey (NGS) survey control network.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **1.4 Control**

Surveyor shall establish and utilize a survey control network and establish additional survey control as needed throughout the duration of the Project. Surveyor shall produce and maintain a Survey Control Report including control point coordinate listings, a map of the control layout, standard data sheets for each primary control point, and monument and location description for survey control points, whether referenced or established.

Survey control points shall be established and/or verified by a Registered Professional Land Surveyor licensed in the State of Texas.

GPS work, whether primary control surveys or other, shall conform to the current Federal Geodetic Control Subcommittee (FGCS) Geometric Geodetic Accuracy Standards and Specifications for Using GPS Relative Positioning Techniques, to the appropriate order of accuracy, as defined in the TxDOT GPS User's Manual, and in the TxDOT Survey Manual.

### **1.5 Topographic Survey**

Surveyor shall use established control utilize Real Time Kinematic and conventional surveying techniques to locate all visible features within the areas of survey and necessary offsite facilities to show utilities exiting the limits of survey.

Additional topographic information, such as top of slope, bottom of slope, and other break-lines will be located to produce a digital terrain model (DTM) with one-foot contour interval.

Surveyor will sketch the connectivity of any above ground power or communications line and will note transformers and utility drops on poles.

Inverts, pipe size, and material will be obtained for all sanitary sewer and storm sewer structures. Size, shape, and material of culverts and headwalls will be noted. Surveyor shall locate all trees with a 2" or larger diameter within the area of survey. Surveyor will record location, species, diameter, critical root zone, and drop line of each tree.

### **1.6 Existing Right-of-Way Retracement Survey**

Surveyor shall perform a retracement survey, within the extents of the proposed roadway improvements and including along intersecting roadways (minimum of 100' from end of radius), of existing right-of-way lines and public easements.

Surveyor shall research, obtain and utilize for the survey the following:

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

- existing right-of-way maps or documents
- recorded right-of-way dedications
- recorded right-of-way conveyance instruments
- recorded subdivision plats adjacent to the existing right-of-way
- adjoining deeds and monumentation for adjoining properties
- records obtained during research which affect the limits of construction

Boundary surveys of adjacent properties will be required only after additional right-of-way or easement acquisition is identified. However, adjacent property information, and the approximate locations of adjacent boundary lines, should be included in the retracement survey, based on available information.

### 1.7 Right-of-Way mapping

The Consultant shall prepare a ROW map. The traditional ROW map includes the performance of on the ground surveys and preparation of parcel maps, legal descriptions (metes and bounds descriptions), and ROW maps. The ROW mapping and associated documents must be suitable for the acquisition of real property interests and the probable issuance of a title policy.

#### 1.7.1 Design Surveys

Design Surveys include performance of surveys associated with the gathering of survey data to supplement topography, cross-sections, and other related work in order to design a project.

Design survey is defined as the combined performance of research, field work, analysis, computation, and documentation necessary to provide detailed topographic (3-dimensional) mapping of a project site.

Design survey may include, but need not be limited to horizontal and vertical location of utilities and improvements, existing storm water system locations and inverts, existing sanitary system location and elevations, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc.

The Consultant shall identify the needs for design surveys. Design survey may include, but not limited to the following:

- Provide details of existing bridge and box culvert structures
- Provide manhole cover, invert elevations of sanitary sewer manholes, and elevations of water valves
- Provide details of existing drainage features (e.g., culverts, manholes, etc.)
- Review right-of-way maps
- Update existing control data and prepare survey control data sheets, as directed, for inclusion into a construction plan set

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

- Provide details of existing on surface and overhead utilities

The Consultant shall also prepare a Survey Control Index Sheet and a Horizontal and Vertical Control Sheet(s), signed, sealed and dated by the professional engineer in direct responsible charge of the surveying and the responsible RPLS for insertion into the plan set. The Survey Control Index Sheet shows an overall view of the project control and the relationship or primary monumentation and control used in the preparation of the project; whereas, the Horizontal and Vertical Control sheet(s) identifies the primary survey control and the survey control monumentation used in the preparation of the project. Both the Survey Control Index Sheet and the Horizontal and Vertical Control Sheet(s) must be used in conjunction with each other as a set.

The following information shall be shown on the Survey Control Index Sheet:

- Overall view of the project and primary control monuments set for control of the project
- Identification of the control points
- Baseline or centerline
- Graphic (Bar) Scale
- North Arrow
- RPLS signature, seal, and date

The following information shall be shown on all Horizontal and Vertical Control Sheets:

- Location for each control point, showing baseline or centerline alignment and North arrow
- Station and offset (with respect to the baseline or centerline alignments) of each identified control point
- Basis of Datum for horizontal and vertical control (base control monument/benchmark name, number, datum)
- Date of current adjustment of the datum
- Monumentation set for Control (Description, District name/number and Location ties)
- Combined Scale Factor and unit of measurement
- Coordinates (State Plan Coordinates [SPC] Zone and surface or grid)
- Relevant metadata
- Graphic (Bar) Scale
- Placement of note "The survey control information has been accepted and incorporated into this PS&E" which shall be signed, sealed and dated by a Texas Professional Consultant
- RPLS signature, seal and date

### 1.7.2. Technical Requirements

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Design surveys must be performed under the supervision of a RPLS currently registered with the TBPLS. Reference may be made to standards of accuracy for horizontal and vertical control traverses, as described in the latest edition of the TSPS Manual of Practice for Land Surveying in the State of Texas.

### **DELIVERABLES:**

Survey Point File with (P, N, E, Z, D) information.

Electronic file in AutoCAD with survey points and planimetric signed and sealed Texas Society of Professional Surveyor (TSPS) Topographic survey.

Maps, plans, or sketches prepared by the Consultant and/or acquired from utility companies, private corporations, or other public agencies showing the results of field surveys.

Computer printouts or other tabulations summarizing the results of field survey  
Digital files or media acceptable by ATD containing field survey data (ASCII Data files)

Field survey notes, as electronic and hard copies

An 8.5x11 inch survey control data sheet for each control point which must include, but need not be limited to, a location sketch, a physical description of the point including a minimum of two reference ties, surface coordinates, a surface adjustment factor, elevation, and the horizontal and vertical datum used

A digital copy of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets

Survey report

Property data in Excel;

Electronic files of existing property deeds;

Existing right-of-way lines and found monumentation points, existing easement lines, adjacent subdivision lines for right-of-way dedication or public easements, and other relevant record information in Civil 3D.

# ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

## 2. Geotechnical Engineering

### 2.1 General

The Engineer will evaluate existing pavements and soil conditions throughout the roadway and provide recommendations for rehabilitation and construction of the pavement and provide the associated remaining design life for the pavement rehabilitation options.

The Engineer will provide recommendations for full-depth reconstruction of the pavement based on the design 18-kip Equivalent Single Axle Loads (ESALs). The Engineer shall clearly denote the truck traffic loading as an input parameter for pavement design calculations including Remaining Service Life and Overlay, Rehabilitation, and new pavement design thicknesses.

The Engineer will develop a Life Cycle Cost Analysis (LCCA) for long term cost comparison of any significant alternative designs considered.

The Engineer shall review existing pavement condition information available from City of Austin including but not limited to visual condition surveys, FWD data, IRI data, etc. Engineer shall review any available as-built plans of the pavement structure.

To evaluate the subgrade strength the Engineer shall review existing information (previous geotechnical reports, soil surveys and geologic maps, etc.). Specific field and laboratory testing should be discussed with ATD during development of the specific scope of services.

Engineer shall perform drilling, field testing, laboratory testing, logging and data report preparation in accordance with the latest version of TxDOT's Geotechnical Manual, TxDOT's Manual of Testing Procedures, the Texas Manual on Uniform Traffic Control Devices for Streets and Highways, and other specifications and provisions applicable to services under this contract. American Society for Testing Materials (ASTM) test procedures shall be used in the absence of the State's procedures.

Soil classification in City of Austin roadways shall be done in accordance with the Unified Soil Classification System ASTM D2487, Standard Practice for Classification of Soils for Engineering Purposes.

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 2.2. Field Studies

The Engineer shall furnish equipment necessary to core asphalt pavement. The Engineer will retain a subcontractor to drill soil test borings and recover samples for soil classification and strength testing under direct supervision of the Engineer.

Upon completion of NDT and/or available geologic data, the Engineer shall provide boring locations to ATD for review and concurrence.

The Engineer shall coordinate drilling and testing with ATD. It is assumed that field studies requiring traffic control will be conducted during the daytime with reduced hours (10am to 3pm).

The Engineer must give at least 72 hours of notice to ATD or TxDOT prior to commencing drilling work.

The Engineer shall clear each drilling location for utilities by calling Texas811 and public utilities that the Engineer is made aware of through communication with City of Austin or as-built drawing records that are not part of Texas811 prior to beginning drilling operations, and avoid damaging properties and utilities.

The Engineer shall notify ATD of conditions that warrant standby charges on the same day.

The Engineer shall be responsible for coordination with ATD, and preparation and submission of necessary permits and insurance documents.

The Engineer shall evaluate the existing pavement conditions, which will include:

- Visual pavement condition survey
- Non-destructive testing such as Falling Weight Deflectometer (FWD)
- and Ground Penetrating Radar (GPR) surveys (if requested)
- d) Use of pavement coring data to calibrate FWD/GPR data and use in the FWD/GPR processing.

The Engineer shall prepare and implement a Traffic Control Plan (TCP) for operations on or near the roadway. The Engineer shall submit the TCP for processing through City permitting process. Where standard City of Austin traffic control details are insufficient for the roadway geometry, the Engineer shall prepare Traffic Control Details.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

The Engineer shall furnish traffic control items and operations during the field studies.

The Engineer's field crews shall clean up litter and surplus drilling materials and fill and plug completed holes (on and off pavement) before leaving each location. Bore holes drilled through pavement should be capped with a similar material.

### **2.3. Laboratory Testing**

The Engineer shall conduct laboratory tests at the Engineer's own accredited facilities or other City of Austin/TxDOT certified commercial laboratory.

The Engineer shall submit draft logs to ATD to assist in selection and assignment of laboratory tests.

Laboratory testing shall include the following tests: moisture contents, Atterberg limits, percent of soil passing the 4, 40 and 200 mesh sieves, grain size curves for coarse grained soils by sieve analysis, as necessary.

Subgrade Resilient Modulus will be estimated by FWD testing, and will be confirmed by soil classifications, N-values and/or pocket penetrometer readings, and engineering correlations.

The Engineer shall determine the soluble sulfate content of soil.

### **2.4. Pavement Engineering**

Pavement design on shall be in accordance using CAPEC design method and checked with TxDOT FPS21W or later for flexible pavements. Pavement design on TxDOT owned roadways shall be in accordance with the current TxDOT Pavement Manual.

The Engineer shall evaluate potential vertical movements using swell tests per ASTM D4546, TxDOT's Potential Vertical Rise (PVR) calculations per Tex-124-E, other published correlations, and previous experience of the Engineer.

The Engineer shall provide recommendations for rehabilitation of the pavement and provide the associated remaining service life for the pavement rehabilitation options.

The Engineer shall perform analysis of the pavement distress survey to determine pavement ride quality (International Roughness Index), pavement cracking, pavement rutting, and other pavement distresses. For full-depth repair recommendations, the Engineer shall provide recommendations to reduce the potential vertical movements in areas of expansive soils using but not limited to:

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

- removal and replacement with non-expansive soil
- soil stabilization
- use of vertical and/or horizontal moisture barriers and/or use of geogrids

The Engineer shall provide recommendations for soil stabilization and shall include considerations for stabilization method(s), stabilizing agent(s), and dosage(s).

### **DELIVERABLES:**

Draft and Final Pavement/Geotechnical report

The pavement/geotechnical report shall contain:

- Table of Contents
- Introduction
- Location Map of Borings and Boring Logs
- Summary of Subsurface Exploration Procedures and Test Results
- Summary of Laboratory Testing Procedures and Test Results
- Subsurface Materials Encountered, including Descriptions and Soil Classifications
- Results of the pavement investigation (visual evaluation, FWD) and pavement evaluation (layer thicknesses and back-calculated layer moduli with TxDOT MODULUS v 6.0 or similar program, and existing pavement remaining life analysis)
- Summary of Pavement Design Recommendations for Pavement Rehabilitation and/or Full Depth Reconstruction
- Estimation of remaining life of pavement for pavement rehabilitation options.
- Pavement Construction Considerations
- Pavement Design Program Outputs which must include the name of program used and version used to generate the design
- Life Cycle Cost Analysis
- The Engineer shall sign and seal the report and include certification that work undertaken is in accordance with TxDOT test procedures, City of Austin Standard Specifications, and any applicable special provisions.
- Each boring (drill) log shall include the following:  
Coordinates (longitude and latitude) and ground surface elevation, and when available, bore hole station and offset
- Approximate existing pavement section and structure thicknesses
- Soil and rock descriptions
- Laboratory Test results

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 2.5. Schedule

Engineer shall submit an anticipated schedule prior to drilling and inspection activities.

Drilling activities will be performed in parallel with the pavement inspection and condition assessment investigations.

Delays sometime occur due to adverse weather, utility clearance requirements, site clearing requirements for drill rig access, obtaining Right of Entries and other factors outside of our control. In this event, we will communicate the nature of the delay and the anticipated impact on the schedule.

### 2.6. Quality Assurance

At a minimum, the Engineer shall adhere to the following quality assurance program:

- Use a minimum of a three-man crew, consisting of a driller, a driller's helper, and a logger
- Use the same subcontractors for the entire project to provide consistency Each crew shall maintain a copy of the TxDOT's Geotechnical Manual and Test methods Tex-132-E and Tex-141-E for reference on the job site. Crews may utilize other references such as ASTM test procedures (only in the absence of TxDOT's procedures) that are accepted methods of field classification of soil.

Engineering technicians' providing laboratory testing services must be qualified (certified) in accordance with TxDOT Quality Assurance Programs for Construction or other approved programs, such as the AASHTO Material Reference laboratory (AMRL) and ASTM Cement and Concrete Reference Laboratory (CCRL). The Engineer shall provide the City with a list of certified personnel and copies of their current certificates before beginning work, when personnel changes are made, and when requested by ATD.

Laboratory equipment must have a current calibration in accordance with the National Institute of Standards and Technology (NIST), AASHTO, and ASTM requirements and the Engineer shall confirm the equipment meets these requirements. The Engineer shall provide an inventory of pertinent laboratory equipment and current calibration certifications to ATD upon request.

The Engineer shall be responsible for maintaining equipment to provide safe and efficient operation.

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 3. Preliminary Engineering

#### 3.1 General Requirements

The Engineer shall identify potential adverse impacts within the project. Identification of existing and proposed utilities (public and private), structures, burial grounds, neighborhood communities, historical landmarks, and undeveloped areas is required. The Engineer shall propose alternatives/modifications that would avoid or minimize impacts, and prepare additional attachments or exhibits required illustrating a preferred alternative. The Engineer shall reference the latest versions of the following design guidelines/manuals as applicable: City of Austin *Transportation Criteria Manual (TCM)*, City of Austin *Street Design Guide*, NACTO *Urban Street Design Guide*; TxDOT *Roadway Design Manual (RDM)*; AASHTO *Policy on Geometric Design of Highways and Streets*; TxDOT *Standard Specifications for Construction of Highways, Streets, and Bridges*; TxDOT *Traffic Operations Manual on Highway Operations*; Texas *Manual on Uniform Traffic Control (TMUTCD)*; and *Highway Capacity Manual (HCM)*.

#### 3.2 Data Collection

The Engineer will be responsible for field review of the project, inventory and cataloging of existing available data, review of existing data, and collection of additional data as necessary that may include the following:

- Available asbuilt
- Design data from record drawings of existing and proposed facilities
- Existing and future design year traffic data available from previous studies
- Environmental data
- Previously prepared drainage studies
- Adopted land use maps and plans as available
- Federal Emergency Management Agency (FEMA) Flood Boundary Maps and Flood Insurance Studies and Models
- Public and private utility information not previously provided by the ATD
- AM/PM peak hour turning movement counts
- Traffic signal timings

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **3.3 Survey of Existing Conditions**

Using collected/provided data and base maps, the Engineer shall develop an overall analysis of the existing conditions in order to develop the schematic design. The analysis shall include but not be limited to the following:

- Tree survey
- Confirm locations of existing overhead/underground utility facilities
- Horizontal alignment
- Vertical alignment
- Pavement cross slopes and pavement type
- Intersection design and analysis
- Sight distance
- Roadside signing
- Level of service
- Locations of critical constraints
- Traffic control and construction phase sequencing
- Inventory of existing driveways
- Inventory of pedestrian facilities/infrastructure intended to remain in place

### **3.4 Develop Base Maps**

The base maps to be used for the analysis and proposed schematic layout shall be developed by the Engineer from existing construction, utility information and ROW plans as available. The Engineer shall re-establish the existing centerline horizontal alignments for roadways, identify existing ROW, property owners, and the approximate location of utilities.

### **3.5 Alternatives/Modifications**

The Engineer shall identify and analyze alternatives/modifications to minimize potential adverse impacts, utility conflicts, structural impediments, or exceptions to the City and State design criteria. Engineer shall consider proposed alignment locations for required utility relocations as part of the alternatives/modification development.

### **3.6 Design Summary Report**

The Engineer shall prepare and submit a preliminary Design Summary Report (DSR) to ATD/TxDOT for approval; and shall attend a COA/TxDOT Meeting to establish and agree on fundamental designs and concepts, and to establish the features and design criteria for the project.

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### DELIVERABLES:

Design Summary Report

Request for Design Exception

Preliminary Engineering plan sheets

#### 3.8 Traffic Data and Projections (Loaded Hourly Rate)

The Engineer shall obtain existing information from the City of Austin, CAMPO or TxDOT to generate traffic counts used for traffic projections. The traffic projections shall be used for design and traffic analysis. The Engineer shall develop traffic forecasts for the roadway and cross streets for no-build and build alternatives based on traffic counts obtained and updated by the Engineer as required. These forecasts shall include graphic representations of the anticipated daily movements along the roadway. The Engineer shall prepare a Traffic Projections Memo with respect to updates the Engineer may have performed. The Engineer shall review the proposed methodology with the ATD and shall refine it as needed. The Engineer shall provide the existing traffic numbers on the stick diagram for signalized intersections. The Engineer shall develop the following traffic volumes and the data necessary for pavement design based on the approved methodology:

- Base year AADT
- Future year AADT
- Growth rate per year between base and forecast years
- Percent trucks AADT

#### 3.9 Traffic and Operational Analysis

The Engineer shall review and analyze traffic data, existing roadway features traffic flow patterns, crash patterns and frequencies, and transit and traffic operations. A detailed level of service analysis utilizing Synchro (or VISSIM as may be required) modeling software will be performed for the current year using current traffic and geometric conditions and for the design year using traffic projections and proposed geometric designs to compare different geometric alternatives. Results of this analysis shall be incorporated into the schematic design. Using the inventory of existing data and newly collected data, the Engineer shall document and submit the following in a Traffic and Operational Analysis Tech Memo.

A detailed level of service analysis using Synchro/VISSIM modeling software will be performed for the current year using current traffic and geometric conditions and for the design year using traffic projections and proposed geometric designs to compare different geometric alternatives and ramp patterns.

Using the inventory of existing data and newly collected data, the Engineer shall:

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

- Utilize traffic modeling software to analyze No-Build and Build Future Year (2040) Traffic Conditions
- Perform an operational analysis of the existing roadway (No-Build) and the proposed concepts (Build)
- Report daily vehicle projections to AM and PM peak hour traffic volumes
- Code/modify a Synchro model for the roadway and cross-street intersections to create a traffic signal timing plan for the study area
- Compare base year results to future year results and document intersection MOE, which will include elements such as LOS, density, and intersection delays

### 3.10 Safety Analysis

Using crash data provided by the ATD, the Engineer shall identify crash locations in the roadway by type and severity of event and use this information to analyze those locations to identify opportunities to reduce crashes or mitigate severity by addressing potential bottlenecks, general congestion, merge/weave conflicts, or inadequate sight distances. The Engineer shall document the analysis in a safety analysis memorandum.

#### **DELIVERABLES:**

Safety Analysis Report

Traffic Projections Memo

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **4 Drainage Study and Design**

#### **4.1 General**

The purpose of the drainage study is to perform analysis and recommendation in accordance with applicable City of Austin Drainage Criteria Manual (DCM) and/or TxDOT Hydraulic Design Manual (HDM).

The controlling analysis/design criteria will be documented and agreed upon in the Design Summary Report. (DSR). The primary goals of an adequate analysis are to evaluate and identify potential for significant adverse impacts, and to propose mitigation measures which minimize the risk of adverse impacts and to identify Right of Way acquisition needed for drainage improvements. The intention is to provide feasible solutions for design and construction within the identified environmental commitments/constraints.

The Engineer shall use data from as-built plans and FEMA maps, field visits, and other sources to locate drainage out fall(s) and to determine existing storm sewer and culvert sizes, design flows, and water surface elevations for use in the design of roadway geometry.

The Engineer shall conduct a Preliminary Drainage Study to determine and evaluate the adequacy of the ROW needed to accommodate the proposed roadway and drainage system. The drainage study shall identify the impacts to adjacent properties and the 100-year floodplain due to proposed roadway improvements, identify the peak flows and water surface elevations for the 10-, 25-, 50-, 100-, and 500-year storm events, identify and locate outfalls, drainage outfall descriptions, provide drainage area map, storm water detention facilities, and provide a drainage technical report summarizing the results of the study.

The drainage study shall be signed and sealed by a professional engineer, and deliverables shall include Hydrologic & Hydraulic models used in their native file format (e.g., Hydrologic Engineering Centers (HEC) hydrologic and hydraulic models such as HEC-HMS and HEC-RAS, EPA-SWMM, etc.). If proprietary models are used which are not routinely available to the City, a readable version must also be provided (e.g., XP-Viewer version of XP-SWMM). The City of Austin, Watershed Protection Department currently uses Bentley StormCad for storm drain design and Innowyze Infoworks ICM for two dimensional stormwater analysis. If other proprietary software is used it will be the responsibility of the Engineer to convert storm drain design models to a StormCad file and two dimensional stormwater analysis to Innowyze Infoworks ICM.

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### DELIVERABLES:

Drainage design plan sheets, design calculations, reports, and details

#### 4.2 Hydrologic and Hydraulic Impact Analysis

For each identified outfall, the Engineer shall develop models, use the current effective FEMA models, or use the best available data from the City of Austin to quantify flow rates between the existing and proposed conditions created by the project. For standard storm frequencies up to the 100-yr event (NOAA Atlas 14) (2-, 5-, 10-, 25-, 50-, 100-, 500-year) the Engineer shall determine if the overall increase in peak flow, water surface elevation, or other relevant change from the existing to the post-project condition has the potential to cause significant adverse impact to the adjacent properties or stormwater conveyance systems. If the Engineer determines that the project may create adverse impacts to adjacent properties, the Engineer shall develop a proposed plan for mitigation. Storage volumes shall be calculated utilizing hydrograph routing software such as HEC-HMS or SWMM.

#### 4.3 Drainage Data Request

The Engineer shall obtain existing Hydrology and Hydraulic models for use in analysis and determination of existing 2-, 10-, 25-, 50-, 100-, and 500-year water surface elevations at creeks, and ditch crossings along the project limits. Other data required may include and is not limited to:

- FEMA Flood Insurance Studies (FIS) and Flood Insurance Rate Maps (FIRMs)
- City of Austin hydrologic and hydraulic models for open channels
- City of Austin hydrologic and hydraulic models for closed systems
- Latest available terrain surface data and contour maps
- Land use maps
- Soils maps
- Historic Precipitation Data
- Aerial imagery (latest available)
- Culvert and drainage maintenance reports
- Historic Flooding reports
- As-built plans and data for impacted hydraulic structures
- Design plans (calculations if available) of highway, culverts and ditches

The Engineer shall review the FEMA Flood Insurance (FIS) and Maps (FIRMs) and compare to the proposed improvements. An evaluation will be made as to the potential impact to the delineated floodplain area. Additionally, streams/creeks with a drainage area greater than 64 acres that crosses the roadway will be evaluated. Hydraulic analyses shall involve determining existing water surface profiles, and comparing the proposed water surface profile with the existing water surface profile both upstream and downstream of culvert, bridge or storm drains crossing the roadway. If a culvert, bridge

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

or storm drain system bisects the project and no changes to structures are proposed, the Engineer shall perform a hydraulic analysis in order to determine if the structure meets current applicable design criteria. Proposed storm drain systems will be designed to meet the applicable controlling TxDOT/City drainage criteria manual requirements. Storm sewer analyses should be conducted to verify that a feasible and cost-effective design solution can be developed in PS&E. This typically includes a trunkline analysis for the design and check-flood, performed at a high level (i.e., not detailed analysis of the full system unless needed to accomplish project goals) in accordance with the TxDOT HDM and/or City DCM whichever controls.

In addition, the Engineer shall also assess the hydrologic impact of the project (in accordance with the TxDOT HDM and/or City DCM whichever controls) in the design storm events to the receiving system and make recommendations for erosion protection if required. If the receiving system is to an existing storm sewer system outside of the City ROW, the Engineer shall address impacts to the receiving storm drain system, taking into consideration what the existing system was sized to accommodate (including local design ordinances), and make recommendations for onsite improvements as to not have an adverse impact on these systems.

### **DELIVERABLES:**

Drainage Study Report

#### **4.5 Water Quality Requirements**

The City of Austin Land Development Code (LDC) contains several provisions that require construction projects to provide Water Quality Controls for permit approval. The Engineer is responsible for compliance with relevant LDC provisions, such as: 25-8-211-Water Quality Control Requirement; 25-8-213-Water Quality Control Standards; 25-8-214-Optional Payment Instead of Structural Controls in Urban Watersheds; 25-8-215-Cost Recover Program; and 25-8-514- Pollution Prevention Required. The Engineer must consider the City of Austin's Land Development Code and coordinate with ATD to plan accordingly for inclusion of facilities that capture and treat impervious cover stormwater runoff as required by relevant LDC provisions.

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 4.6 Hydraulic Design and Documentation

The Consultant shall provide the following services:

- Information regarding existing drainage facilities and features from existing asbuilt plans and other available studies or sources
- Perform hydraulic design and analysis using appropriate hydraulic methods, which may include computer models such as HEC-RAS, unsteady HEC-RAS or 2D models such as SWMM. The City of Austin, Watershed Protection Department (WPD) currently uses StormCad (Bentley) for storm drain system design and Integrated Catchment Modeling (ICM) (Innovyze) for two dimensional assessment of local flooding areas
- Consider pre-construction, present and post-construction conditions
- Determine if storm water detention or retention is required
- If necessary, present mitigation measures along with the advantages and disadvantages of each
- Quantify the cut and fill within the 1% AEP flood plain

### 4.7 Storm Drains

Storm drain designs must account for future adjacent land uses, as well as, post construction condition within the roadway right-of-way.

The Consultant shall provide the following services:

- Design and analyze storm drains using Integrated Catchment Modeling (ICM) (Innovyze), or equivalent software, for two-dimensional assessment of local flooding areas
- Size inlets, laterals, trunk line and outfall
- Determine hydraulic grade line starting at the outfall channel for each storm drain design. Use the design water surface elevation of the outfall as the starting basis (tailwater) for the design of the proposed storm sewer system
- Calculate manhole head losses. Compute manhole head losses as per FHWA's HEC-22 and/or applicable criteria
- Limit discharge into existing storm drains and existing outfalls to the capacity of the existing system, which will be determined by the Consultant. Evaluate alternate flow routes, watershed hydrology/timing or detention, if necessary, to relieve system overload. Determine the potential hydrologic impacts from storm drain runoff for the design frequency based on hydrograph routing for the full range of frequencies (50%, 20%, 10%, 4%, 2%, 1%, and 0.2% AEP), as well as a rough estimate of the available on-site volume, if necessary. When oversized storm drains are used for detention, the Consultant shall evaluate the hydraulic grade line throughout the whole system, within project limits, for the design frequency or frequencies
- Identify areas requiring trench protection, excavation, shoring, and/or de-watering

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 4.8 Cross-Drainage Structures

The Consultant shall provide the following services:

- Determine drainage areas and flows for cross culvert drainage systems
- Determine the sizing of the drainage crossings
- Develop designs that minimize the interference with the passage of traffic or cause damage to the roadway and local property
- Cross drainage design shall be performed using HEC-RAS if required by criteria or if a HEC-RAS model is already available. HY-8 may be used for other situations
- Identify areas requiring trench protection, excavation, shoring and de-watering
- Delineate large and small drainage areas
- Prepare hydraulic calculation sheets for applicable drainage elements/systems
- Prepare plan/profile sheets for storm drain systems and outfall ditches
- Depict ditch flow line elevations on drainage plan & profile sheets and roadway cross sections, to confirm positive drainage
- Prepare cross street and driveway culvert design. Plan/profile sheets will not be prepared for driveway drainage structures. Design will be presented in summary calculation tables
- Prepare applicable details for the proposed drainage improvements

### 4.9 Temporary Drainage Facilities

The Consultant shall provide the following services:

- Develop plans for temporary drainage facilities necessary to allow staged construction of the project and to conform with the phasing of adjacent and/or future construction projects without significant impact to the hydraulic capacity of the area. Drainage area maps are not required for temporary drainage

### 4.10 Scour Analysis

The Consultant shall provide the following services:

Perform a scour analysis for each proposed bridge structure

- Prepare each scour analysis
- Provide ATD the potential scour depths, envelope and recommended countermeasures including bridge design modifications and/or revetment

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### 4.11 Plans for Hydraulics and Water Quality Stormwater Measures (SCMs)

The Consultant shall provide the following sheets and documents, as required to complete PS&E plan:

- Hydrologic/Hydraulic/Scour Data Sheets
- Culvert Layout Sheets
- Storm Drain Plan/Profile Sheets
- Detention and Water Quality Pond Layouts and Details
- Annotate roadway plan & profile sheets to include profile grade line of parallel ditches, if applicable
- Prepare culvert cross sections and identify each cross-section's station location
- Identify areas requiring trench protection, excavation, shoring and de-watering
- Prepare drainage area maps
- Prepare plan and profile sheets for storm drain systems and outfall ditches
- Select necessary standard details
- Prepare details for non-standard inlets, manholes and junction boxes, etc.
- Prepare drainage details for outlet protection, outlet structures and utility accommodation structures
- Identify pipe strength requirements
- Prepare drainage facility quantity summaries
- Identify potential utility conflicts and, if feasible, design to mitigate or avoid those identified conflicts
- Appendix R Water Quality Calculations per COA Environmental Criteria Manual
- SCM Layout/SCM Details
- Prepare plan and profile sheets for SCMs
- Prepare SCM facility quantity summaries
- Consider pedestrian facilities, utility impacts, driveway grades, and retaining wall and concrete traffic barrier drainage impacts
- Identify existing ground elevation profiles at the ROW lines on storm sewer plan and profile sheets
- Prepare Hydraulic Data Sheets for bridge or cross drainage structures at the outfall channel and indicate site location (e.g., station and name of creek or bayou), if applicable
- Develop a 3D model of the proposed drainage structures, if requested by ATD
- Develop layouts for the following:
  - Subsurface drainage at retaining walls
  - Outfall channels within existing ROW
  - Bridge deck drainage systems, including internal drainage piping within the bents where required on structures
- Water Quality SCMs
- Detention ponds, associated outlet structures, and details.

### **DELIVERABLES:**

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Temporary drainage plan per TCP phase  
Plan sheets in accordance with the PS&E submittals (30%, 60%, 90%, 100%)  
All supporting files from the software used to produce the deliverables.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **5 Environmental Documentation and Clearance**

The Engineer shall complete Environmental Documentation as required to comply with and fulfill the requirements for projects under Federal, State, and City rules, regulations, ordinances, and development codes. Federally funded projects require coordination and document preparation following the TxDOT Environmental Compliance Toolkits. Documents shall be submitted through ATD staff as the primary Point of Contact. City of Austin roadways shall follow the City Environmental Guidelines and shall be submitted to the ATD Point of Contact for review and approval.

#### **5.1 Water Resources**

Water Resources Assessment Report:

The Engineer shall:

- Identify and document waters within the boundaries of the project area.
- Identify and make preliminary determination of USACE jurisdiction.
- Identify wetland and potential wetland impacts
- Perform wetland delineation.
- Section 404 of the Clean Water Act (33 USC 1344) - The Engineer shall determine whether the transportation activity requires a Section 404 permit (Nationwide or Individual Permit (IP))

#### **DELIVERABLES:**

Draft and Final Water Resources/Wetlands Report

The Water Resources/Section 404 information will be included in the Water Resources/Wetlands Technical Report.

#### **5.2 Biological Evaluation Report (with the following attachments):**

- Project Location Map
- EMST Habitat Type Map
- EMST Habitat Table
- TXNDD Map
- TXNDD Element Occurrence Records
- Species of Greatest Conservation Need List
- TPWD Annotated County List of Rare Species
- USFWS Threatened and Endangered Species List
- Critical Habitat Investigation
- Project Photographs

#### **5.3 Cultural Resources**

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **5.3.1 Archeological Investigations**

An Archeologist will include complete project scoping and coordination with the Texas Historical Commission or the appropriate TxDOT Austin District staff member. The scope shall include submittal of an Archeological Background Study and Texas Antiquities Permit prior to fieldwork. This will be followed by a survey of the preferred alignment, once that has been selected. The survey will be conducted under a Texas Antiquities Permit and will comply with the THC standards for field inventories. The results and conclusions will be documented in a technical report. The draft report will first be submitted for approval by the ATD or TxDOT. Upon approval, the report will be submitted to the THC pursuant to the terms of the Antiquities permit.

### **5.3.2 Historic Resources**

A Historian will include complete project scoping and coordination with the Texas Historical Commission, THPO/SHPO, or the appropriate TxDOT Austin District staff member. This will be followed by the development of the Project Coordination Request (PCR), Historic Research Design, and subsequent survey of the preferred alignment, once that has been selected. The field survey will comply with the TxDOT or the THC standards for field inventories. The results and conclusions will be documented in a technical report.

#### **DELIVERABLES:**

Draft and Final Archeological Background Study

Draft and Final Historical Resources Background Study

Draft and Final Project Coordination Request (PCR)

### **5.4 Karst and Bird Survey Coordination and Determination**

The Engineer shall determine if the project is within areas that would require karst and/or endangered bird species surveys. Initial contact and coordination with the ATD and various other City departments and the United States Fish and Wildlife Service (USFWS) will be conducted to determine the extent and requirements of possible karst and bird surveys and applicable application process required for mitigation participation. These departments will also be asked to communicate their specific concerns and their input will be used to develop a plan to minimize potential environmental impacts.

#### **DELIVERABLES:**

Draft and Final Karst Zone Survey Report

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### 5.5 Geologic Assessment/Edwards Aquifer Recharge Zone (GA)

The GA will follow Texas Commission on Environmental Quality (TCEQ) and City of Austin rules. During karst feature surveys, technicians traverse the landscape, visually scanning the ground for karst features, and a professional geologist will (PG) assesses the feature.

#### **DELIVERABLES:**

Draft and Final Geologic Assessment Report

### 5.6 Hazardous Materials

Following TxDOT and City of Austin procedures, conduct a radius review of required federal, state, and local databases with hazardous materials information. Develop a table of facilities, generators, areas, plumes, or spills that could pose a risk to the project, construction personnel, or the public. Develop a determination of risk for each facility and explain the risk to the project.

#### **DELIVERABLES:**

Initial Site Assessment Report (for TxDOT)

Phase 1 Environmental Assessment (for COA)

### 5.7 Air Quality Analysis

Follow City of Austin and/or TxDOT guidelines to conduct an air quality analysis study.

#### **DELIVERABLES:**

Air Quality Analysis Report

### 5.8 Traffic Noise Analysis

Follow City of Austin and/or TxDOT guidelines to conduct a traffic noise analysis study.

#### **DELIVERABLES:**

Traffic Noise Analysis Report

### 5.9 Socio-Economic and Environmental Justice Analyses

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Following TxDOT and COA procedures, conduct a Socio-Economic and Environmental Justice Evaluation. Determine if socio-economic, minority, low income, or low English-speaking populations occur within the project and document them in the Environmental reporting. The Engineer shall evaluate and document if these populations have been disproportionately impacted by the proposed project.

### **5.10 Section 4(f) and 6(f) Evaluation**

Determine if Section 4(f) or 6(f) properties including parks, public areas, or wildlife refuges exist within the project. If so, further determine if the project would impact the properties, coordinate with the ATD, and document the Section 4(f) and 6(f) process.

### **5.11 Environmental Agency Coordination**

The Engineer shall assist the ATD with Agency Coordination to identify specific agency concerns and requirements and to notify each agency of the project and investigations that have been completed. Coordination efforts will include, and not limited to:

- US Fish and Wildlife Department
- Texas Parks and Wildlife Department
- Texas Historical Commission
- Texas Commission on Environmental Quality
- US Corps of Engineers

### **DELIVERABLES:**

Parks and Wildlife Code, Chapter 26 Compliance Checklist

### **5.12 Environmental Constraints Report**

The report will include an update of environmental investigations that have been completed, agency coordination and correspondence, environmental constraints that have been identified, additional investigations that will be required, and permits and coordination that remain to be completed for approval of the project. A review meeting will be conducted with ATD staff to review the Preliminary Environmental Constraints Report and permitting requirements that have been identified.

### **DELIVERABLES:**

Environmental Constraints Report

### **5.13 City of Austin Permit Coordination**

The Engineer will coordinate with COA in order to assess and address the questions and concerns the proposed project will generate within each applicable city department

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

associated with local environmental rules and regulations. The information from these coordination efforts will be used to derive a project permitting and mitigation strategy. The Engineer's recommended approach will be presented to the Project Team to assist with alignment alternatives selection.

### **6 Project Management**

#### **6.1 General**

The Engineer shall perform the work and provide the listed deliverables in accordance with the associated standards. Project management will involve continuous project coordination and administration; preparation of monthly progress reports, invoices and billings; meetings and coordination activities; preparation of meeting minutes; Quality Assurance/Quality Control (QA/QC); and other project management activities specified by ATD. The Engineer shall meet the deliverable expectations outlined in the approved Project Management Plan.

#### **6.2 Project Management and QA/QC**

The Engineer shall develop a project management plan (PMP) to outline project team organization, roles and responsibilities, project schedule, coordination and communication procedures, document and graphics formatting protocols. The Engineer shall perform QA/QC on all deliverables prior to submission. Deliverables that are incomplete or without proper QA/QC will be returned to the Engineer and will not be counted as a deliverable submittal according to the schedule.

#### **DELIVERABLES:**

Project Management Plan (electronic .PDF)

#### **6.3 Project Schedule**

The Engineer shall prepare a detailed graphic Project Schedule, using Microsoft Project or Primavera P6, indicating tasks, critical dates, milestones, deliverables and ATD review requirements. The Project Schedule will depict the order of the various tasks, milestones, and deliverables using work breakdown structure. It shall depict the order and interdependence of various tasks, subtasks, milestones and deliverables. The Engineer shall review progress during coordination meetings and should reviews indicate a substantial change in progress, the schedule will be updated as necessary. Issues that need resolution or action items will be identified in the progress report. The Engineer shall communicate in a timely manner the types of change that may occur in the project, including schedule, personnel, scope, and work product changes. ATD approved change(s) shall then be incorporated into the project schedule in a timely fashion to reduce unnecessary rework.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **DELIVERABLES:**

Project Schedule (Microsoft Project or P6), updated/submitted monthly (electronic format)

#### 6.4 Invoice Preparation and Submittal

The Engineer shall prepare monthly invoices. The Engineer shall submit each invoice in a format acceptable to the COA. Each invoice shall also include a summary of work that corresponds to work performed for that invoice period. The ATD shall provide an invoice format template.

### **DELIVERABLES:**

Monthly Invoices

#### 6.5 Project Status and Coordination Meetings

The Engineer shall attend up to **(24)** monthly coordination meetings. All meetings are expected to be conducted in-person unless otherwise directed by the ATD. The Engineer shall be responsible for preparation and distribution of agendas and meeting minutes for all meetings attended. Meeting minutes shall be distributed for review and comment by ATD no later than three business days following each meeting.

### **DELIVERABLES:**

Draft and Final Meeting Minutes (electronic .PDF)

#### 6.6 Project Files

The Engineer shall assemble, maintain, and deliver project files (electronic and hard copy) to the ATD with a complete index at project close out or as directed by the ATD.

### **DELIVERABLES:**

Project Files (electronic and hard copy format as applicable)

#### 6.7 Subconsultant Management

The Engineer shall prepare subcontracts for subconsultants and direct, monitor, and review subconsultant activities and work. The Engineer shall review subconsultant invoices.

#### 6.8 Communications & Community Outreach (Loaded Hourly Rate)

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Communications & Community Outreach scope efforts will be contracted on a Loaded Hourly Rate basis. The Engineer's Project Manager and Project Professional shall attend and participate up to **(8)** inter-agency meetings, **(4)** meetings with affected property owners (MAPOs), **(4)** stakeholder meetings, such as presentations to Homeowners'/Neighborhood Associations, business groups, etc., and **(2)** public open house meetings, during the development of the schematic design. The Engineer will be required to provide technical support/assistance, exhibit preparation, as directed by the ATD.

The Engineer will provide public involvement required to complete the environmental process. Included in this task:

- Preparation of materials and attendance at one **(1)** public hearing (required for environmental permitting)
- Preparation of materials and notices for public hearings as required

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 7 PS&E Design

The Consultant shall provide design, engineering and other services required for the preparation of plans, specifications and estimates (PS&E) and related documents for the City of Austin (City) Austin Transportation Department (ATD). These services may include, but are not limited to, preparing roadway and bridge design, hydrologic and hydraulic design, safety illumination design, traffic signal design, and construction phase services necessary to support the design process and if requested, provide support and testimony as the Consultant of Record at Right-of-Way hearings.

#### 7.1 Progress Reporting and Invoicing

The Consultant shall invoice according to task breakdowns shown in this scope for Engineering Services. The Consultant shall submit a monthly Project Status Report to ATD's Project Manager regardless of whether the Consultant is invoicing for that month.

The Consultant's Project Status Report shall include at a minimum:

- Summary of work completed during invoice period
- Upcoming work activities, tasks and milestones
- Scope elements added, changed or removed
- Outstanding issues, concerns or risks to scope, schedule and/or budget(costs)
- Issues and actions taken to remedy
- List of meetings attended
- Updated Production Schedules, include percentage of completed by task
- Any corrective actions taken or proposed for schedule recovery

#### **DELIVERABLES:**

Monthly Project Status Reports

#### 7.2 Project Meetings/Workshops

Attend progress meetings, as required, to monitor the development of the project. Meeting attendance shall be billed on a loaded hourly basis. Meetings may include, but are not limited to, the following:

- Design Kickoff Meeting
- Monthly Project Progress/Coordination Meetings
- Submittal Review Meetings (30%, 60% and 90%)
- Interdepartmental coordination meetings
- Participation in public information meetings with ATD Communications
- Public Hearing, if required by COA or NEPA process

#### **DELIVERABLES:**

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Meeting agendas for all meetings/workshops

Meeting/Workshop exhibits

Meeting/Workshop presentations

Meeting minutes and documentation of the meeting/workshop

### **7.3 Scheduling/Coordination**

The Consultant shall prepare a design production schedule using the latest version Microsoft Project or Primavera P6. The schedule shall indicate tasks, subtasks, critical dates, milestones, deliverables and review requirements utilizing the outlined work breakdown structure provided by ATD. The Consultant shall schedule milestone submittals at 30%, 60%, 90% and final project completion phases. The Consultant shall notify ATD immediately if the Consultant is not able to meet scheduled milestone dates. The Consultant, in association with ATD's Project Manager, shall be responsible for directing and coordinating work activities to comply with applicable policies and procedures, and to deliver that work on time. The Consultant shall coordinate subconsultant activity to include quality and consistency of plans and administration of invoices and monthly progress reports. The Consultant shall support ATD coordination with necessary local entities and as directed by ATD.

#### **DELIVERABLES:**

Monthly detailed project design schedule

Schedule of Deliverables

### **7.4 Contract Time Determination (CTD)**

The Consultant shall prepare a detailed contract time estimate to determine the approximate time required for construction of the project in calendar days at the 90% and Final PS&E milestone. The schedule must include tasks, subtasks, critical dates, milestones, deliverables, and review requirements in a format which depicts the interdependence of the various items and adjacent construction packages. The Consultant shall provide a basis of estimate outlining assumptions of durations and production rates for the major work tasks and phases.

#### **DELIVERABLES:**

Basis of Contract Time Determination Estimate

Construction Time Determination estimate in printed, Primavera P6 native and electronic .pdf format at the 60%, 90% and 100% Final PS&E milestones

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## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### 7.5. Railroad coordination

The Consultant shall assist in the preparation of each railroad or other agency agreement, exhibit, and layout sheet in accordance with the requirements of each railroad or other agency. The Consultant shall coordinate with each railroad or agency and ATD to determine submittal requirements, processing schedules, and exhibit formats. The Consultant shall submit each exhibit to ATD for review and processing.

### 7.6 Railroad Crossing Design (Loaded Hourly)

The consultant shall provide or assist in design and engineering services for railroad facilities according to Federal Railroad Administration and CapMetro standards and requirements. The consultant shall submit railroad designs and related documents at major milestones (30%, 60%, 90%) to ATD and CapMetro for review and approval.

#### **DELIVERABLES:**

Railroad Exhibit

Exhibits/Layouts in support of agency agreements (as needed)

Railroad design layouts and documents

### 7.7 Design Milestone Reviews

The Consultant shall submit plans and design calculations at the 30%, 60%, 90%, and 100% milestones for review. Milestone submittals will not be accepted until the deliverable is complete and has been determined to be acceptable by ATD. If, at any time, during the course of review it becomes apparent that the submittal contains errors, omissions, or inconsistencies, such that it could not be properly reviewed, ATD may return the milestone submittal to the Consultant for appropriate action. A submittal returned to the Consultant for this reason will not qualify as a milestone reached in the design schedule.

#### **DELIVERABLES:**

Plans and applicable design attachments or calculations at the 30%, 60%, 90% and 100% complete submittal stages, in electronic .pdf format.

### 7.8 Use of Standards

The Consultant shall identify and utilize the applicable, current adopted ATD, City of Austin or State Standard Details, or miscellaneous details that have been previously approved for use. The Consultant shall sign, seal, and date each Standard and miscellaneous detail(s) if the standard selected has not been adopted for use. The

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Consultant shall obtain approval for use of these details during the early stages of design from ATD Project Manager. In addition, these details shall be accompanied by the appropriate general notes, special specifications, special provisions, and method of payment. The Consultant shall retain the responsibility for the appropriate selection of each Standard identified for use within their design.

### **7.9 General Design Criteria**

The Consultant shall prepare work in accordance with the latest version of applicable City and/or State procedures, specifications, manuals, guidelines, standard drawings, and standard specifications or previously approved special provisions and special specifications, which include the following

- TxDOT Roadway Design Manual
- Texas Manual on Uniform Traffic Control Devices (TMUTCD)
- TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges (latest Edition)
- National Association of City Transportation Officials (NACTO) Urban Street Design Guide and Urban Bikeway Guide
- AASHTO Guide for the Development of Bicycle Facilities
- City of Austin Transportation Criteria Manual (TCM), and other City and/or State approved manuals, as may be applicable

When design criteria are not identified in City/State manuals, the Consultant shall notify ATD and refer to the American Association of State Highway and Transportation Officials (AASHTO), A Policy on Geometric Design of Highways and Street, (latest edition).

## **8 Preventative Measures to Prevent the Spread of Oak Wilt Contamination**

The Consultant shall take the following preventive measures while cutting, pruning, or removing oak trees in counties which have confirmed cases of Oak Wilt or at the direction of ATD:

- When possible, employ alternative methods instead of pruning or cutting oak trees
- When possible, perform necessary pruning and cutting of healthy trees during the winter months of January and February
- Treat wounds with pruning paint in Oak Wilt
- Sterilize pruning tools between each tree with disinfectant spray or a 70% rubbing alcohol solution
- Dispose tree cuttings by burning or burying the wood

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 9 Subsurface Utility Engineering and Investigations (SUE)

The Consultant shall perform engineering services generally described as Subsurface Utility Engineering and Investigations. Utility Engineering Investigations include subsurface and above ground utility investigations in accordance with AASHTO standards [ASCE C-1 38-02 (<http://www.fhwa.dot.gov/programadmin/asce.cfm>)] and Utility Quality Levels.

Responsible Parties:

- Utility Coordinator - Herein referred to as the provider performing services in a non-engineering capacity
- Utility Engineer - Herein referred to as the registered Professional Engineer, who is an employee of the Engineer, performing services in a professional engineering capacity

Utility Quality Levels (QL):

Utility Quality Levels are defined in cumulative order (least to greatest) as follows:

- QL D - Existing Records: Utilities are plotted from review of available existing records
- QL C – Visible Surface Feature(s) Survey: QL "D" information correlated with surveyed surface features
- QL B - Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Utility indications are referenced to established survey control. Incorporates QLs C and D
- QL A - Locate (Test Hole): Three-dimensional mapping and other characterization data to obtain horizontal and vertical position, material type, condition, size and other data about the utility and its environment through exposure by non-destructive excavation techniques. QL A is inclusive of QLs B, C, and D.

#### ~~9.1 Existing Records (QL D)~~

~~The Consultant shall designate a maximum quantity of 7000 linear feet of QL D:~~

- ~~• Compile "As Built" information from plans, plats and other location data as provided by the utility owners~~

#### ~~9.2 Visible Surface Features (QL C)~~

~~The Consultant shall designate a maximum quantity of 7000 linear feet of QL C:~~

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

- ~~• surveying visible utility facilities (e.g., manholes, valve boxes, etc.) and correlating this information with existing utility records (QL-D information)~~
- ~~• Includes all level of effort from Quality Level D investigation~~

### 9.3 Designate (QL B)

The Consultant shall designate a maximum quantity of 7000 linear feet of QL B:

- Designate, record, and mark the horizontal location of the existing utility facilities and their service laterals to existing buildings using non-destructive surface geophysical techniques. No storm sewer facilities are to be designated unless authorized by ATD. A non-water base paint, utilizing the APWA color code scheme, must be used on all surface markings of underground utilities
- Coordinate with ATD and the utility owner when utility owner's policy is to designate their own facilities at no cost for preliminary survey purposes. The Consultant shall examine utility owner's work to ensure accuracy and completeness
- Correlate utility owner records with designating data and resolve discrepancies using professional judgment. It is understood that line sizes of designated utilities are from the best available records and that an actual line sizes is determined from a test hole vacuum excavation. The Consultant shall place a note on stating "lines sizes are from best available records".
- Determine and inform ATD of the approximate utility depths at critical locations as determined by ATD
- Close-out permits as required
- Clearly identify all utilities that were discovered from quality levels C and D investigation but cannot be depicted in quality level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable
- Comply with all applicable City policy and procedural manuals

#### Deliverables:

Monthly summary of SUE work completed and in process to verify compliance with work schedule.

Clearly identified composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test-hole) locations.

Above ground appurtenances and locations must be included in the deliverable.

### 9.4 Subsurface Utility Locate (Test Hole) Service (QL A) (Loaded Hourly Rate)

The Consultant shall locate a maximum of 30 test holes and perform the following:

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

- Review requested test-hole locations and advise ATD in the development of an appropriate test-hole work plan relative to the existing utility infrastructure and proposed roadway design elements
- Coordinate with ATD and utility owner inspectors as may be required utility owner policy
- Cut and remove existing pavement material, such that the cut does not to exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist
- Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the responsible engineer:
  - Elevation of top and/or bottom of utility tied to the datum of the furnished plan
  - Identify a minimum of two benchmarks utilized
  - Elevations shall be within an accuracy of 0.1 inches of utilized benchmarks
  - Elevation of existing grade over utility at test hole location
  - Horizontal location referenced to project coordinate datum
  - Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems
  - Utility facility material(s)
  - Utility facility condition
  - Pavement thickness and type
  - Coating/Wrapping information and condition
  - Unusual circumstances or field conditions
- Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from ATD
- Be responsible for any damage to the utility during the locating process. In the event of damage, the Consultant shall stop work, notify the appropriate utility facility owner, ATD and appropriate regulatory agencies. The regulatory agencies include, but are not limited to the Railroad Commission of Texas and the Texas Commission on Environmental Quality. The Consultant shall not resume work until the utility facility owner has determined the corrective action to be taken. The Consultant shall be liable for costs involved in the repair or replacement of the utility facility
- Back fill excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The Consultant shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill
- Furnish and install a permanent above ground marker (as may be specified by ATD, directly above center line of the utility facility)
- Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Consultant shall return to correct the condition at no extra charge to the City
- Return plans, profiles, and test hole data sheets to ATD
- If requested, conduct a review of the findings with ATD
- Close-out permits as required

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **DELIVERABLES:**

Plot utility location position information to scale

Provide a comprehensive utility plan signed and sealed by the responsible engineer.

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 10. Roadway Design

The Consultant shall provide plan and profile drawings using CADD standards as required by COA. Existing and proposed right-of-way lines must be shown. The plan and profile views may be shown on separate sheets where it is impractical to show the profile view on the same sheet.

The plan view must contain and not limited to the following design elements, as directed by ATD:

- Roadway centerlines for major and minor streets. Horizontal control points must be shown
- Limits of construction
- Back of curb, face of curb, lip of gutter, sidewalk locations
- Pavement edges for improvements
- Lane and median width dimensions
- Proposed structure locations, lengths, and widths
- Direction of traffic flow on roadways. Lane lines and arrows indicating the number of lanes
- Drawing scale shall be 1"=50'
- ROW lines and easements
- Benchmark information
- Begin and end superelevation transitions and cross slope changes
- Limits of riprap, erosion mat, sod, and seeding
- Location of street trees
- Future planting areas
- Existing utilities and structures
- Radii call outs, curb location, crash safety items, American with Disabilities Act Accessibility Guidelines (ADAAG) and Public Right-of-Way Guidelines (PROWAG).
- Access management-related improvements
- Existing and/or proposed bus stop locations, including shelters and related amenities and signage
- Location of street trees, tree grates and wells, and other planting areas
- Street furnishings, such as bike racks, benches, waste and recycling receptacles, etc.

The profile view must contain the following design elements:

- Calculated profile grade for proposed major and minor streets, if applicable. Vertical curve data, including "K" values
- Existing and proposed profiles along the proposed centerline of major streets
- Water surface elevations at major stream crossing for 2, 5, 10, 25, 50, and 100 year storms.
- Calculated vertical clearances at grade separations and overpasses

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### 10.1 Typical Sections

The Consultant shall prepare existing and proposed typical sections for roadways and structures. Typical sections must include width of travel lanes, direction of travel, shoulders, outer separations, border widths, curb and gutter, curb offsets, median islands, sidewalks, and other pertinent cross-sectional elements, as well as the ROW. The typical section must also depict proposed grade line, centerline, pavement section material types and depths, sodding or seeding limits, traffic barriers, SUP/sidewalks, and station limits.

### 10.2 Earthwork (Cut and Fill Quantities)

The Consultant shall develop earthwork quantities and provide final design cross sections at 50 feet intervals and at intersections, culvert crossings, or other areas of impact as determined by the Consultant. The Consultant shall provide supporting design files used to generate the design cross sections. Annotation shall include at a minimum stationing, existing and proposed ROW/easements, cross-slopes, side-slopes, offset distances to grade breaks, etc. The Consultant shall submit cross sections at the 30%, 60%, 90%, and final submittals. The Consultant shall also submit the current 3D model for each submittal.

### 10.3 Cross Streets

The Consultant shall provide intersection layouts detailing the pavement and drainage designs at the intersection of each cross street. The layouts must include horizontal and vertical alignments, curb returns, geometrics, transition lengths, street names, stationing, pavement elevations, drainage details, contours, and ADAAG compliance items and other non-standard facilities for bicycles and pedestrians.

### 10.4 Pedestrian and Bicycle Facilities

The Consultant shall coordinate with ATD to incorporate pedestrian and bicycle facilities. Pedestrian and bicycle facilities must be designed in accordance with the latest ADAAG, PROWAG, the Texas Accessibility Standards (TAS), AASHTO Guide for the Development of Bicycle Facilities, National Association of City Transportation Officials (NACTO) Urban Street Design Guide and Urban Bikeway Guide, and City of Austin Design Standards.

## **11. Signing, Pavement Markings and Signalization**

### 11.1 Signing

The Consultant shall prepare drawings, specifications, and details for signs in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD). As

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

applicable, the Consultant shall coordinate with ATD for overall signing strategies and placement of signs.

The Engineer shall prepare the following drawings, specifications and details for signs

- Signing - Small Sign Layouts
- Signing - Small Sign Summary Sheets
- Signing – Standards

### 11.2 Pavement Markings

The Consultant shall detail both permanent and temporary pavement markings and channelization devices in accordance with the TMUTCD on plan sheets. The Consultant shall coordinate with ATD for pavement marking strategies. The Consultant shall select pavement markings from the latest City/State standards, as applicable.

The Consultant shall provide the following information on sign and pavement marking layouts:

- Roadway layout
- Center line with station numbering
- Culverts and other structures that present a hazard to traffic
- Existing signs to remain, to be removed, to be relocated or replaced
- Proposed signs (illustrated, numbered and sized)
- Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation
- Quantities of existing pavement markings to be removed
- Proposed delineators, object markers
- Direction of traffic flow on roadways

### 11.3 Traffic Signals

The Consultant shall prepare Traffic Signal Plans for warranted traffic signals. The Consultant shall confirm the power source for signals and coordinate with the appropriate utility agency. The Consultant shall develop quantities, general notes, and specifications and incorporate the appropriate agency standards required to complete construction. Traffic signal poles, fixtures, signs, and lighting must be designed in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD) and standards.

The Consultant shall provide the following information in the Traffic Signal Plans:

- Layout
- Estimate and quantity sheet
- List of bid items

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

- Bid item quantities
- Specification item number
- Paid item description and unit of measure
- Basis of estimate sheet (list of materials)
- General notes and specification data
- Condition diagram
- Highway and intersection design features
- Roadside development
- Traffic control including illumination
- Existing traffic control infrastructure that will remain (signals, signs, markings, etc.)
- Existing utilities
- Proposed highway improvements
- Proposed installation
- Proposed additional traffic controls
- Proposed illumination attached to signal poles.
- Proposed power pole source
- Notes for plan layout
- Phase sequence diagram(s)
- Signal locations
- Signal indications
- Phase diagram
- Signal sequence table
- Flashing operation (normal and emergency)
- Preemption operation (when applicable)
- Contact responsible Agency to obtain interval timing, cycle length and offset
- Construction detail sheets(s)
- Poles (ATD standard sheets)
- Detectors
- Pull Box and conduit layout
- Controller Foundation standard sheet
- Electrical chart
- Marking details (when applicable)
- Aerial or underground interconnect details (when applicable)
- General Requirements
- Contact local utility company
- Confirm power source
- Prepare governing specifications and special provisions list
- Prepare project estimate
- Conduct traffic counts and prepare Traffic Signal Warrant Studies for proposed and existing traffic signals at designated locations

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **DELIVERABLES:**

Design Layouts

General notes and specification data

Summary of Quantities

Condition diagram

Plan sheets

Phase sequence diagram(s)

Construction detail sheet(s)

Signal Detail Sheets

Signal Standard Sheets

## ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER

### 12. Miscellaneous Items

The Consultant shall provide the following services:

#### 12.1 Retaining Walls (If Applicable)

The Consultant shall develop each retaining wall and foundation design of each retaining wall in accordance with Geotechnical Engineering performed during the Preliminary Engineering phase. The Consultant shall include retaining wall layouts with the 60% milestone deliverable for acceptance by ATD. The Consultant shall indicate limits of existing retaining walls for removal and construction; and determine limits of temporary retaining walls to be shown on the TCP. Unless otherwise directed by ATD, the Consultant shall incorporate retaining wall design criteria in accordance with Section 11 of the TCM. The Consultant shall notify ATD of the type of retaining walls to be used for and cut and fill conditions. The Consultant shall provide layouts, elevations, quantity estimate, and summary of quantities, typical cross sections and structural details of retaining walls within the project.

#### **DELIVERABLES:**

Retaining Wall Layouts and details (including underdrain layouts and tie-in)

Global stability analysis per wall

Retaining wall calculations in native and printed format (100% submittal only)

Temporary Retaining Wall plans, and calculations, in support of the traffic control as specified in the PS&E Submittals

#### 12.2 Traffic Control Plan (TCP), Detours, Sequence of Construction

The Consultant shall prepare TCP including typical sections, for each phase of TCP. A detailed TCP must be developed in accordance with the latest edition of the TMUTCD and applicable City of Austin design requirements, to include special approvals such as, night-time work operation, long-term lane closures, and work during peak hours and others, as required. The Consultant shall implement the current City/State Barricade and Construction (BC) standards and TCP standards as applicable.

The Consultant shall:

- Provide a narrative of the construction sequencing, and work activities per phase, and determine the existing and proposed traffic control devices (regulatory signs, warning signs, guide signs, route markers, construction pavement markings, barricades, flag personnel, temporary traffic signals, temporary drainage, temporary pavement, etc.) to be used to handle traffic during each construction

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

sequence. Pedestrian and bicycle accommodations shall be outlined and required details provided to obtain the necessary permitting for construction.

- The Consultant shall assist ATD in coordinating mitigation of impacts to adjacent schools, emergency vehicles, pedestrians, bicyclists, businesses and neighborhoods.

### **DELIVERABLES:**

Applicable TCP details including phased cross sections, temporary shoring, intersection geometry and signal phasing, as applicable

Quantity and item summaries for the TCP

### 12.3 Temporary Traffic Signals

The Consultant shall address the adjustment or realignment of traffic signal heads and the use of detection on the plans as directed by ATD. The Consultant shall obtain traffic movement counts to address new timing plans to minimize the impact during construction and to determine the storage length needed for left and right turn movements.

### **DELIVERABLES:**

Layouts

Estimate and quantity sheet

General notes and specification data

Condition diagram

Plan sheets

Notes for plan layout

Phase sequence diagram(s)

Construction detail sheet(s)

Sign Detail Sheets

### 12.4 Stormwater Pollution Prevention Plans (SW3P)

The Consultant shall develop SW3P in conformance with the TCP to minimize potential impact to receiving waterways. The SW3P must include text describing the plan,

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

quantities, type, phase and locations of erosion control devices and required permanent erosion control.

### **DELIVERABLES:**

SW3P sheets and standard details

Erosion Control plan sheets

### 12.5 Compute and Tabulate Quantities for Construction Bid Items

The Consultant shall develop Sand tabulate pay items on estimate summary and quantity sheets.

### **DELIVERABLES:**

Summary and Quantity sheets

### 12.6 Special Utility Details (Water, Sanitary Sewer, etc.) (Loaded Hourly Rate)

The Consultant shall develop special details to accommodate or adjust utilities. Prior to developing special utility details, the Consultant shall coordinate with ATD regarding each utility conflict that may require an accommodation. The ATD Utility Coordinator shall coordinate with each utility to communicate requirements and design details to the Consultant. The Consultant shall then develop each utility detail or accommodation in compliance with applicable utility accommodation rules. The Consultant shall prepare plan sheets, detail sheets, special specifications, special provisions, and special notes required to accommodate or adjust utilities into the plans. This work will be contracted on a Loaded Hourly Rate basis.

### **DELIVERABLES:**

Utility Adjustment/Relocation Plan Sheets

Utility Adjustment/Relocation Plan Details

Utility Specifications, Provisions, and Notes

### 12.7 Removal Plans

The Consultant shall develop details to depict and quantify removals necessary to implement the proposed improvements.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

### **DELIVERABLES:**

Removal Plan Sheets

#### **12.8 Estimate**

The Consultant shall independently develop and report quantities necessary to construct the project in COA bid format at the specified deliverable milestones and Final PS&E submittals. Any bid items not in the template, must be requested and justified by Consultant to ATD. The Consultant shall prepare and submit a basis of estimate for all pay quantities and submit to ATD for each milestone deliverable. Escalation and contingency shall be clearly shown and separate from bid items.

### **DELIVERABLES:**

Quantity Estimates in ATD bid format in Excel and .PDF file formats

Basis of Estimates in .PDF file formats

#### **12.9 Specifications and General Notes**

The Consultant shall identify and prepare necessary standard specifications, special specifications, special provisions and the appropriate reference items for inclusion in the plans and bidding documents.

### **DELIVERABLES:**

Special specifications and general notes in Word (with tracked changes on) and electronic .pdf format

### **13 Bridge Design (If Applicable)**

This section only applies if the scope of work includes rehabilitation or construction of a bridge.

#### **13.1 Bridge Layout.**

The Consultant shall prepare a bridge layout plan sheet for each bridge and bridge class culvert. Prior to preparation of bridge layouts, the Consultant shall prepare a comparative cost analysis to determine: (1) the optimum bridge beams for vertical clearance over railroads, roadways, or waterways, and (2) the optimum bridge structure versus roadway embankment, pavement, soil stabilization, and retaining walls.

The Consultant shall submit a 3D model (if applicable) and bridge layout for each structure early in the plan preparation process to obtain approval from ATD. The

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Consultant shall comply with relevant sections of the latest edition of the State's LRFD Bridge Design Manual, Bridge Project Development Manual, Bridge Detailing Guide, and AASHTO LRFD Bridge Design Specifications and respective checklists. Each bridge layout sheet must include bridge typical sections, structural dimensions, abutment and bent locations, superstructure and substructure types. The Consultant shall locate and plot soil borings and utilities, show proposed retaining walls, and, for staged construction, indicate limits of existing bridge for removal and reconstruction.

- Bridges are those shown on the approved schematic
- The Consultant shall determine the location of each soil boring needed for foundation design in accordance with applicable geotechnical reference manuals
- Prior to preparation of each bridge layout, the Consultant shall prepare a comparative cost analysis of bridge structures to determine: (1) the optimum bridge beams for vertical clearance over roadway, or waterways, and (2) the optimum bridge structure versus roadway embankment, pavement, soil stabilization, and retaining walls
- The Consultant shall submit preliminary bridge layouts, with associated documentation for approval at 30%
- The Consultant shall submit final bridge layouts to ATD for approval at 60% PS&E submittal
- The Consultant shall comply with relevant sections of the October 2015 edition of ATD's LRFD Bridge Design Guide, Bridge Project Development Manual, Bridge Detailing Manual, and AASHTO LRFD Bridge Design Specifications 7th Edition and respective checklists
- Each bridge layout sheet shall include horizontal and vertical alignment data, bridge typical sections, structural dimensions, abutment and bent locations, superstructure and substructure types. Locate and plot soil borings (including groundwater information) and utilities, show proposed retaining walls, and, for staged construction, indicate limits of existing bridge for removal and reconstruction

### **DELIVERABLES:**

Bridge Layouts

#### **13.2 Bridge Detail Summary**

The Consultant shall prepare total bridge quantities, estimates, and summary sheets for each bridge or bridge class culvert.

#### **13.3 Bridge Structural Details**

The Consultant shall prepare each structural design and develop detailed structural drawings of required details in compliance with above-listed manuals and guidelines. The Consultant shall assemble and complete applicable ATD Standard Details sheets.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

Additionally, the Consultant shall:

- Perform calculations for design of bridge abutments
- Perform calculations for bridge slab design
- Perform calculations to determine elevations of bridge substructure and super structure elements
- Perform calculations for bridge box beam design
- Prepare necessary foundation details and plan sheets
- Prepare plan sheets for abutment design
- Prepare plan sheets for additional abutment details
- Prepare framing plan and slab plan sheets
- Compute and prepare tables for slab and bearing seat elevations, dead load deflections, etc.
- Design beams and prepare beam design tables
- Prepare special provisions and special specifications in accordance to the above-listed manuals and guidelines

### **DELIVERABLES:**

Bridge structural details

### **14 Environmental Permits Issues and Commitments (EPIC) Sheets**

The Consultant shall complete the latest version of the EPIC sheets, as required. These sheets must be signed, sealed and dated by the Consultant as indicated in signature block. The final sheets must be submitted for ATD signature.

### **DELIVERABLES:**

EPIC Sheets

### **15 Communications & Community Outreach (Loaded Hourly Rate)**

Communications & Community Outreach scope efforts will be contracted on a Loaded Hourly Rate basis. The Consultant will provide assistance, as directed by ATD, with the following activities to support communications and community outreach efforts. Provide a single point of contact responsible for:

- responding to information requests from stakeholders and communications staff in a timely manner (within 48 hours, unless otherwise specified)
- reviewing and providing timely feedback on messages, handouts and materials to be used for public communication purposes, as requested
- providing advanced notice to communications staff regarding any activities that may be disruptive or noticeable to the traveling public, residents, property owners of businesses (e.g., accessing private properties, surveying/investigations, lane

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

closures, signage, equipment or materials, etc.) so that the appropriate stakeholders can be notified/contacted, and we can provide informational resources that may be useful for contractors to have (e.g. contact cards, project information sheets, etc.)

- notifying communications staff when deliverables are submitted containing information that could impact or be of interest to the traveling public, residents, property owners of businesses (e.g., construction time determination estimates, plans and design calculations, traffic control plans, construction phasing, constructability reviews, etc.)
- notifying communications staff when interaction occurs with a stakeholder or member of the public so that appropriate documentation and/or follow-up may occur
- Attending Meetings with Affected Property Owners, as needed
- Accompanying communications staff in going door-to-door or attending meetings with properties or businesses prior to construction, as needed
- Preparing visual aids/graphics for public communication purposes, as needed (e.g., maps, cross-sections, artist renderings, etc.)
- Providing staff to attend stakeholder meetings, as needed (e.g., open houses, workshops, public hearings, meet the contractor, neighborhood meetings, one-to-one stakeholder meetings, etc.)

### **16 CADD Conventions**

The Consultant shall employ consistent use of uniform drafting guidelines as stated in the Consultant's Master Agreement, use COA CAD Standards found at <http://austintexas.gov/department/engineering-services-division>.

### **17 Plan Preparation**

Plans shall facilitate City of Austin reviews in accordance with applicable design review checklists for the following milestone deliverables (60%, and 90%). Prior to the 60% submittal, the Consultant shall schedule a workshop to review 3D models and/or design cross-sections with ATD. The ATD will review the proposed profiles, 3D models (if applicable), and cross sections.

#### **17.1 Plan Production Sheets**

As applicable, the Consultant shall prepare plans with the following sheets:

- General
- Title Sheet
- index of Sheets
- Project Layout
- Roadway Typical Sections
- General Notes

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

- Estimate and Quantity Sheets
- Quantity Summary Sheets
- Traffic Control Plan (TCP) Sheets
- Roadway Details
- Survey and Control Index Sheets
- Horizontal and Vertical Control Sheets
- Removal Plan Sheets
- Roadway Plan and Profile Sheets
- Landscape, Irrigation and Streetscape Sheets
- Intersection Details
- Driveway Details
- Miscellaneous Details
- Retaining Wall Details
- Drainage Details
- Drainage Structure Details
- Hydraulic Calculation Sheets
- Culvert Layouts
- Drainage Plan and Profile Sheets
- Existing Utility Plan and Profile Sheets
- Proposed Utility Adjustment/Relocation Plan and Profile Sheets
- Standards (for each utility type)
- Bridge Hydraulic Data Sheets
- Bridge Layouts
- Structure Quantity Summary, and Structural Details
- Traffic Items
- Traffic Signal Layouts
- Traffic Signal Details
- Illumination
- Signing
- Pavement Markings
- SW3P
- EPIC Sheet

### **17.2 Plan Submittals**

The Consultant deliverables shall include, and not limited to, at each submittal:

#### **30% Review Submittal**

- Electronic .PDF version of 11" x 17" plan sheets including as a minimum
- Estimate and Quantity
- Estimate of construction cost
- Form 1002 and updated Design Exceptions with existing and proposed typical sections, location map and design exception exhibits (if any)
- Bridge and retaining wall layouts

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

- External stability analysis for retaining walls
- One roll plot (1"=100') TCP phasing concept to present to ROWMAN for review

### 60% Review Submittal

- Electronic .PDF version of 11" x 17" plan sheets
- Estimate and Quantity
- Estimate of construction cost
- One set (roll plot format) TCP phasing layouts
- If applicable, a preliminary 3D model, with detail to verify the design of the 60% plan sheets

### 90% Review Submittal

- Electronic .PDF version of 11" x 17" plan sheets, including updated design cross-sections and full set of plan sheets as listed above
- Response comments from 60% submittal
- Construction schedule with supporting documentation for calendars, production rates, etc.
- If applicable, a detailed 3D model to verify the design of the 90% plan sheets
- List of governing Specifications and Special Provisions in addition to those required
- New Special Specifications and Special Provisions with Form 1814, if applicable
- Marked up general notes
- Plans estimate
- Special Specifications/Provisions
- Consultant signed, sealed and dated supplemental sheets (8 ½" x 11")
- Right-of-Way, Relocation, Encroachment, Utilities and Railroad certification, as applicable
- Other supporting documents

### 100% Final Submittal

- Final plan sheets as needed from 90% review comments
- Final supporting documents from 90% review comments
- If applicable, a final 3D model.

### 17.3 Electronic Copies

The Consultant shall furnish ATD with a flash drive of the final plans in the current CADD system used by ATD, .pdf format, and in ATD's File Management System (FMS) format. The Consultant shall also provide separate flash drive containing cross section information (in CAD, XLR, & ASCII formats) for ATD contractor to use. The Consultant shall provide an electronic copy of Primavera file or the latest scheduling program used by ATD for construction time estimate.

## **ATTACHMENT 1: SERVICES TO BE PROVIDED BY THE ENGINEER**

With the consent of ATD, and in lieu of the above paragraph, the Consultant may maintain the project files in ATD's eBuilder.

### **17.4 Documentation of Calculations**

The Consultant shall provide the following:

- An electronic copy of engineering calculations, analysis, input calculations, quantities, geometric designs, etc. relating to the project's structural elements. Project structural elements include, but are not limited to: bridges, retaining walls, non-standard culverts, custom headwalls and drainage appurtenances.
- Working copies of spreadsheets and output from programs utilized on a flash drive in a universally reliable format.

The Consultant may provide the calculations in .pdf format in lieu of the bound hard copies. The .pdf file should be submitted on a flash drive. Final payment is contingent upon ATD's receipt and confirmation by ATD's Project Manager that the electronic files run and are formatted in accordance with the contract and review comments have been adequately addressed.

### **DELIVERABLES:**

Design calculations

Design files on flash drive

ATTACHMENT 2: ADVANCED FUNDING AGREEMENT – FUNDING REQUIREMENTS FOR THIS SCOPE OF SERVICES

CLMP 283: Lakeline Boulevard Improvements

Relevant provisions of the attached Advanced Funding Agreement (AFA) as well as other provisions not specifically listed here constitute additional requirements in addition to the requirements set forth by the City of Austin for Professional Service Consultants.

1. Paragraph 4 Project Sources and Uses of Funds, Subparagraph O, P & Q
2. Paragraph 8 Utilities
3. Paragraph 9 Environmental Assessment and Mitigation, Subparagraphs A, B, C, & D
4. Paragraph 10 Compliance with Accessibility Standards.
5. Paragraph 11 Architectural and Engineering Services
6. Paragraph 12 Construction Responsibilities, Subparagraph E & F
7. Paragraph 15 Insurance
8. Paragraph 22 Cost Principles
9. Paragraph 23 Procurement and Property Management Standards
10. Paragraph 24 Inspection of Books and Records
11. Paragraph 25 Civil Rights Compliance
12. Paragraph 26 Pertinent Non-Discrimination Authorities
13. Paragraph 27 Disadvantaged Business Enterprise (DBE) Program Requirements
14. Paragraph 30 Federal Funding Accountability and Transparency Act Requirements, Subparagraph A
15. Paragraph 31 Single Audit Report, Subparagraph A



P.O. Box 15426, AUSTIN, TEXAS 78761-5426 | 512.832.7000 | WWW.TXDOT.GOV

October 7, 2019

City of Austin  
 Austin Transportation Finance Department  
 P.O. Box 1088  
 Austin, TX 78767-1088

REF: CSJ 0914-05-194 Lakeline Blvd. Improvement

Dear Ms. Aguilar,

Advance funding Agreement (AFA) has been executed on October 4, 2019 for the above referenced project, and a copy is attached to this letter. According to the AFA article 4.H, the initial payment of \$51,375 is due.

Checks may be made payable to Texas Department of Transportation and sent to my attention at 7901 N. IH-35, Austin, TX 78753. There is an option to send payment electronically and the information needed for wiring Electronic Funds Transfers to the Texas Comptroller of Public Accounts is listed below. If wiring funds, please send me a notification with the date funds were transferred.

**Payment Instructions (direct deposit):**

<b>Financial Institution:</b>	Austin Texas Comptroller- Austin
<b>Routing Number:</b>	114900164
<b>Account Number:</b>	Texas Comptroller of Public Account - Austin
<b>Account Number to Credit:</b>	463600001
<b>Reference:</b>	<b>CSJ 0914-05-194-</b> Remitter's name
<b>Attention:</b>	601-Texas Department of Transportation Sarah Schatte and Guadalupe Hernandez

If you have any questions or concerns regarding the agreement or sending payments, please don't hesitate to contact me at 512-832-7130. Thank you.

Sincerely,

Samuel Himawan, CTCM  
 Contract Specialist  
 Texas Department of Transportation, Austin District, TPD-Project Delivery

<b>TxDOT:</b>		<b>Federal Highway Administration:</b>	
<b>CSJ #</b>	<b>0914-05-194</b>	<b>CFDA No.</b>	<b>20.205</b>
<b>District #</b>	<b>14-AUS</b>	<b>CFDA Title</b>	<b>Highway Planning and Construction</b>
<b>Code Chart 64 #</b>	<b>02100</b>		
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STATE OF TEXAS       §

COUNTY OF TRAVIS   §

**ADVANCE FUNDING AGREEMENT**  
**For**  
**Surface Transportation Block Grant Program (STBG) Project**  
**Off-System**

**THIS AGREEMENT** is made by and between the State of Texas, acting by and through the **Texas Department of Transportation** called the “State”, and the **City of Austin**, acting by and through its duly authorized officials, called the “Local Government”. The State and Local Government shall be collectively referred to as “the parties” hereinafter.

**WITNESSETH**

**WHEREAS**, federal law establishes federally funded programs for transportation improvements to implement its public purposes, and

**WHEREAS**, the Texas Transportation Code, Section 201.103 establishes that the State shall design, construct and operate a system of highways in cooperation with local governments, and Section 222.052 authorizes the Texas Transportation Commission to accept contributions from political subdivisions for development and construction of public roads and the state highway system within the political subdivision, and

**WHEREAS**, federal and state laws require local governments to meet certain contract standards relating to the management and administration of State and federal funds, and

**WHEREAS**, the Texas Transportation Commission passed Minute Order Number **115291** authorizing the State to undertake and complete a highway improvement generally described as reconstruction roadway from 2-lanes to 4-lanes divided with sidewalk and bicycle facilities on Lakeline Blvd from FM 734 (Parmer Ln.) to Lyndhurst Blvd. in City of Austin (Project), and

**WHEREAS**, the Governing Body of the Local Government has approved entering into this Agreement by resolution or ordinance dated **08/08/2019**, which is attached to and made a part of this Agreement as Attachment A, Resolution or Ordinance, for the improvement covered by this Agreement. A map showing the Project location appears in Attachment B, Location Map Showing Project (Attachment B), which is attached to and made a part of this Agreement.

**NOW, THEREFORE**, in consideration of the premises and of the mutual covenants and agreements of the parties, to be by them respectively kept and performed as set forth in this Agreement, it is agreed as follows:

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## AGREEMENT

### 1. Responsible Parties:

The parties shall be responsible for the following work as stated in the article of the Agreement referenced in the table below:

1	<b>Local Government</b>	Utilities	Article 8
2.	<b>Local Government</b>	Environmental Assessment and Mitigation	Article 9
3.	<b>Local Government</b>	Architectural and Engineering Services	Article 11
4.	<b>Local Government</b>	Construction Responsibilities	Article 12
5.	<b>Local Government</b>	Right of Way and Real Property	Article 14

### 2. Period of the Agreement

This Agreement becomes effective when signed by the last party whose signing makes the Agreement fully executed. This Agreement shall remain in effect until the Project is completed or unless terminated as provided below.

### 3. Scope of Work

Reconstruct roadway from 2-lanes to 4-lanes divided with sidewalk and bicycle facilities on Lakeline Blvd from FM 734 (Parmer Ln.) to Lyndhurst Blvd. in City of Austin, Texas.

### 4. Project Sources and Uses of Funds

The total estimated cost of the Project is shown in Attachment C, Project Budget, (Attachment C) which is attached to and made a part of this Agreement.

- A. If the Local Government will perform any work under this Agreement for which reimbursement will be provided by or through the State, the Local Government must complete training. If federal funds are being used, the training must be completed before federal spending authority is obligated. Training is complete when at least one individual who is working actively and directly on the Project successfully completes and receives a certificate for the course entitled "Local Government Project Procedures and Qualification for the Texas Department of Transportation" and retains qualification in accordance with applicable TxDOT procedures. Upon request, the Local Government shall provide the certificate of qualification to the State. The individual who receives the training certificate may be an employee of the Local Government or an employee of a firm that has been contracted by the Local Government to perform oversight of the Project. The State in its discretion may deny reimbursement if the Local Government has not continuously designated in writing a qualified individual to work actively on or to directly oversee the Project.
- B. The expected cash contributions from the federal government, the State, the Local Government, or other parties are shown in Attachment C. The State will pay for only those Project costs that have been approved by the Texas Transportation Commission. The State and the federal government will not reimburse the Local Government for any work performed before the federal spending authority is formally obligated to the Project by the Federal Highway Administration (FHWA). After federal funds have been

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- obligated, the State will send to the Local Government a copy of the formal documentation showing the obligation of funds including federal award information. The Local Government is responsible for 100% of the cost of any work performed under its direction or control before the federal spending authority is formally obligated.
- C. Attachment C shows, by major cost categories, the cost estimates and the party responsible for performing the work for each category. These categories may include but are not limited to: (1) costs of real property; (2) costs of utility work; (3) costs of environmental assessment and remediation; (4) cost of preliminary engineering and design; (5) cost of construction and construction management; and (6) any other local project costs.
- D. The State will be responsible for securing the federal and State share of the funding required for the development and construction of the local Project. If the Local Government is due funds for expenses incurred, these funds will be reimbursed to the Local Government on a cost basis.
- E. The Local Government will be responsible for all non-federal or non-State participation costs associated with the Project, unless otherwise provided for in this Agreement or approved otherwise in an amendment to this Agreement. Where Special Approval has been granted by the State under 43 TAC §15.52, the Local Government shall only in that instance be responsible for overruns in excess of the amount specified in Attachment C to be paid by the Local Government.
- F. If the Project has been approved for a specified percentage or a periodic payment non-standard funding or payment arrangement under 43 TAC §15.52, the budget in Attachment C will clearly state the specified percentage or the periodic payment schedule.
- G. When Special Approval has been granted by the State so that the Local Government bears the responsibility for paying cost overruns, the Local Government shall make payment to the State within thirty (30) days from the receipt of the State's written notification of those amounts.
- H. Prior to the performance of any engineering review work by the State, the Local Government will pay to the State the amount specified in Attachment C. At a minimum, this amount shall equal the Local Government's funding share for the estimated cost of preliminary engineering performed or reviewed by the State for the Project. At least sixty (60) days prior to the date set for receipt of the construction bids, the Local Government shall remit its remaining financial share for the State's estimated construction oversight and construction cost.
- I. The State will not execute the contract for the construction of the Project until the required funding has been made available by the Local Government in accordance with this Agreement.
- J. Whenever funds are paid by the Local Government to the State under this Agreement, the Local Government shall remit a check or warrant made payable to the "Texas Department of Transportation" or may use the State's Automated Clearing House (ACH) system for electronic transfer of funds in accordance with instructions provided by TxDOT's Finance Division. The funds shall be deposited and managed by the State and may only be applied by the State to the Project.
- K. The State will not pay interest on any funds provided by the Local Government.

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- L. If a waiver for the collection of indirect costs for a service project has been granted under 43 TAC §15.56, the State will not charge the Local Government for the indirect costs the State incurs on the local Project, unless this Agreement is terminated at the request of the Local Government prior to completion of the Project.
- M. If the Local government is an Economically Disadvantaged County (EDC) and if the State has approved adjustments to the standard financing arrangement, this Agreement reflects those adjustments.
- N. Where the Local Government is authorized to perform services under this Agreement and be reimbursed by the State, the Local Government is authorized to submit requests for reimbursement by submitting the original of an itemized invoice in a form and containing all items required by the State no more frequently than monthly, and no later than ninety (90) days after costs are incurred. If the Local Government submits invoices more than ninety (90) days after the costs are incurred and if federal funding is reduced as a result, the State shall have no responsibility to reimburse the Local Government for those costs.
- O. Upon completion of the Project, where Special Approval has been granted by the State under 43 TAC 15.52, the State will perform a final accounting of the Project costs. Any funds due by the Local Government, the State, or the federal government will be promptly paid by the owing party.
- P. The state auditor may conduct an audit or investigation of any entity receiving funds from the State directly under this Agreement or indirectly through a subcontract under this Agreement. Acceptance of funds directly under this Agreement or indirectly through a subcontract under this Agreement acts as acceptance of the authority of the state auditor, under the direction of the legislative audit committee, to conduct an audit or investigation in connection with those funds. An entity that is the subject of an audit or investigation must provide the state auditor with access to any information the state auditor considers relevant to the investigation or audit.
- Q. Payment under this Agreement beyond the end of the current fiscal biennium is subject to availability of appropriated funds. If funds are not appropriated, this Agreement shall be terminated immediately with no liability to either party.

## 5. Termination of This Agreement

This Agreement shall remain in effect until the Project is completed and accepted by all parties, unless:

- A. The Agreement is terminated in writing with the mutual consent of the parties;
- B. The Agreement is terminated by one party because of a breach. To the extent allowed by Texas law, the breaching party shall be responsible for the costs associated with its own proportionate share of liability arising out of this agreement;
- C. The Local Government elects not to provide funding after the completion of preliminary engineering, specifications, and estimates (PS&E) and the Project does not proceed because of insufficient funds, in which case the Local Government agrees to reimburse the State for its reasonable actual costs incurred during the Project; or
- D. The Project is inactive for thirty-six (36) consecutive months or longer and no expenditures have been charged against federal funds, in which case the State may in its discretion terminate this Agreement.

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## 6. Amendments

Amendments to this Agreement due to changes in the character of the work, terms of the Agreement, or responsibilities of the parties relating to the Project may be enacted through a mutually agreed upon, written amendment.

## 7. Remedies

This Agreement shall not be considered as specifying the exclusive remedy for any agreement default, but all remedies existing at law and in equity may be availed of by either party to this Agreement and shall be cumulative.

## 8. Utilities

The party named in Article 1, Responsible Parties, under AGREEMENT shall be responsible for the adjustment, removal, or relocation of utility facilities in accordance with applicable state laws, regulations, rules, policies, and procedures, including any cost to the State of a delay resulting from the Local Government's failure to ensure that utility facilities are adjusted, removed, or relocated before the scheduled beginning of construction. The Local Government will not be reimbursed with federal or State funds for the cost of required utility work. The Local Government must obtain advance approval for any variance from established procedures. Before a construction contract is let, the Local Government shall provide, at the State's request, a certification stating that the Local Government has completed the adjustment of all utilities that must be adjusted before construction is completed.

## 9. Environmental Assessment and Mitigation

Development of a transportation project must comply with the National Environmental Policy Act and the National Historic Preservation Act of 1966, which require environmental clearance of federal-aid projects. The party named in Article 1, Responsible Parties, under AGREEMENT is responsible for the following:

- A. The identification and assessment of any environmental problems associated with the development of a local project governed by this Agreement.
- B. The cost of any environmental problem's mitigation and remediation.
- C. Providing any public meetings or public hearings required for the environmental assessment process. Public hearings will not be held prior to the approval of the Project schematic.
- D. The preparation of the NEPA documents required for the environmental clearance of this Project.

If the Local Government is responsible for the environmental assessment and mitigation, before the advertisement for bids, the Local Government shall provide to the State written documentation from the appropriate regulatory agency or agencies that all environmental clearances have been obtained.

## 10. Compliance with Accessibility Standards

All parties to this Agreement shall ensure that the plans for and the construction of all projects subject to this Agreement are in compliance with standards issued or approved by the Texas Department of Licensing and Regulation (TDLR) as meeting or consistent with minimum accessibility requirements of the Americans with Disabilities Act (P.L. 101-336) (ADA).

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### 11. Architectural and Engineering Services

The party named in Article 1, Responsible Parties, under AGREEMENT has responsibility for the performance of architectural and engineering services. The engineering plans shall be developed in accordance with the applicable State's *Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges* and the special specifications and special provisions related to it. For projects on the State highway system, the design shall, at a minimum conform to applicable State manuals. For projects not on the State highway system, the design shall, at a minimum, conform to applicable American Association of State Highway and Transportation Officials (AASHTO) design standards.

In procuring professional services, the parties to this Agreement must comply with federal requirements cited in 23 CFR Part 172 if the Project is federally funded and with Texas Government Code 2254, Subchapter A, in all cases. Professional contracts for federally funded projects must conform to federal requirements, specifically including the provision for participation by Disadvantaged Business Enterprises (DBEs), ADA, and environmental matters. If the Local Government is the responsible party, the Local Government shall submit its procurement selection process for prior approval by the State. All professional services contracts must be reviewed and approved by the State prior to execution by the Local Government.

### 12. Construction Responsibilities

The party named in Article 1, Responsible Parties, under AGREEMENT is responsible for the following:

- A. Advertise for construction bids, issue bid proposals, receive and tabulate the bids, and award and administer the contract for construction of the Project. Administration of the contract includes the responsibility for construction engineering and for issuance of any change orders, supplemental agreements, amendments, or additional work orders that may become necessary subsequent to the award of the construction contract. In order to ensure federal funding eligibility, projects must be authorized by the State prior to advertising for construction.
- B. If the State is the responsible party, the State will use its approved contract letting and award procedures to let and award the construction contract.
- C. If the Local Government is the responsible party, the Local Government shall submit its contract letting and award procedures to the State for review and approval prior to letting.
- D. If the Local Government is the responsible party, the State must concur with the low bidder selection before the Local Government can enter into a contract with the vendor.
- E. Upon completion of the Project, the party constructing the Project will issue and sign a "Notification of Completion" acknowledging the Project's construction completion and submit certification(s) sealed by a professional engineer(s) licensed in the State of Texas.
- F. For federally funded contracts, the parties to this Agreement will comply with federal construction requirements cited in 23 CFR Part 635 and with requirements cited in 23 CFR Part 633, and shall include the latest version of Form "FHWA-1273" in the

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contract bidding documents. If force account work will be performed, a finding of cost effectiveness shall be made in compliance with 23 CFR 635, Subpart B.

### 13. Project Maintenance

The Local Government shall be responsible for maintenance of locally owned roads and locally owned facilities after completion of the work. The State shall be responsible for maintenance of the State highway system after completion of the work if the work was on the State highway system, unless otherwise provided for in existing maintenance agreements with the Local Government.

### 14. Right of Way and Real Property

The party named in Article 1, Responsible Parties, under AGREEMENT is responsible for the provision and acquisition of any needed right of way or real property.

The Local Government shall be responsible for the following:

- A. Right of way and real property acquisition shall be the responsibility of the Local Government. Title to right of way and other related real property must be acceptable to the State before funds may be expended for the improvement of the right of way or real property.
- B. If the Local Government is the owner of any part of the Project site under this Agreement, the Local Government shall permit the State or its authorized representative access to occupy the site to perform all activities required to execute the work.
- C. All parties to this Agreement will comply with and assume the costs for compliance with all the requirements of Title II and Title III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Title 42 U.S.C.A. Section 4601 et seq., including those provisions relating to incidental expenses incurred by the property owners in conveying the real property to the Local Government and benefits applicable to the relocation of any displaced person as defined in 49 CFR Section 24.2(g). Documentation to support such compliance must be maintained and made available to the State and its representatives for review and inspection.
- D. The Local Government shall assume all costs and perform necessary requirements to provide any necessary evidence of title or right of use in the name of the Local Government to the real property required for development of the Project. The evidence of title or rights shall be acceptable to the State, and be free and clear of all encroachments. The Local Government shall secure and provide easements and any needed rights of entry over any other land needed to develop the Project according to the approved Project plans. The Local Government shall be responsible for securing any additional real property required for completion of the Project.
- E. In the event real property is donated to the Local Government after the date of the State's authorization, the Local Government will provide all documentation to the State regarding fair market value of the acquired property. The State will review the Local Government's appraisal, determine the fair market value and credit that amount towards the Local Government's financial share. If donated property is to be used as a funding match, it may not be provided by the Local Government. The State will not

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reimburse the Local Government for any real property acquired before execution of this Agreement and the obligation of federal spending authority.

- F. The Local Government shall prepare real property maps, property descriptions, and other data as needed to properly describe the real property and submit them to the State for approval prior to the Local Government acquiring the real property. Tracings of the maps shall be retained by the Local Government for a permanent record.
- G. The Local Government agrees to make a determination of property values for each real property parcel by methods acceptable to the State and to submit to the State a tabulation of the values so determined, signed by the appropriate Local Government representative. The tabulations shall list the parcel numbers, ownership, acreage and recommended compensation. Compensation shall be shown in the component parts of land acquired, itemization of improvements acquired, damages (if any) and the amounts by which the total compensation will be reduced if the owner retains improvements. This tabulation shall be accompanied by an explanation to support the determined values, together with a copy of information or reports used in calculating all determined values. Expenses incurred by the Local Government in performing this work may be eligible for reimbursement after the Local Government has received written authorization by the State to proceed with determination of real property values. The State will review the data submitted and may base its reimbursement for parcel acquisitions on these values.
- H. Reimbursement for real property costs will be made to the Local Government for real property purchased in an amount not to exceed eighty percent (80%) of the cost of the real property purchased in accordance with the terms and provisions of this Agreement. Reimbursement will be in an amount not to exceed eighty percent (80%) of the State's predetermined value of each parcel, or the net cost of the parcel, whichever is less. In addition, reimbursement will be made to the Local Government for necessary payments to appraisers, expenses incurred in order to assure good title, and costs associated with the relocation of displaced persons and personal property as well as incidental expenses.
- I. If the Project requires the use of real property to which the Local Government will not hold title, a separate agreement between the owners of the real property and the Local Government must be executed prior to execution of the Federal Project Authorization and Agreement (FPAA). The separate agreement must establish that the Project will be dedicated for public use for a period of not less than 10 (ten) years after completion. The separate agreement must define the responsibilities of the parties as to the use of the real property and operation and maintenance of the Project after completion. The separate agreement must be approved by the State prior to its execution. A copy of the executed agreement shall be provided to the State.

## 15. Insurance

If this Agreement authorizes the Local Government or its contractor to perform any work on State right of way, before beginning work, the entity performing the work shall provide the State with a fully executed copy of the State's Form 1560 Certificate of Insurance verifying the existence of coverage in the amounts and types specified on the Certificate of Insurance for all persons and entities working on State right of way. This coverage shall be maintained until all work on the State right of way is complete. If coverage is not maintained, all work on State

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right of way shall cease immediately, and the State may recover damages and all costs of completing the work.

#### 16. Notices

All notices to either party shall be delivered personally or sent by certified or U.S. mail, postage prepaid, addressed to that party at the following address:

<b>Local Government:</b>	<b>State:</b>
City of Austin ATTN: City Manager P.O. BOX 1088 Austin, TX 78767-1088	Texas Department of Transportation ATTN: Director of Contract Services 125 E. 11 <sup>th</sup> Street Austin, TX 78701

All notices shall be deemed given on the date delivered in person or deposited in the mail, unless otherwise provided by this Agreement. Either party may change the above address by sending written notice of the change to the other party. Either party may request in writing that notices shall be delivered personally or by certified U.S. mail, and that request shall be carried out by the other party.

#### 17. Legal Construction

If one or more of the provisions contained in this Agreement shall for any reason be held invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provisions and this Agreement shall be construed as if it did not contain the invalid, illegal, or unenforceable provision.

#### 18. Responsibilities of the Parties

The State and the Local Government agree that neither party is an agent, servant, or employee of the other party, and each party agrees it is responsible for its individual acts and deeds as well as the acts and deeds of its contractors, employees, representatives, and agents.

#### 19. Ownership of Documents

Upon completion or termination of this Agreement, all documents prepared by the State shall remain the property of the State. All data prepared under this Agreement shall be made available to the State without restriction or limitation on their further use. All documents produced or approved or otherwise created by the Local Government shall be transmitted to the State in the form of photocopy reproduction on a monthly basis as required by the State. The originals shall remain the property of the Local Government. At the request of the State, the Local Government shall submit any information required by the State in the format directed by the State.

#### 20. Compliance with Laws

The parties to this Agreement shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative

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bodies or tribunals in any manner affecting the performance of this Agreement. When required, the Local Government shall furnish the State with satisfactory proof of this compliance.

**21. Sole Agreement**

This Agreement constitutes the sole and only agreement between the parties and supersedes any prior understandings or written or oral agreements respecting the Agreement's subject matter.

**22. Cost Principles**

In order to be reimbursed with federal funds, the parties shall comply with the cost principles established in 2 CFR 200 that specify that all reimbursed costs are allowable, reasonable, and allocable to the Project.

**23. Procurement and Property Management Standards**

The parties to this Agreement shall adhere to the procurement standards established in Title 49 CFR §18.36, to the property management standards established in 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, and to the Texas Uniform Grant Management Standards. The State must pre-approve the Local Government's procurement procedures for purchases to be eligible for state or federal funds.

**24. Inspection of Books and Records**

The parties to this Agreement shall maintain all books, documents, papers, accounting records, and other documentation relating to costs incurred under this Agreement and shall make such materials available to the State, the Local Government, and, if federally funded, the FHWA and the U.S. Office of the Inspector General or their duly authorized representatives for review and inspection at its office during the Agreement period and for seven (7) years from the date of final reimbursement by FHWA under this Agreement or until any impending litigation or claims are resolved. Additionally, the State, the Local Government, and the FHWA and their duly authorized representatives shall have access to all the governmental records that are directly applicable to this Agreement for the purpose of making audits, examinations, excerpts, and transcriptions.

**25. Civil Rights Compliance**

The parties to this Agreement are responsible for the following:

- A. Compliance with Regulations: Both parties will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), as they may be amended from time to time, which are herein incorporated by reference and made part of this Agreement.
- B. Nondiscrimination: The Local Government, with regard to the work performed by it during the Agreement, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Local Government will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including

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employment practices when the Agreement covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

- C. Solicitations for Subcontracts, Including Procurement of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the Local Government for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier will be notified by the Local Government of the Local Government's obligations under this Agreement and the Acts and Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.
- D. Information and Reports: The Local Government will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and facilities as may be determined by the State or the FHWA to be pertinent to ascertain compliance with such Acts, Regulations or directives. Where any information required of the Local Government is in the exclusive possession of another who fails or refuses to furnish this information, the Local Government will so certify to the State or the FHWA, as appropriate, and will set forth what efforts it has made to obtain the information.
- E. Sanctions for Noncompliance: In the event of the Local Government's noncompliance with the Nondiscrimination provisions of this Agreement, the State will impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
1. withholding of payments to the Local Government under the Agreement until the Local Government complies and/or
  2. cancelling, terminating, or suspending of the Agreement, in whole or in part.
- F. Incorporation of Provisions: The Local Government will include the provisions of paragraphs (A) through (F) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Local Government will take such action with respect to any subcontract or procurement as the State or the FHWA may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Local Government becomes involved in, or is threatened with, litigation with a subcontractor or supplier because of such direction, the Local Government may request the State to enter into such litigation to protect the interests of the State. In addition, the Local Government may request the United States to enter into such litigation to protect the interests of the United States.

## 26. Pertinent Non-Discrimination Authorities

During the performance of this Agreement, each party, for itself, its assignees, and successors in interest agree to comply with the following nondiscrimination statutes and authorities; including but not limited to:

- A. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- B. The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of federal or federal-aid programs and projects).

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- C. Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et seq.), as amended, (prohibits discrimination on the basis of sex).
- D. Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 et seq.) as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27.
- E. The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 et seq.), (prohibits discrimination on the basis of age).
- F. Airport and Airway Improvement Act of 1982, (49 U.S.C. Chapter 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex).
- G. The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms “programs or activities” to include all of the programs or activities of the federal-aid recipients, subrecipients and contractors, whether such programs or activities are federally funded or not).
- H. Titles II and III of the Americans with Disabilities Act, which prohibits discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38.
- I. The Federal Aviation Administration’s Nondiscrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex).
- J. Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.
- K. Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, the parties must take reasonable steps to ensure that LEP persons have meaningful access to the programs (70 Fed. Reg. at 74087 to 74100).
- L. Title IX of the Education Amendments of 1972, as amended, which prohibits the parties from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq.).

## 27. Disadvantaged Business Enterprise (DBE) Program Requirements

If federal funds are used:

- A. The parties shall comply with the Disadvantaged Business Enterprise Program requirements established in 49 CFR Part 26.
- B. The Local Government shall adopt, in its totality, the State’s federally approved DBE program.
- C. The Local Government shall incorporate into its contracts with subproviders an appropriate DBE goal consistent with the State’s DBE guidelines and in consideration of the local market, project size, and nature of the goods or services to be acquired. The Local Government shall submit its proposed scope of services and quantity

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estimates to the State to allow the State to establish a DBE goal for each Local Government contract with a subprovider. The Local Government shall be responsible for documenting its actions.

- D. The Local Government shall follow all other parts of the State's DBE program referenced in TxDOT Form 2395, Memorandum of Understanding Regarding the Adoption of the Texas Department of Transportation's Federally-Approved Disadvantaged Business Enterprise by Entity, and attachments found at web address [http://ftp.dot.state.tx.us/pub/txdot-info/bop/dbe/mou/mou\\_attachments.pdf](http://ftp.dot.state.tx.us/pub/txdot-info/bop/dbe/mou/mou_attachments.pdf).
- E. The Local Government shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of any U.S. Department of Transportation (DOT)-assisted contract or in the administration of its DBE program or the requirements of 49 CFR Part 26. The Local Government shall take all necessary and reasonable steps under 49 CFR Part 26 to ensure non-discrimination in award and administration of DOT-assisted contracts. The State's DBE program, as required by 49 CFR Part 26 and as approved by DOT, is incorporated by reference in this Agreement. Implementation of this program is a legal obligation and failure to carry out its terms shall be treated as a violation of this Agreement. Upon notification to the Local Government of its failure to carry out its approved program, the State may impose sanctions as provided for under 49 CFR Part 26 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. 3801 et seq.).
- F. Each contract the Local Government signs with a contractor (and each subcontract the prime contractor signs with a sub-contractor) must include the following assurance: *The contractor, sub-recipient, or sub-contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this Agreement, which may result in the termination of this Agreement or such other remedy as the recipient deems appropriate.*

## 28. Debarment Certifications

If federal funds are used, the parties are prohibited from making any award at any tier to any party that is debarred or suspended or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549, "Debarment and Suspension." By executing this Agreement, the Local Government certifies that it and its principals are not currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549 and further certifies that it will not do business with any party, to include principals, that is currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549. The parties to this Agreement shall require any party to a subcontract or purchase order awarded under this Agreement to certify its eligibility to receive federal funds and, when requested by the State, to furnish a copy of the certification.

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If state funds are used, the parties are prohibited from making any award to any party that is debarred under the Texas Administrative Code, Title 34, Part 1, Chapter 20, Subchapter G, Rule §20.585 and the Texas Administrative Code, Title 43, Part 1, Chapter 9, Subchapter G.

## 29. Lobbying Certification

If federal funds are used, in executing this Agreement, each signatory certifies to the best of that signatory's knowledge and belief, that:

- A. No federal appropriated funds have been paid or will be paid by or on behalf of the parties to any person for influencing or attempting to influence an officer or employee of any federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- B. If any funds other than federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with federal contracts, grants, loans, or cooperative agreements, the signatory for the Local Government shall complete and submit the Federal Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- C. The parties shall require that the language of this certification shall be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and all sub-recipients shall certify and disclose accordingly. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Title 31 U.S.C. §1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

## 30. Federal Funding Accountability and Transparency Act Requirements

If federal funds are used, the following requirements apply:

- A. Any recipient of funds under this Agreement agrees to comply with the Federal Funding Accountability and Transparency Act (FFATA) and implementing regulations at 2 CFR Part 170, including Appendix A. This Agreement is subject to the following award terms: <http://www.gpo.gov/fdsys/pkg/FR-2010-09-14/pdf/2010-22705.pdf> and <http://www.gpo.gov/fdsys/pkg/FR-2010-09-14/pdf/2010-22706.pdf>.
- B. The Local Government agrees that it shall:
  1. Obtain and provide to the State a System for Award Management (SAM) number (Federal Acquisition Regulation, Part 4, Sub-part 4.11) if this award provides more than \$25,000 in federal funding. The SAM number may be obtained by visiting the SAM website whose address is: <https://www.sam.gov/portal/public/SAM/>
  2. Obtain and provide to the State a Data Universal Numbering System (DUNS) number, a unique nine-character number that allows federal government to track the distribution of federal money. The DUNS may be requested free of charge for

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all businesses and entities required to do so by visiting the Dun & Bradstreet (D&B) on-line registration website <http://fedgov.dnb.com/webform>; and

3. Report the total compensation and names of its top five executives to the State if:
  - i. More than 80% of annual gross revenues are from the federal government, and those revenues are greater than \$25,000,000; and
  - ii. The compensation information is not already available through reporting to the U.S. Securities and Exchange Commission.

**31. Single Audit Report**

If federal funds are used:

- A. The parties shall comply with the single audit report requirements stipulated in 2 CFR 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.
- B. If threshold expenditures of \$750,000 or more are met during the fiscal year, the Local Government must submit a Single Audit Report and Management Letter (if applicable) to TxDOT's Compliance Division, 125 East 11th Street, Austin, TX 78701 or contact TxDOT's Compliance Division by email at [singleaudits@txdot.gov](mailto:singleaudits@txdot.gov).
- C. If expenditures are less than the threshold during the Local Government's fiscal year, the Local Government must submit a statement to TxDOT's Compliance Division as follows: "We did not meet the \$\_\_\_\_\_ expenditure threshold and therefore, are not required to have a single audit performed for FY \_\_\_\_\_."
- D. For each year the Project remains open for federal funding expenditures, the Local Government will be responsible for filing a report or statement as described above. The required annual filing shall extend throughout the life of the Agreement, unless otherwise amended or the Project has been formally closed out and no charges have been incurred within the current fiscal year.

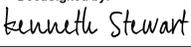
**32. Signatory Warranty**

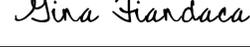
Each signatory warrants that the signatory has necessary authority to execute this Agreement on behalf of the entity represented.

Each party is signing this agreement on the date stated under that party's signature

**THE STATE OF TEXAS**

**THE LOCAL GOVERNMENT**

DocuSigned by:  
  
Signature

DocuSigned by:  
  
Signature

Kenneth Stewart

Gina Fiandaca

Typed or Printed Name

Typed or Printed Name

Director of Contract Services

Assistant City Manager

Typed or Printed Title

Typed or Printed Title

10/4/2019

9/30/2019

Date

Date

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**ATTACHMENT A**  
RESOLUTION OR ORDINANCE

**ORDINANCE NO. 20190808-066**

**AN ORDINANCE AUTHORIZING NEGOTIATION AND EXECUTION OF AN ADVANCE FUNDING AGREEMENT WITH THE TEXAS DEPARTMENT OF TRANSPORTATION; ACCEPTING GRANT FUNDS AND AMENDING THE FISCAL YEAR 2018-2019 AUSTIN TRANSPORTATION DEPARTMENT OPERATING BUDGET SPECIAL REVENUE FUND (ORDINANCE NO. 20180911-001) AND THE AUSTIN TRANSPORTATION DEPARTMENT CAPITAL BUDGET TO TRANSFER AND APPROPRIATE GRANT FUNDS AND TO APPROPRIATE ADDITIONAL FUNDING.**

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF AUSTIN:**

**PART 1.** Council authorizes the negotiation and execution of an Advance Funding Agreement with the Texas Department of Transportation (TxDOT) for the design and construction of an expansion of Lakeline Boulevard from Lyndhurst Boulevard to Parmer Lane to provide connectivity and capacity within the roadway network.

**PART 2.** Council authorizes the acceptance of \$13,700,000 in funds from the TxDOT for the design and construction of an expansion of Lakeline Boulevard from Lyndhurst Boulevard to Parmer Lane to provide connectivity and capacity within the roadway network.

**PART 3.** The Council amends the Fiscal Year 2018-2019 Austin Transportation Department Operating Budget Special Revenue Fund (Ordinance No. 20180911-001) to accept and appropriate \$13,700,000 in grant funds for the design and construction of an expansion of Lakeline Boulevard from Lyndhurst Boulevard to Parmer Lane to provide connectivity and capacity within the roadway network.

**PART 4.** The Council amends the Fiscal Year 2018-2019 Austin Transportation Department Capital Budget (Ordinance No. 20180911-001) to transfer in and appropriate \$13,700,000 from TxDOT and to appropriate \$4,200,000 in funding from certificates of obligation for a total appropriation of \$17,900,000 for the design and construction of an expansion of Lakeline Boulevard from Lyndhurst Boulevard to Parmer Lane to provide connectivity and capacity within the roadway network.



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## ATTACHMENT B

### LOCATION MAP SHOWING PROJECT



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## ATTACHMENT C PROJECT BUDGET

Costs will be allocated based on 80% Federal funding, 20% Local Government funding until the Federal funding reaches the maximum obligated amount. The Local Government will then be responsible for 100% of any actual costs higher than those shown in table below.

Description	Total Estimated Cost	Federal Participation		State Participation		Local Participation	
		%	Cost	%	Cost	%	Cost
Engineering Cat.7 (by Local)	\$2,700,000	80%	\$2,160,000	0%	\$0	20%	\$540,000
Environmental (by Local)	\$0	%	\$0	0%	\$0	0%	\$0
Construction Cat.7 (by Local)	\$14,425,000	80%	\$11,540,000	0%	\$0	20%	\$2,885,000
Subtotal	\$17,125,000		\$13,700,000		\$0		\$3,425,000
Environmental Direct State Costs	\$17,125	0%	\$0	0%	\$0	100%	\$17,125
Right of Way Direct State Costs	\$4,281	0%	\$0	0%	\$0	100%	\$4,281
Engineering Direct State Costs	\$25,688	0%	\$0	0%	\$0	100%	\$25,688
Utility Direct State Costs	\$4,281	0%	\$0	0%	\$0	100%	\$4,281
Construction Direct State Costs	\$119,875	0%	\$0	0%	\$0	100%	\$119,875
Indirect State Costs	\$912,763	0%	\$0	100%	\$912,763	0%	\$0
<b>TOTAL</b>	<b>\$18,209,013</b>		<b>\$13,700,000</b>		<b>\$912,763</b>		<b>\$3,596,250</b>

Initial payment by the Local Government to the State: \$51,375

Payment by the Local Government to the State before construction: \$119,875

Estimated total payment by the Local Government to the State \$171,250

This is an estimate. The final amount of Local Government participation will be based on actual costs.