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1. SCOPe: This specification is for the services of a company to work with the Texas Department of Transportation (TxDOT), Information Systems Division’s Geographic Information Systems (GIS) unit to assist with the definition of the standards and foundation upon which TxDOT GIS applications are built. This service includes the completion of the statewide GIS architecture and infrastructure, and with its implementation. Vendor will assist in the development of prototype business applications demonstrating the benefits of the GIS infrastructure and the application of GIS technology.

2. ACRONYMS/DEFINITIONS

2.1. Geographic Information Systems (GIS)

2.2. Global Positioning System (GPS)

2.3. Roadbed - within this document, refers to the representation of a roadway by direction of vehicle travel and multiple lanes.

2.4. Meter Level Roadbed Data Collection (MLRDC)

2.5. Light Detection and Ranging (LiDAR) – digital elevation data derived from airborne laser systems

2.6. Texas Linear Measurement System (TLMS)

2.7. On-System Highways – TxDOT maintained roadway infrastructure

2.8. Distance Measuring Instrument (DMI)

2.9. Linear Referencing System (LRS)

2.10. Texas Reference Marker (TRM) – current TxDOT linear referencing system and roadway inventory database

2.11. Strategic Mapping Initiative (StratMap) – an initiative conducted by the Texas Geographic Information Council to provide common GIS mapping layers for Texas

2.12. Information Systems Division (ISD)

2.13. Digital Ortho Quads (DOQ)

2.14. RDBMS – Relational Database Management System

Note: For additional information, see Attachment C, TxDOT Deliverable Definitions.

3. BACKGROUND: TxDOT’s current GIS basemap is centerline-based and does not allow for representation of individual roadbed data.

3.1. Individual roadbed data is required in TxDOT’s transportation GIS for two reasons:

3.1.1. It will allow for a one-to-one map representation of real-world highway infrastructure features, such as overpasses, stacked highways, ramps and connectors, frontage roads, and bridges,

3.1.2. It will facilitate the network modeling capabilities of GIS, significantly improving the efficiency in managing the routing of hazardous material or oversized loads, statewide and local traffic analysis, pavement and bridge management, and emergency response or disaster evacuations.

3.2. TxDOT’s current base map does not support the aforementioned functionality. Nevertheless, it serves several existing applications that either use legacy systems or do not require roadbed delineation.

3.3. TxDOT currently has a project known as the Meter Level Roadbed Data Collection (MLRDC) with a proof of concept prototype underway in Harris County, Texas. This prototype is intended to facilitate the development and testing of a new linear referencing system, called the Texas Linear Measurement System (TLMS), and roadbed basemap design. Prototype data collection of digital photography and LiDAR (Light Detection and Ranging) data, to generate orthophotography and roadbed line-work for Harris County has been completed. The orthophotos and roadbed line-work of the on-system highways have been created and delivered. Completion of the prototype in Harris County will be one of the initial phases of the TxDOT GIS Architecture and Infrastructure Project.
3.4. The following documents provide additional background information regarding previous progress related to this project. Vendors intending to submit proposals for this project should review these documents.

3.4.1. Texas Linear Measurement System (TLMS), Technical Overview and Functional Requirements, GIS/Trans, Ltd., February 2000. This document describes the high level conceptual and technical design of TxDOT’s proposed Linear Referencing System for TxDOT’s roadbed base map.

3.4.2. TLMS Linear Referencing Implementation: Detailed Design (version 2.2), GIS/Trans, Ltd., June 1999. This document provides detailed design specifications for TxDOT’s proposed TLMS model.

3.4.3. GIS-Based Linear Referencing Using Dynamic Location, GIS/Trans, Ltd. This document describes the concept of placing events within TLMS using dynamic location objects.

3.4.4. These documents may be found at the following address: [http://www.dot.state.tx.us/insdtdot/orgchart/gsd/purchasing/bidsrfos.htm](http://www.dot.state.tx.us/insdtdot/orgchart/gsd/purchasing/bidsrfos.htm)

4. TxDOT’s GIS UNIT RESPONSIBILITIES: TxDOT’s GIS unit with the assistance of the selected Vendor will:

4.1. Define the standards and foundation upon which TxDOT’s GIS applications are built. These standards include the selection of hardware and software compliant with the TxDOT Core and GIS Architectures. These architectures currently include Windows NT and later, Windows XP operating Systems, Intel PC architecture, ESRI GIS software, and other GIS software as required where no ESRI software is comparable.

4.2. Develop, implement, support, and maintain the foundation infrastructure for GIS in TxDOT. This includes implementing standards for cartography and metadata, developing common feature layers, building base maps for the state maintained highways, and implementing a linear referencing system that is compatible with existing and future TxDOT data.

4.3. Build and implement a fully networked roadbed basemap on which to build its infrastructure framework. The project will also include the development of a corresponding linear referencing system (LRS) that will take full advantage of the completeness of the new GIS base map. Although not intended as a replacement, the new LRS, to be known as the Texas Linear Measurement System (TLMS), will work in conjunction with, and address known shortcomings of, TxDOT’s current LRS, the Texas Reference Marker System (TRM).

5. DESCRIPTION OF WORK: The GIS Architecture and Infrastructure Project shall result in development and implementation of a fully functional linear referencing system and network model to anchor the enterprise GIS framework for TxDOT. Conceptual System Flow and Process Data Flow Diagrams for the TxDOT GIS framework are included as Attachments A and B to this document. These documents are intended to further clarify TxDOT’s intentions regarding deliverables.

5.1. PHASE I: PROJECT INITIATION: The Vendor shall develop:

5.1.1. A Project Management Plan. This document contains the specific strategies, milestones, costs, deliverables, constraints, assumptions, organization, roles, etc., which shall be utilized throughout the lifecycle of the project. This document shall be refined to be more comprehensive from the selected Vendors project proposal. This document will be reviewed by TxDOT and updated by the Vendor at the beginning of every phase of the project.

5.1.2. A Project Schedule. This document shall identify the specific tasks that shall be accomplished during the project, how long it will take to accomplish these tasks, the resources that shall be assigned per task, the deliverables that shall be created and task dependencies. This document shall be refined to be more comprehensive from the Vendor’s project proposal and shall be reviewed by TxDOT and updated by the Vendor each month.

5.1.3. A Change Control Plan. This plan shall define how the project deliverables may be changed throughout the project. It shall include the procedures and entities involved with approving changes to project deliverables.

5.1.4. A Configuration Management Plan. This plan shall identify how the various components of the system are associated and how the components shall be managed throughout their lifecycle. This plan shall also entail methods for versioning project documents throughout the lifecycle of the project.

5.1.5. A Project Quality Plan. This document shall include the specific deliverables to be produced, reviews and approvals associated with each deliverable, standards for baselining, overall test strategies, and controls to be used within the project to assure quality and consistency throughout the life of the project.

5.1.6. A Risk Management Plan. This document shall document risk factors and their potential impact on the success of the project. This document shall be reviewed by TxDOT and updated by the Vendor at the beginning of every phase of the project.

5.2. PHASE II – DEVELOPMENT OF THE HARRIS COUNTY PROTOTYPE: The Vendor shall:

5.2.1. Analyze and validate the data collected for the Harris County prototype.

5.2.2. Collect and document user requirements and acceptance criteria for the Texas Linear Measurement System (TLMS).

5.2.3. Develop the TLMS data dictionary.

5.2.4. Develop TLMS logical and physical data models.

5.2.5. Review StratMap and the Harris County data.
5.2.6. Research data integration strategies to include the MLRDC Harris County prototype data as well as the StratMap (Strategic Mapping Initiative) Transportation layer.

5.2.7. Complete the new TLMS, roadbed basemap, and fully document all processes and procedures to develop, implement, and maintain the Harris County prototype.

5.2.8. Analyze the current Harris County data collection process and make recommendations for improvements or alternatives.

5.3. PHASE III: TLMS MAINTENANCE: The Vendor shall:

5.3.1. Identify and document strategies and procedures for updating and maintaining TLMS.

5.3.2. Develop automated tools and associated documentation for updating and maintaining TLMS.

5.4. PHASE IV: STANDARDS, PROCEDURES AND TOOLS FOR IMPLEMENTING TLMS AND THE ROADBED BASEMAP: The Vendor shall:

5.4.1. Review User Requirements and Acceptance Criteria documents. Based on this review, create a list of the features that shall be included in the completed architecture and infrastructure.

5.4.2. Research and evaluate current RDBMS platforms. Based on this review, recommend optimal RDBMS and related spatial features.

5.4.3. Review existing TxDOT basemap and LRS update processes in order to develop a similar product derived from the TLMS to support legacy applications.

5.4.4. Develop a Business Process Model to allow builders and users the ability to see business processes and data associated with the new framework.

5.4.5. Develop a Business Solution Document. This document shall describe how to design the new business process and/or improve the existing business process.

5.4.6. Develop documentation to identify the standards that shall be adhered to for implementing TLMS and the Roadbed basemap.

5.4.7. Develop manual and automated tools, procedures, and associated documentation for implementing TLMS and the roadbed basemap.

5.4.8. Develop the System Design Document. This document shall provide the options and alternatives for meeting the business and technical requirements of the project. Components of this deliverable shall include the system conversion approach and plan, business models, functional prototypes, incremental build plans, data volume estimates, hardware and software acquisition and setup strategies, system operation procedures and interface migration strategies as applicable.

5.4.9. Update TxDOT’s existing GIS Technical Architecture document to include the applicable standards, procedures and tools discovered previously in this phase.

5.5. PHASE V: STATEWIDE TLMS AND ROADBED BASEMAP PROTOTYPE: The Vendor shall:

5.5.1. Develop a proof-of-concept prototype to demonstrate the functionality of the framework utilizing the Stratmap Transportation layer and the information gathered from previous phases of the project.

5.5.2. Present the proof of concept prototype to various GIS-impacted areas within TxDOT.

5.6. PHASE VI: DATA STRATEGY AND APPLICATION DEFINITION: The Vendor shall:

5.6.1. Analyze current available TxDOT data sets.

5.6.2. Develop the final strategy for data used in the construction of the statewide TLMS data model.

5.6.3. Develop an Information Systems Security Plan to identify how the data and application security requirements of the application shall be managed.

5.6.4. Develop appropriate overall test strategies.

5.6.5. Develop the project technical architecture document.

5.6.6. Develop the Backup and Recovery Plan. This plan will outline the procedures needed to ensure a timely continuation of services in the event of a major application breakdown or data loss.

5.7. PHASE VII: STATEWIDE TLMS AND ROADBED BASEMAP MODEL IMPLEMENTATION STRATEGY: The Vendor shall:

5.7.1. Develop Test Plans. These documents shall describe in specific detail the steps of the testing activities by component or function.

5.7.2. Develop Systems Management Procedures. This document shall provide clearly defined procedures, processes and documentation for managing the technical environment of the system.
5.7.3. Develop Security Procedures. These procedures shall support the protection of automated information and information resources.

5.7.4. Develop the Technical Implementation Plan. This document shall describe how the application will be deployed, supported and managed in the technical environment.

5.7.5. Develop the TLMS User Manual. This document shall provide instructions to the customer on how to use the system.

5.7.6. Rollout the TLMS statewide model.

5.8. PHASE VIII: PROTOTYPE BUSINESS APPLICATIONS: The Vendor shall:

5.8.1. Research existing TxDOT business areas to determine candidacy for use as a demonstration prototype utilizing the GIS framework.

5.8.2. Develop two prototypes, as selected by TxDOT, to demonstrate the functionality of the selected business areas within the GIS framework. The prototyping of these two areas shall not exceed five calendar months to complete.

5.8.3. Present the prototypes to GIS stakeholders within TxDOT through a presentation at the TxDOT Transportation Conference in College Station, Texas, with a follow-up demonstration to be held at the Information Systems Division.

5.9. PHASE IX: UPDATE THE GIS ARCHITECTURE DOCUMENT. The Vendor shall:

5.9.1. Update TxDOT's existing GIS Technical Architecture document to include the applicable standards, procedures and tools defined in the previous phase.

5.9.2. Research and evaluate developments in Transportation GIS Technology.

5.9.3. Evaluate latest data collection technologies and new data resources.

5.9.4. Provide recommendations for future updates to the GIS Technical Architecture based upon projected development of the TxDOT GIS framework.

5.10. PHASE X: SUPPLEMENTAL SUPPORT. The Vendor shall:

5.10.1. Conduct GIS Unit Support. Vendor shall provide TxDOT's GIS Unit with 400 hours of contingency GIS support. For proposal purposes, Vendors may assume that the 400 hours of support is spread equally throughout the duration of the project.

5.10.2. Conduct training workshops and on-going knowledge transfer activities for TxDOT GIS Unit personnel throughout the lifecycle of the project, regarding all activities of the project.

6. DELIVERABLES: All project deliverables shall be reviewed and approved by the TxDOT Project Manager before the deliverable is considered to be complete.

6.1. Deliverables shall be reviewed incrementally, at approximately 30%, 60% and 90% completion stages by the TxDOT Project Manager, before final approval for billing by the Vendor will be provided. The TxDOT Project Manager may consider modification or exception to this review schedule on a case by case basis.

6.2. The Vendor shall use Microsoft Project® for all phases of project tracking.

6.3. The Vendor shall provide TxDOT with documentation for all project activities described in this RFP. All documentation provided by the Vendor shall be in a format(s) acceptable to the TxDOT Project Manager.

6.4. TxDOT will evaluate Vendor performance at the completion of each phase. Continuance with each phase, which is solely at TxDOT’s option, will be based on Vendor performance for previous phases. TxDOT retains the right to terminate the agreement with the Vendor at any time. TxDOT shall retain the right to use the Vendor’s offer and any deliverables from each phase, or any part thereof, even if TxDOT terminates the agreement with the Vendor prior to project completion. TxDOT shall not be liable to the Vendor for any completed or pending matter except to provide payment for milestones achieved and accepted by the TxDOT Project Manager prior to the date of termination and subject to available funding.

6.5. Each phase will be directed and reviewed by the TxDOT Project Manager. Deliverables shall not be considered complete until formally accepted by the TxDOT Project Manager. To consider the project as final, TxDOT’s Project Manager must accept the system, documentation, and evidence demonstrating that sufficient training has occurred for TxDOT to assume full operational and maintenance roles.

7. ANTICIPATED PROJECT SCHEDULE: TxDOT has established the following key project milestones: (Note: This schedule is subject to change and is open to discussion with proposing companies.)

- Completion of Phase I by Feb 28, 2002
- Completion of Phase II by June 30, 2002
- Completion of Phase III by September 30, 2002
- Completion of Phase IV by December 31, 2002
- Completion of Phase V by May 31, 2003.
- Completion of Phase VI by August 31, 2003.
8. **VENDOR RESPONSIBILITIES:** Vendor personnel shall be responsible for the following major functions to:

8.1. Manage the development and implementation of work by assuring that all phases of the Project Plan and Schedule approved by TxDOT are accomplished without significant delays, problems, or re-work due to poor quality. Delays due to changes both within and outside the Vendor's control shall require prior approval of TxDOT.

8.2. Administer the work by establishing and maintaining effective communication with all groups related to the project. The activities of the Vendor project team shall be directed, coordinated, and communicated to ensure that the project progresses efficiently and is completed on schedule.

8.3. Develop a training/knowledge transfer plan that specifies the approach and steps to be taken by the respondent to ensure that the knowledge, skills and abilities necessary to operate, troubleshoot, enhance, and maintain the resulting system are transferred to ISD personnel. The plan must also include the timing of the transfer efforts and the steps that the respondent will take to verify that the required knowledge has been transferred and retained.

8.4. Control the work by documenting and reporting the progress and accomplishments of the project team.

8.5. Vendor shall not solicit for employment, directly or indirectly, any employee of TxDOT, from the time the purchase order is awarded until 90 days after the completion of the purchase order.

9. **VENDOR PROJECT STAFFING REQUIREMENTS**

9.1. The Vendor shall provide a Project Manager with a minimum of 2 years of project management experience on GIS projects, and sufficient personnel to meet the qualifications outlined within the "Vendor Skills and Qualification" paragraph of this RFP, and complete project deployment in the agreed upon time frames.

9.2. TxDOT and the Vendor will jointly agree on the services that require Vendor personnel to work at TxDOT's Camp Hubbard Campus in Austin, Texas.

9.3. Normal TxDOT hours are Monday through Friday from 8:00 a.m. until 5:00 p.m., excluding TxDOT holidays. The TxDOT Project Manager must agree on any deviation from these hours.

9.4. TxDOT will provide on-site office space and equipment for two full-time Vendor personnel.

9.5. If TxDOT determines that any member of the project team is unable to satisfactorily complete a task, assignment or deliverable, and/or is unable to verbally communicate and work in a project team environment, then TxDOT may cause the immediate removal of that member from the team. Substitutions or changes of approved personnel may be made, but require the consent of the TxDOT Project Manager. Substitute team members shall have equivalent qualifications, be at no additional cost to TxDOT, and be provided within a time frame mutually agreeable to TxDOT and the Vendor.

9.6. The Vendor agrees to ensure the continuity of the primary Project Manager assigned to the project. The Vendor represents and warrants that the primary Project Manager is available for the entirety of the project and shall remain available throughout the term of the contract. TxDOT recognizes, however, that events beyond the control of the Vendor such as the death, physical or mental incapacity, long-term illness, or the voluntary termination of employment of the primary Project Manager may require the Vendor to propose a replacement. In the event that such a replacement is necessary, respondent agrees that no replacement person shall begin work on the project without the prior written approval of TxDOT.

10. **VENDOR SKILLS AND QUALIFICATIONS:** Respondent shall propose a team of qualified members meeting the qualifications below, to accomplish the project in the required time frame with the best value and quality for TxDOT. The positions indicated are suggestions for possible team members. To evaluate proposals TxDOT requires that each respondent submit the resumes of individual team members who meet the requirements. Resumes should also include references to substantiate and verify knowledge and experience requirements. The team members will be individually evaluated against the criteria set forth in this specification. If a respondent does not feel a particular type of team member is required, they must clearly explain the reasoning and specify the individual who would perform the duties suggested for this role.

10.1. The Vendor shall have the following experience for the full life-cycle development of a minimum of five other projects. A minimum of three of those projects shall include full life-cycle development of GIS solutions.

10.1.1. Project management.

10.1.2. System analysis/design.

10.1.3. Data base analysis.

10.1.4. Programming services.

10.2. The Vendor Project Manager shall have experience in project team leadership, project management, and project development, including the following:

10.2.1. A minimum of two years experience in project management on GIS projects.
10.2.2. Knowledge and experience, within the last year, in providing systems analysis, design and development.
10.2.3. Experience, within the last two years in developing requirements for, and implementing, Transportation GIS-based solutions.
10.2.4. A minimum of two years experience with project life-cycle development and methodologies.
10.2.5. Ability to communicate technical information clearly and effectively, both orally and in writing.
10.2.6. Experience within the last year working in a cooperative team environment.

10.3. The following requirements must be met by at least one member of the Vendor proposed team:
10.3.1. Knowledge and experience, within the last two years in providing systems analysis, design and development.
10.3.2. Experience, within the last two years in developing requirements for GIS-based solutions.
10.3.3. Experience, within the last year in the development of technical architectures for an enterprise GIS environment.
10.3.4. Experience, within the last two years in logical and physical data modeling using ERwin.
10.3.5. Experience within the last year in database analysis.
10.3.6. Experience in technical writing, project documentation, and training materials development using Microsoft Office.
10.3.7. Experience in design and development of on-line help aids.
10.3.8. Knowledge and experience in developing and conducting training sessions for end-users, as well as informal training and mentoring.
10.3.9. Experience in communicating technical information clearly and effectively, both orally and in writing.
10.3.10. Experience working in a cooperative team environment within the last year.

11. STATUS REPORTING AND PERFORMANCE REVIEWS: Any deviation from the following will be at the discretion of the TxDOT Project Manager.

11.1. Status reports reflecting progress and milestones achieved shall be provided to the TxDOT Project Manager on a regular weekly schedule.

11.2. The TxDOT Project Team will perform monthly project status and performance reviews designed to ensure that measurable progress has been achieved and that standard practices are being adhered to. In order to facilitate performance reviews, the Vendor shall submit monthly progress reports detailing work completed and project milestones reached. This report shall be due to the TxDOT Project Manager not later than the 10th calendar day of each month. TxDOT may require this report in an electronic format that will be agreed to between the Vendor and TxDOT. The report shall contain at a minimum the following items:

11.2.1. Project title and contract number.
11.2.2. Description of the progress of each task and percentage completed.
11.2.3. Meetings attended, purpose, dates, attendees, description.
11.2.4. Major problem areas and anticipated solutions.
11.2.5. Budget expenditures.
11.2.6. Work planned for the following month.
11.2.7. Updated project schedule.

11.3. Meetings will be scheduled by the TxDOT Project Manager or the Vendor as needed. The Vendor Project Manager and personnel shall be available to provide information reports, audits, or other special projects as required by the TxDOT Project Manager.

12. SUBCONTRACTING: Subcontractors providing service under the purchase order shall meet the same requirements and provide the same service and level of experience as required of the Vendor. No subcontract under the purchase order shall relieve the primary Vendor of responsibility for the service. If the Vendor uses a subcontract for any or all of the work required, the following conditions shall apply under the listed circumstances:

12.1. Respondents planning to subcontract all or a portion of the work shall identify the proposed subcontractors at the time of submittal.
12.2. Subcontracting shall be at the Vendor’s expense.
12.3. TxDOT retains the right to check subcontractor’s background and make determination to approve or reject the use of submitted subcontractors. Any negative responses may result in disqualification of the subcontractor.
12.4. The Vendor shall maintain all project management, schedule and responsibilities for subcontractors.
12.5. Vendor shall pay subcontractors in a timely manner.
12.6. The Vendor shall be the only contact for TxDOT and subcontractors.

13. **PAYMENT SCHEDULE**

13.1. TxDOT will pay the Vendor according to the following:

13.1.1. TxDOT will withhold ten percent of all payments made to Vendor until TxDOT has certified that the project is complete to TxDOT’s satisfaction. At that time, the ten percent withheld over the life of this project will be paid to the Vendor. Vendor will not receive interest on the withheld amount.

13.1.2. Vendor shall submit an updated project schedule each month. The schedule must be submitted in time to provide a period of five business days for the Project Manager to review and approve. No payments will be made to the Vendor until such schedule has been reviewed and approved by the TxDOT Project Manager.

13.1.3. Vendor will receive a monthly payment based on the amount bid for completion of each phase divided by the number of months required to complete the phase.

13.2. Updated project schedules will be used to adjust the payment schedule based on the amount outstanding for the current phase divided by the revised number of months required to complete the phase. Monthly payment will be made upon written acceptance by the TxDOT Project Manager for the scheduled tasks completed during the subject month, and within 30 days after receipt of an itemized correct invoice. Invoices shall reference the purchase order number and include tasks completed. Vendor shall submit the invoice to the following address:

Texas Department of Transportation
Information Systems Division
125 East 11th Street
Austin, TX 78701-2483

14. **MODIFICATION, MAINTENANCE AND REVISION:** Based on the success of the project, TxDOT may consider contracting with the selected Vendor to accomplish additional updates and maintenance to the standards, procedures and tools developed during the project. If TxDOT chooses to exercise this option, TxDOT will develop the scope of work and deliverables, and discuss this with the Vendor who will then determine if they wish to continue work on the project. TxDOT would require the Vendor to provide pricing for this phase of the project. The scope of the required work will determine the pricing structure.

15. **SUBMISSION OF PROPOSAL:** Creativity and value-added recommendations from Vendors will be considered by TxDOT. TxDOT requires the selected Vendor to utilize a standard project development methodology to accomplish the project. All respondents shall complete and submit the following submittal requirements in the order listed with their signed proposal. Failure to submit the following schedules will be grounds for rejection.

15.1. **SCHEDULE 1 - VENDOR PROFILE SUMMARY – ONE PAGE**

15.1.1. Vendor name submitting proposal

15.1.2. Vendor address and phone number

15.1.3. Name and title of person submitting proposal

15.1.4. Phone number and email address

15.2. **SCHEDULE 2 - VENDOR PROFILE AND HISTORY:** Describe the general nature of previous work your company has done, the number of years in business, size and scope of operation, and number of salaried employees. Be specific about projects previously developed that are applicable to this project. Include any other pertinent information.

15.3. **SCHEDULE 3 - VENDOR REFERENCES:** List three previous accounts for whom your company has provided a project team for system analysis/design for small workgroup products or larger products. Two of the three references shall be for clients for whom your company has designed a product similar to the project outlined in this RFP. Include a contact name, phone number and a description of the type and scope of services for each account. References will be contacted. Any negative responses may result in response being declared non-responsive and not considered further. See attached form.

15.4. **SCHEDULE 4 - VERIFICATION OF PROPOSED VENDOR PROJECT MANAGER SKILL QUALIFICATIONS:**

15.4.1. Provide documentation to verify skills of the proposed Vendor Project Manager as specified in this RFP. Include a contact name and phone number to verify years of experience outlined, Vendor Project Manager's resume or standard application.

15.4.2. List three previous accounts for whom the project manager has directed system analysis, design and full implementation of GIS projects. Two of the three references shall be for clients for where they have designed a product similar to the project outlined in this RFP. Include a contact name, phone number and a description of the type and scope of services for each account. References will be contacted and negative responses may result in disqualification of the proposal.
15.5. SCHEDULE 5 - CREDENTIALS OF PROPOSED PROJECT TEAM MEMBERS: The credentials of the proposed project team shall be submitted for review. The following information shall be included:

15.5.1. Descriptions of the individuals, in the form of resumes and/or narratives, which describe their experience during the past five years.

15.5.2. The scope, technologies involved and non-proprietary specifics of the business issues addressed by previous assignments.

15.5.3. Experience in projects of similar scope.

15.5.4. Demonstrate the ability to work cooperatively in an environment consisting of respondent and client personnel, as well as the demonstrated ability to mentor client employees.

15.5.5. Include references to verify years of experience outlined noting a contact name and phone number.

15.6. SCHEDULE 6 - PROJECT PLAN: Vendor shall submit a project plan including the following items plus listed deliverables:

15.6.1. A high-level work plan, project schedule, and description of the approach that shall be used to meet the requirements for each phase.

15.6.2. Detailed explanation of the proposed project methodology.

15.6.3. Estimated number of hours for each phase.

15.6.4. General description of each deliverable to be produced during the project.

15.6.5. Date Project Team is available to begin.

15.6.6. Estimated date of completion.

15.6.7. Estimated percentage of time the project team is dedicated to the project.

15.6.8. Automated tools the Vendor proposes to support the planning, development, documentation, and maintenance of the project. Identification shall include tool name and Vendor; release/version number; proprietary and/or commercially available; description of how each tool supports the project; and background information regarding the Vendor’s experience with the tools in similar projects.

15.7. SCHEDULE 7 - PRICING: Vendor shall submit the cost and duration of each phase as identified earlier in this document.

16. PROPOSAL EVALUATION PROCEDURE

16.1. A TxDOT evaluation committee will evaluate and score each proposal based on the best value criteria stated in this specification. All proposals will be evaluated according to the respondent’s ability to best satisfy TxDOT’s requirements. Only the companies whose proposals score the highest will be considered for further discussions.

16.2. Only complete proposals, per Attachment E, and proposals meeting the Minimum Qualifications, see Attachment F, will be considered.

16.3. Proposals will be evaluated and scored based on the criteria included in Attachment F.

16.4. Best value criteria to be used is as follows:

16.4.1. Past experience in successfully providing this service.

16.4.2. Responsiveness to the RFP service requirements and level of service proposed.

16.4.3. Reporting that meets the advertised requirements of TxDOT.

17. INTERVIEW AND DISCUSSIONS: TxDOT may request that selected respondents meet with TxDOT to review and clarify their proposal. Should TxDOT require such a meeting, the presentation/discussions will be evaluated by TxDOT using the following criteria:

17.1. Responsiveness to the service requirements and level of service proposed.

17.2. Ability to provide TxDOT the best value and service for the taxpayers of Texas.

18. AWARD: TxDOT reserves the right to award on the basis of best value that meets the requirements of this RFP.

19. SOFTWARE DELIVERY AND INTELLECTUAL PROPERTY RIGHTS

19.1. DELIVERY: The Vendor shall deliver:

19.1.1. All Custom and Reuse Software, if used, as machine readable source files, and linkable or executable modules, and printed source listings, in addition to installed and operating copies of the programs (baseline software or hardware configuration shall not be created such that only Vendor could change);

19.1.2. Tools required for the modification and compilation of the Custom and Reuse Software programs;
19.1.3. Source codes for all Custom and Reuse Software programs developed under this contract with all needed support resources needed to edit, compile and link these programs on the central processors, including, but not be limited to, Computer Aided Software Engineering (CASE) tools, compilers, editors, and function libraries used in the development of the programs; and

19.1.4. All documentation concerning protocol for Reuse and Custom Software, source code, commented listings, descriptions of software structure, database utilization, and instructions necessary to convert the source code into an operational system.

19.2. SOFTWARE

19.2.1. The Vendor shall not create software that only the Vendor could modify.

19.2.2. The Vendor shall not create or utilize Reuse Software that is not in the public domain.

19.3. LICENSE

19.3.1. The Vendor shall not place any legend on the Custom or Reuse Software, which restricts TxDOT’s rights in such software unless the restrictions are set forth in a license agreement approved and executed by TxDOT.

19.3.2. The Vendor shall not use any of the Custom Software developed for this contract without a license from TxDOT.

19.4. OWNERSHIP

19.4.1. The Vendor shall transfer to TxDOT or purchase for TxDOT all licenses to Commercial Off the Shelf (COTS) Software acquired in conjunction with this project, including all original media, documentation, warranties, licenses, applications software, and developmental software used in developing custom applications.

19.4.2. TxDOT will own the entire rights (including copyrights, copyright applications, copyright renewals, and copyright extensions), title and interests in and to the Custom Software development documentation, software, and any other intellectual properties created for Custom Software and versions thereof, and all works based upon, derived from, or incorporating works thereof, and in and to all income, royalties, damages, claims, and payments now or hereafter due or payable with respect thereto, and in and to all causes of action, either in law or in equity for past, present, or future infringement based on the Custom Software and copyrights arising therefrom, and in and to all rights corresponding to the Custom Software and versions thereof throughout the world.

19.5. WORK-MADE-FOR-HIRE

19.5.1. This is a “work-made-for-hire” as that term is understood under the copyright law of the United States, Title 17, U.S.C. §§101 et seq. so that all copyright and other property interest in the Custom Software shall vest at the time of their creation for TxDOT and the Vendor shall have no copyright or other property interest in any Custom Software produced under this contract.

19.5.2. All future works relating or pertaining to said Custom Software and versions thereof shall be regarded as works-made-for-hire within the meaning of the copyright laws of the United States and that if, for any reason, said future works relating or pertaining to said Custom Software shall be held not to be a work-made-for-hire within the meaning of the copyright laws of the United States, Vendor does hereby sell, assign, and transfer to TxDOT, its successors and assigns, all of Vendor’s rights, title and interests in and to said future Custom Software versions thereof, relating or pertaining to the Custom Software.

19.6. All software owned, developed, or licensed by TxDOT shall be returned to TxDOT before the end of the contract.

19.7. Vendor acknowledges that the source code, program, and related documentation constitute valuable trade secrets for TxDOT. Vendor shall not disclose, publish, or disseminate them to any third party without written approval of TxDOT.

19.8. Description of Software. Software to be developed and/or designed shall include, but not necessarily be limited to, the Central Processors, the Operator and Projector Workstation, the PC Hardware Platforms, and the System Control Units located throughout the System. The Software Implementation activities include the following:

19.8.1. Reuse Software: Operational software in the public domain that Vendor shall select, recommend, and/or transfer from corporate inventories which appropriately satisfy required System Functionality. Inclusion of Reuse Software is subject to TxDOT’s approval. Vendor shall benchmark test each Reuse Software item to assure its performance of required functionality;

19.8.2. Commercial Off The Shelf Software Acquisition (COTS): COTS software that is required to provide necessary system functionality. Vendor shall submit to TxDOT sufficient information and documentation on the software items to determine if the proposed items meet the required System Functionality. Submittals shall include, but not be limited to, shop drawings, cut sheets, manufacturer’s literature, independent lab documentation, etc. Items shall be approved, in writing, by TxDOT prior to the purchase of the item. Vendor shall accept delivery of, facility install and Acceptance Test all COTS Software to assure its performance of required functionality;

19.8.3. Custom Software: Any required software functionality, test tools, interface stubs and drivers, and configuration build procedures including all documentation, manuals, and protocols which are not covered by COTS or Reuse Software products that Vendor shall code or unit test. This Custom Software shall be developed in accordance with the modular detailed design approved at the Critical Design Review;
19.9. Vendor shall determine that all Reuse and COTS software shall function within the requirements of the attached Year 2000 Performance Warranty by requiring validation from originating sources, either by software company’s signature, company name and name of software on the Year 2000 Performance Warranty or software company’s published statement. All Custom Software shall be warranted under Year 2000 Performance Warranty.

20. ADVANCED TECHNOLOGY CLAUSE

20.1. The Vendor expressly acknowledges that state funds may not be expended in connection with the purchase of an automated information system unless that system meets certain statutory requirements relating to accessibility by persons with visual impairments. Accordingly, the Vendor represents and warrants to TxDOT that the technology provided to TxDOT for purchase is capable, either by virtue of features included within the technology or because it is readily adaptable by use with other technology, of:

20.1.1. providing equivalent access for effective use by both visual and non-visual means;

20.1.2. presenting information, including prompts used for interactive communications, in formats intended for non-visual use; and

20.1.3. being integrated into networks for obtaining, retrieving, and disseminating information used by individuals who are not blind or visually impaired.

20.2. For purposes of this paragraph, the phrase “equivalent access” means a substantially similar ability to communicate with or make use of the technology, either directly by features incorporated within the technology or by other reasonable means such as assistive devices or services which would constitute reasonable accommodations under Americans with Disabilities Act or similar state or federal laws. Examples of methods by which equivalent access may be provided include, but are not limited to, keyboard alternative to mouse commands and other means of navigating graphical displays and customizable display appearance.”

21. INDEMNITY CLAUSE: It is expressly understood and agreed by both parties that TxDOT is contracting with Vendor as an independent contractor. The Vendor, as such, agrees to hold TxDOT harmless and to indemnify it from and against any and all claims, demands, and causes of action of every kind and character, which may be asserted by any third party out of or in connection with the activities to be performed by the Vendor for TxDOT. Vendor understands and agrees that individuals performing services are not state employees or TxDOT employees.

22. CONFIDENTIALITY: TxDOT is governed by laws and regulations that make certain information confidential as well as specifying how public information is released. The Vendor and its employees shall not divulge any information relative to TxDOT’s business to a third party without the prior written approval of TxDOT.

23. CONFLICT OF INTEREST: Vendor covenants that it does not have, nor shall it acquire, any interest that would conflict in any manner with the performance of its obligations in regard to services authorized.

24. COPYRIGHT: Vendor shall not assert rights at common law or in equity or establish any claim to statutory copyright in any material or information developed in performance of the services authorized. TxDOT shall have the right to use, reproduce, or distribute any or all of such information and other materials without the necessity of obtaining any permission from Vendor and without expense and charge.
ATTACHMENT A

CONCEPTUAL SYSTEM FLOW DIAGRAM

Process Design for the TxDOT GIS Framework
ATTACHMENT B

Process Data Flow for TxDOT GIS Framework

- GPS Strings
- Microstation Design
- COGO Digitizing
- Design
  - As-Built Validation
  - Daily TxDOT
  - User Data
  - Web Interface
  - Online Interface
- Spatially Indexed
- Compressed Image
- BLOB Storage
- Relationally Indexed
- Photograph
- Spatial Index Editor
- Elevations
  - New Segment
  - RDBMS
  - Query & Display Tools
- Attributes
  - Reports
  - Tables
  - Charts
  - Maps
  - Graphs
Project Management Plan (PMP)
The Project Management Plan is initially developed as part of pre-project planning. It is then routinely updated throughout the project. The Plan provides the framework for the project. It establishes specific strategies, milestones, costs, constraints, assumptions, organization, roles, high level schedule, etc., which will be utilized throughout the lifecycle of the project.

Project Schedule
The Project Schedule will identify the specific tasks that will be accomplished during the project, how long it will take to accomplish these tasks, the resources that will be assigned per task, the deliverables that will be created, and task dependencies. An initial project schedule is developed as part of pre-project planning of a project. It is then refined and updated as needed throughout the project. TxDOT’s standard software tool for project scheduling is MS-Project.

Change Control Plan
A Change Control Plan defines how project deliverables may be changed throughout the project. It includes the procedures and entities involved with approving changes to project deliverables.

Project Configuration Management Plan
A Project Configuration Management Plan identifies how the components in a system are related, how changes to the components are to be managed throughout their lifecycle, how the recording and reporting of the status of components and change requests will take place, and how verifying the completeness and correctness of the components will be done. A comprehensive Project Configuration Management plan will also entail methods for versioning of project documents throughout the entire lifecycle of a project.

Project Management Documentation
Project Management Documentation is comprised of deliverables that show how the project was planned and managed. Examples include status reports, issue lists, logs, walkthrough reports, minutes, approvals, memos, presentations, schedules, training, agendas, communications and timesheets.

Project Quality Plan
The Project Quality Plan is derived from information contained within TxDOT’s Corporate Quality Plan for a specific project. Projects should review and consider each of the guidelines contained in this document and develop their Project Quality Plan accordingly. Elements that will be contained in a Project Quality Plan will include the specific deliverables to be produced, reviews and approvals associated with each deliverable, and the overall test strategies and controls to be used within the project to assure quality and consistency throughout the life of the project.

Risk Management Plan
The Risk Management Plan documents risk factors and their potential impact on the success of the project. The Risk Management Plan describes activities that will be taken to mitigate specific risks, and a contingency plan. Projects that are complex or deemed to carry high risk should focus on more formal processes of risk management including: planning, identification, qualitative analysis, quantitative analysis, response planning, and monitoring and control. Risk management is revisited and updated throughout the project. Information on developing and managing project risk can be found in the Project Management Body of Knowledge 2000 Edition, the CA Process Continuum methodology, and the DIR Internal Quality Assurance Guidelines document located at http://www.dir.state.tx.us/eod/qa/.

Project Standards
The Project Standards are customized from TxDOT’s enterprise-wide standards or best practices to be project specific. Project Standards may contain components such as data modeling, detailed project planning, code conversions, program structuring, program notes, naming conventions, language
standards, GUI standards, hardware/software acquisition and database and file conversion procedures. These standards may also include specific procedures for invoicing of completed deliverables, communications plans or protocol, project team work hours and/or work schedules. Project Standards are continually refined throughout the lifecycle of the project.

**Requirements Specification and Acceptance Criteria**
The Requirements Specification lists the features that will be included in the completed system. Acceptance Criteria describe the performance measures that will be used to verify that the specified requirements are included in the finished system.

**Requirements Traceability Matrix**
The Requirements Traceability Matrix is a table used to trace work products/deliverables to the project requirements. This matrix establishes a thread that traces the goals and objectives of the project to requirements, from identification to implementation of the final product.

**Business Process Model**
Business Process Models allow builders and users of information systems to visually represent business processes and data. Business process models can take several forms, depending on the system that is represented. Data-flow diagrams, activity diagrams, use-case models, interaction diagrams, class diagrams, and functional decomposition diagrams are popular formats for business process models.

**Business Solution Document**
A Business Solution Document is a culmination document of the Business Process Definition Stage. The Business Solution Document describes how to design the new business process or to improve the existing business process. It may also describe which business processes should be included within the project. A Business Solution Document may include any of the following: Critical Performance Model, Problems and Requirements, User Definition, Use Cases, Use Case Models, User Interface Prototypes, Business Object Models, Task Models, Workflow Models, User Object Models, Data Model or Acceptance Criteria.

**Logical Data Model**
The Logical Data Model defines data entities, attributes, and their relationships. It is sometimes referred to as an Entity/Relationship Diagram, or ERD. An ERD, plus descriptions of the entities and relationships, represent a Data Model. Data Models also include identification of unique identifiers, or keys, for each entity. Data Models are independent of the database platform where the physical database will be implemented. TxDOT's standard tool for data modeling is ERwin.

**Data Dictionary**
A Data Dictionary is a directory of definitions, purpose, valid values, examples, policies, and structure about data. It describes every data item in a logical data model and physical data model in enough detail for users and application developers to know what the data is and how to make use of it.

**Information Systems Security Plan**
An Information Systems Security (ISS) Plan identifies how the data and application security requirements for the application will be set forth. The ISS Branch of TxDOT's Information Systems Division will participate in planning meetings, in determining which existing or new Access Criteria may apply to applications, and in implementing necessary controls. It is important that the data, database and application security requirements be defined early to ensure a smooth implementation and adequate data protection.

**Physical Data Model**
The Physical Data Model is generated from the Logical Data Model and is specific to the target database platform where the physical database tables will reside. The Physical Data Model consists of tables (entities from the Logical Data Model), columns (attributes from the Data Model), column formats and lengths, and primary and foreign keys. Stored procedures and triggers may also be included. TxDOT's standard tool for database design is ERwin.
Physical Database Structure
A Physical Database Structure is the actual physical design of the application database. The Physical Database Structure is generated from the tuned Physical Data Model. It is important that the Data Model, the Physical Data Model, and the implemented physical database structure be kept synchronized so that all data-related requirements can be traced from logical design to physical implementation. TxDOT’s standard tool for database design is ERwin.

Test Strategy
The Test Strategy defines the coverage of testing that will be performed on the project’s product. Coverage will typically consist of unit, system, integration, and acceptance testing, at a minimum.

Technical Architecture Document
The Technical Architecture Document defines the technical framework for the IT development, production, and testing environments of the project. The project’s Technical Architecture Document should comply with TxDOT’s Core Technology Architecture. This document is revised throughout the project to refine specifics of the technical architecture of the resulting application/system.

System Design Document
The System Design Document is a culmination document of the Application Definition Stage. This document provides options or alternatives for meeting the business and technical requirements of the project. Components of this deliverable may include the system conversion approach and plan, integration test criteria and test cases, logical and physical entity relationship diagrams, business models, functional prototypes, incremental build plans, data volume estimates, data migration strategies, hardware and software acquisition and setup strategies, system operating procedures, and interface migration strategies.

Backup and Recovery Plan
The Backup and Recovery Plan outlines the procedures needed to ensure a timely continuation of services in the event of a major breakdown in application or data loss. Projects should determine their backup and recovery requirements and then perform a gap/fit comparative analysis with TxDOT’s corporate backup and recovery strategy to assure that all elements of the new system are adequately recoverable and protected from loss. Any gaps that are identified should be addressed as part of the project’s Backup and Recovery Plan. The project’s Backup and Recovery Plan should be fine-tuned and verified during the Deployment Stage of the project.

Physical Implementation Components
The Physical Implementation Components are the actual hardware and software deliverables that are generated from the project. Examples include data, screen layouts, executable code, dynamic link libraries (DLL), HTML scripts, servers and printers.

Test Plans
Test Plans are documents that describe in specific detail the steps of the testing activities by component or function. The plans typically identify the test environment, test scenarios, test cases, and test data for the testing to be performed.

Operations Guide
The Operations Guide is a set of instructions that is provided to operational personnel to control the scheduling and execution of the individual programs within a system. The Operations Guide is written at a very detailed level to control module execution sequences and communication between applications.

System Master List
A System Master List identifies all of the deliverables that will need to be maintained after implementation of the system. This deliverable will utilize Change Control and Configuration Management.

Systems Management Procedures
Systems Management Procedures provide clearly defined procedures, processes and documentation for managing the technical environment of a system. This document is targeted for technical staff that will maintain, upgrade, troubleshoot, expand and manage hardware and software components within the
system’s technical architecture. Components of the Systems Management Procedures document may include procedures for maintaining hardware and/or software connectivity, instructions regarding backup procedures, instructions for installing/upgrading software, instructions on how to maintain applications, minimum component and platform requirements, procedures for managing the overall system configuration, and procedures for accommodating security requirements of the system.

**Security Procedures**
Security Procedures support the protection of automated information and information resources. These procedures would include controlling access to files and recovery ability from disasters. Some of the methods used to control access to files are password protecting computer files, and implementing online security which allows access to specific users, terminals and applications. Other methods used are encrypting or scrambling sensitive data, storing data in vaults or locked cabinets, and restricting access to specific personnel.

**Technical Implementation Plan (TIP)**
The Technical Implementation Plan (TIP) describes how the application will be deployed, supported, and managed in the technical environment. The Technical Implementation Plan will include a detailed implementation schedule that describes the tasks associated with implementation, identifies the staff resources that will be responsible for completing each task, the date that each task will be completed, and any other applicable information regarding implementation, such as dependencies, constraints and/or assumptions. A standard Technical Implementation Plan template is available from the PQM Branch.

**TxDOT Systems Interface Diagram (TSID)**
A TxDOT Systems Interface Diagram (TSID) identifies all of the internal and external files, applications, and organizations that the application must interface with.

**User Manual**
The User Manual provides instructions to the customer on how to use the system. The User Manual may include information on preparing input documents, data entry forms, documentation of output, balancing procedures, error resolution, error messages for on-line systems or error reports, and timing and distribution of output reports. The User Manual can include security procedures, logon and logoff procedures, descriptions of terminal screens, descriptions of report layouts and fields, and day-to-day, month-end, and year-end processing. Typically, this document is developed through a collaborative effort between the business and technical sides of the project.

**Service Contract (SC)**
The Service Contract describes the products or services to be delivered by ISD and the Application Steward. An Application Steward is typically a district or division that is responsible for a specific business area. It may also contain metrics by which the effectiveness of the process is monitored and approved. A standard Service Contract template is available from the PQM Branch.

**Acceptance Test Certification**
The Acceptance Test Certification documents that the system met user requirements and the program/application T tests were accepted and signed off by the client or authorized personnel.
SCHEDULE 3
REFERENCES

1. Name of Organization: ____________________________
   Street Address: __________________________________
   City, State and Zip Code: ___________________________
   Name and Title of Person to Contact: _______________________
   Telephone Number: _______________________________
   Service Provided: ________________________________

2. Name of Organization: ____________________________
   Street Address: __________________________________
   City, State and Zip Code: ___________________________
   Name and Title of Person to Contact: _______________________
   Telephone Number: _______________________________
   Service Provided: ________________________________

3. Name of Organization: ____________________________
   Street Address: __________________________________
   City, State and Zip Code: ___________________________
   Name and Title of Person to Contact: _______________________
   Telephone Number: _______________________________
   Service Provided: ________________________________

4. Name of Organization: ____________________________
   Street Address: __________________________________
   City, State and Zip Code: ___________________________
   Name and Title of Person to Contact: _______________________
   Telephone Number: _______________________________
   Service Provided: ________________________________

Any negative response may result in the disqualification of the proposal.
You may copy this form as needed to comply with the requirements of this solicitation.
Form shall be returned with your submission.
## Phase I: Project Initiation

## Phase II: Development of the Harris County prototype.

## Phase III: TLMS Maintenance

## Phase IV: Standards, Procedures and Tools for Implementing TLMS and the Roadbed Basemap

## Phase V: Statewide TLMS and Roadbed Basemap Prototype

## Phase VI: Data Strategy and Application Definition

## Phase VII: Statewide TLMS and Roadbed Basemap Model Implementation Strategy

## Phase VIII: Prototype Business Applications

## Phase IX: Update the GIS Architecture Document

## Phase X: Supplemental Support

### TOTAL PROPOSED PRICE OF PROJECT

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**COMPANY NAME:**

**SIGNATURE OF AUTHORIZED REPRESENTATIVE:**

**PRINTED NAME:**

**TELEPHONE NUMBER:**

**EMAIL ADDRESS:**

**FAX NUMBER:**

---

FAILURE TO RETURN THIS PAGE WILL RESULT IN PROPOSAL BEING CONSIDERED NON-RESPONSIVE.
In compliance with this RFP and subject to all the conditions herein, the undersigned offers and agrees to furnish any or all commodities or services at the prices quoted.

By signature hereon, the proposer hereby certifies that he/she is not currently delinquent in the payment of any franchise taxes owed the State of Texas under Chapter 171, Tax Code.

By executing this offer, proposer affirms that he/she has not given, offered to give, nor intends to give at anytime hereafter, any economic opportunity, future employment, gift, loan gratuity, special discount, trip, favor, or service to a public servant in connection with the submitted offer. Failure to sign the offer, or signing it with a false statement, shall void the submitted offer or any resulting contracts, and the proposer shall be removed from all bid lists.

By the signature hereon affixed, the proposer hereby certifies that neither the proposer or the firm, corporation, partnership, or institution represented by the proposer or anyone acting for such firm, corporation, or institution has violated the antitrust laws of this State, codified in Section 15.01, et seq., Texas Business and Commerce Code, or the Federal antitrust laws, nor communicated directly or indirectly the offer made to any competitor or any other person engaged in such line of business. By signing this proposal, proposer certifies that if a Texas address is shown as the address of the proposer, proposer qualifies as a Texas Resident Bidder as defined in Rule 1 TAC 111.2.

This offer consists of pages number one (1) through ________________________.

---

**PAYEE IDENTIFICATION NUMBER (PIN):** ________________________________

**PROPOSER (COMPANY):** ____________________________________________

**SIGNATURE (INK):** ________________________________________________

**NAME (TYPED/PRINTED):** __________________________________________

**TITLE:** __________________________________________________________________

**STREET:** __________________________________________________________________

**CITY/STATE/ZIP:** _____________________________________________________

**TELEPHONE NO.:** ____________________________________________________

---

**Check below if preference claimed under Rule 1 T.A.C. 113.8**

(____) 1. Supplies, materials or equipment produced in Texas or offered by a Texas bidder.
(____) 2. Agricultural products grown in Texas
(____) 3. Agricultural products offered by Texas bidder
(____) 4. U.S.A. produced supplies, materials or equipment
(____) 5. Products of persons with mental or physical disabilities
(____) 6. Products made of recycled materials
(____) 7. Energy efficient products
(____) 8. Rubberized asphalt paving material
(____) 9. Recycled motor oil and lubricants
**Attachment E**

**Required Submittal Documents**  
*(Provided For Information Purposes Only)*

FAILURE TO RETURN THE REQUIRED DOCUMENTS AND INFORMATION WILL RESULT IN PROPOSAL BEING CONSIDERED NON-RESPONSIVE.

Proposing Company: ________________________________

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1. Submitted an original and 5 copies</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>2. Submitted information for all Schedules 1-7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Schedule 7, Pricing, has all information, is signed and dated</td>
<td></td>
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<tr>
<td>4. Execution of Proposal is signed</td>
<td></td>
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</tbody>
</table>

THE ABOVE WAS CHECKED BY:
<table>
<thead>
<tr>
<th>10. Vendor Skills and Qualifications</th>
<th>Meets Minimum Requirements</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1.1 The Vendor has experience providing project management services for the full lifecycle of a minimum of five other projects.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.1.2 The Vendor has experience providing system analysis/design services for the full lifecycle of a minimum of five other projects.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.1.3 The Vendor has experience providing database analysis services for the full lifecycle of a minimum of five other projects.</td>
<td>Yes</td>
<td></td>
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<tr>
<td>10.1.4 The Vendor has experience providing programming services for the full lifecycle of a minimum of five other projects.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.1. Of the above mentioned projects, at least three of them were full lifecycle GIS projects.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.2 Vendor Project Manager Qualifications</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.2.1 The Vendor Project Manager has a minimum of two years experience in project management on GIS projects.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.2.2 The Vendor Project Manager has knowledge and experience, within the last two years, in providing systems analysis, design, and development services.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.2.3 The Vendor Project Manager has experience, within the last two years, in developing requirements for, and implementing Transportation GIS solutions.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.2.4 The Vendor Project Manager has a minimum of two years experience with project life-cycle development and methodologies.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.2.5 The proposal demonstrates that the Vendor Project Manager possesses the ability to communicate technical information clearly and effectively, both orally and in writing.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.2.6 The proposal demonstrates that the Vendor Project Manager has worked within a cooperative team environment, within the last year.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.3 Vendor Project Team Qualifications</td>
<td></td>
<td></td>
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<tr>
<td>(The following must be met by at least one member of the Vendor’s proposed project team).</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.3.1 A Vendor team member possesses knowledge and experience, within the last two years, in providing systems analysis, design and development.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.3.2 A Vendor team member possesses experience, within the last two years, in developing requirements for Transportation GIS solutions, using ESRI software.</td>
<td>Yes</td>
<td></td>
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<tr>
<td>10.3.3 A Vendor team member possesses experience, within the last year, in the development of technical architectures for an enterprise GIS environment.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.3.4 A Vendor team member possesses experience, within the last two years, in logical and physical data modeling.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.3.5 A Vendor team member possesses experience within the last two years, in database analysis and designing and implementing applications using ESRI ArcSDE and an Oracle database.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.3.6 A Vendor team member possesses experience in technical writing, project documentation, and training materials development using Microsoft Office.</td>
<td>Yes</td>
<td></td>
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<tr>
<td>10.3.7 A Vendor team member possesses experience in design and development of on-line help aids.</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>10.3.8 A Vendor team member possesses knowledge and experience in developing and conducting training sessions for end-users, as well as informal training and mentoring.</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Respondents Will Receive A Score Regarding Each Of The Following Items

1. Submission of Proposal (Creative Solutions and Value-Added Recommendations).
2. Submission of Proposal (Use of Standard Project Development Methodology).
3. Schedule 2 – Vendor Profile and History (Nature of Previous Vendor Work Experience In Transportation GIS).
4. Schedule 2 – Vendor Profile and History (Number of Years in Business).
5. Schedule 3 – Vendor References (Systems Analysis/Design Experience).
6. Schedule 3 – Vendor References (Experience with Similar Enterprise GIS Projects).
7. Schedule 4 – Verification of Proposed Vendor Project Manager Skill Qualifications (Project Manager has Directed System Analysis, Design and Full Implementation of GIS Transportation Projects).
8. Schedule 4 – Verification of Proposed Vendor Project Manager Skill Qualifications (Project Manager has Directed Systems Analysis, Design and Full Implementation of Enterprise GIS Projects).
9. Schedule 5 – Credentials of Proposed Project Team Members (At Least One Project Team Member Has Worked on Similar Large Scale Enterprise Transportation GIS Projects).
10. Schedule 6 – (High Level Work Plan, Schedule and Description of Approach).
11. Schedule 6 – (Description of Deliverables).
12. Schedule 6 – (Date Project Team is Available).
13. Schedule 6 – (Estimated Date of Completion).
15. Phase I: Project Initiation (Project Schedule).
17. Phase I: Project Initiation (Configuration Management Plan).
18. Phase I: Project Initiation (Project Quality Plan).
20. Phase II: Harris County Prototype (Analyze and Validate Prototype Data).
21. Phase II: Harris County Prototype (Collection and Documentation of User Requirements For Linear Referencing Systems).
22. Phase II: Harris County Prototype (Experience with Development of Linear Referencing Systems).

23. Phase II: Harris County Prototype (Experience with Measured Shapes and Dynamic Location Objects).

24. Phase II: Harris County Prototype (Understanding of Complexity and Importance of the Data Dictionary Required for TLMS).

25. Phase II: Harris County Prototype (Development of Logical and Physical Data Models for TLMS).

26. Phase II: Harris County Prototype (Experience with StratMap).

27. Phase II: Harris County Prototype (StratMap and TLMS Integration Strategy).

28. Phase II: Harris County Prototype (Understanding of Transportation GIS).

29. Phase II: Harris County Prototype (Understanding of TLMS).


35. Phase V: Statewide TLMS and Roadbed Basemap Prototype (Experience Developing Proof of Concept Prototypes).

36. Phase V: Statewide TLMS and Roadbed Basemap Prototype (Experience In Prototype Presentations).

37. Phase VI: Data Strategy and Application Definition (Knowledge of Current TxDOT Spatial Data Sets).

38. Phase VI: Data Strategy and Application Definition (Experience Integrating Spatial Data From Multiple Sources).

39. Phase VIII: Prototype Business Applications (Knowledge of TxDOT Business Areas That Utilize Linear Referenced Data).

40. Phase X: Supplemental Support (Knowledge Transfer Plan).