THE STATE OF TEXAS §

COUNTY OF TRAVIS §

CONTRACT FOR SURVEYING SERVICES
Indefinite Deliverable Contract with Work Authorizations

THIS CONTRACT FOR SURVEYING SERVICES is made between the State of Texas, acting through the Texas Department of Transportation, 125 E. 11th St., Austin, Texas 78701-2483 (State), and **Jones & Carter, Inc.**, having a principal business address at **6330 West Loop South, Suite 150, Bellaire Texas 77401** (Surveyor), for the purpose of contracting for surveying services.

BACKGROUND

As part of its responsibilities under Transportation Code, Chapter 202, the State requires land surveys to determine the location and design needs of roads, streets, and highways throughout the state. The State has determined that the services of professional land surveyors are sometimes necessary to carry out the required surveys. Under Texas Government Code, Chapter 2254, Subchapter A, and 43 TAC §9.30 et seq., the State requested letters of interest from professional land surveyors to assist the State by providing surveying services. The State has selected the Surveyor and desires to contract for surveying, described in more detail as follows:

The work to be performed will include various types of professional land surveying services within and along State right-of-way easements in support of preliminary engineering, construction engineering and maintenance work within the State of Texas.

The State and the Surveyor agree as follows.

AGREEMENT

SECTION 1. SCOPE OF SERVICES. The State and the Surveyor will furnish items and perform services as identified in Attachment B (Services To Be Provided by the State), and Attachment C (Services To Be Provided by the Surveyor). All services provided by the Surveyor will conform to standard surveying practices, to the Texas Department of Transportation's Right of Way Manuals, to the Survey Manual, to the GPS Manual of Practice, to the Professional Land Surveying Practices Act, to the General Rules of Procedures and Practices promulgated by the Texas Board of Professional Land Surveying, to the Texas Society of Professional Surveyors' Manual of Practice for Land Surveying in Texas, and to all other applicable rules and regulations.

SECTION 2. CONTRACT PERIOD.
A. Contract Period. The period after this contract becomes effective and before it is terminated is the Contract Period. This contract becomes effective when executed by both parties and terminates four years after it becomes effective, unless the Contract Period is:

(1) modified by written supplemental agreement before the date of termination under Attachment A (General Provisions), Article 4 (Supplemental Agreements); or

(2) otherwise terminated in accordance with Attachment A (General Provisions), Article 24 (Termination and Remedies).

B. Maximum Contract Period. The maximum Contract Period is the time needed to complete all work authorizations issued in the first two years of this contract.

C. Unauthorized Work. The State will make no payment for any work performed or cost incurred before or after the Contract Period.

SECTION 3. COMPENSATION.

A. Maximum Amount Payable. The maximum amount payable under this contract is shown in Attachment E (Schedule of Rates). Payment under this contract beyond the end of the current fiscal biennium is subject to availability of appropriated funds. If funds are not appropriated, this contract shall be terminated immediately with no liability to either party.

B. Basis of Payment. The basis of payment and reimbursement of costs is set forth in Attachment E (Schedule of Rates). Satisfactory work progress is a condition of payment.

C. Reimbursement of Eligible Costs. To be eligible for reimbursement, the Surveyor's costs must

(1) be incurred in accordance with the terms of a valid work authorization;
(2) be in accordance with Attachment E (Schedule of Rates); and
(3) comply with cost principles set forth in 48 CFR Part 31.

D. Surveyor Payment of Subproviders. No later than ten days after receiving payment from the State, the Surveyor shall pay all subproviders for work performed under a subcontract. The State may withhold all payments that have or may become due if the Surveyor fails to comply with the ten-day payment requirement. The State may also suspend the work under this contract or any work authorization until subproviders are paid. This requirement also applies to all lower-tier subproviders, and this provision must be incorporated into all subcontracts.

SECTION 4. PAYMENT REQUIREMENTS

A. Invoices. The Surveyor shall request payment by submitting the original of an itemized invoice in a form acceptable to the State. The Surveyor may submit an invoice no more frequently than monthly and no later than ninety days after performing the work or incurring the cost. For each work authorization, an invoice shall show the contract number, the work authorization number, the total amount earned to the date of submission, the amount due as of the date of the invoice, and whether the invoice is for the completion of all work under the work authorization or for less than all work.

B. Withholding Payments. If payment is withheld, the State shall notify the Surveyor and specify conditions that would allow the State to release the payment. The State reserves the right to withhold payment:

(1) If a dispute over the work or costs is not resolved within thirty (30) days;
(2) pending verification that work is satisfactory;
(3) if the Surveyor becomes a delinquent obligor under Family Code, §231.006;
(4) if required work product is not received; or
(5) if the State Comptroller of Public Accounts will not issue a warrant to the Surveyor.

C. Required Reports.

(1) As required in Attachment H, the Surveyor shall submit Progress Assessment Reports on Exhibit H-3 to report payments made to Disadvantaged Business Enterprises or Historically Underutilized Businesses. One copy shall be submitted with each invoice.

(2) Before contract closeout, the Surveyor shall submit a Final Report on Exhibit H-4 to the address set forth in Attachment H.

(3) With each invoice, the Surveyor shall submit a separate progress report showing, for each work authorization, the percentage of work that was completed during the billing period and the percentage of work completed to date. The Surveyor shall also submit any written report requested by the State to document the progress of the work.

D. Subproviders and Suppliers List. The Surveyor must provide the State a list, compiled on Exhibit H-5/DBE or Exhibit H-6/HUB, of all subproviders and suppliers that submitted quotes or proposals for subcontracts. This list shall include subproviders' and suppliers' names, addresses, and telephone numbers.

E. Debt to the State. If the State Comptroller of Public Accounts is prohibited from issuing a warrant or initiating an electronic funds transfer to the Surveyor because of a debt owed to the State, the State shall apply all payment due the Surveyor to the debt or delinquent tax until the debt or delinquent tax is paid in full.

SECTION 5. WORK AUTHORIZATIONS. To authorize all work under this contract, the State will issue work authorizations using form D-1 in Attachment D (Work Authorizations). The Surveyor must sign and return a work authorization within seven working days after receipt. The Surveyor's failure to accept a work authorization in a timely manner is grounds for termination of this contract. The State is not responsible for actions by the Surveyor or costs incurred by the Surveyor except to the extent that the actions or costs are directly associated with a valid work authorization. Terms and conditions governing the use of work authorizations are set forth in Attachment A (General Provisions), Article 1 (Work Authorizations).

SECTION 6. SIGNATORY WARRANTY. The undersigned signatory for the Surveyor warrants that the signatory is an officer of the organization for which this contract is executed and has the authority to execute this contract on behalf of the Surveyor. This warranty is made to induce the State to enter into this contract.

SECTION 7. NOTICES. All notices to either party by the other party will be delivered personally or sent by U.S. Mail, postage prepaid, to the following respective addresses:

Surveyor: Jones & Carter, Inc.	**The State of Texas:** Director, Professional Engineering Procurement Services
6330 West Loop South, Suite 150	Texas Dept. Of Transportation
Bellaire, Texas. 77401	125 E. 11th Street
	Austin, Texas 78701

The notice shall be received by the addressee on the date delivered or deposited in the mail, unless otherwise provided. Either party may change the above address by sending written notice of such change to the other in the manner provided.

SECTION 8. INCORPORATION OF PROVISIONS. Attachments A through H are made part of this contract. The parties shall comply with the provisions of Attachments A through H as if they were set forth in full within the body of this contract.

THE SURVEYOR	**THE STATE OF TEXAS**
DocuSigned by: Carlos P. Cotton E0D921E06F3C44C...	DocuSigned by: James M. Bass A36629BA547D4BD...
(Signature)	(Signature)
Carlos P. Cotton	James M. Bass
(Printed Name)	(Printed Name)
Executive Vice-President	Executive Director
(Title)	(Title)
6/6/2016	6/10/2016
(Date)	(Date)

Attachments to Contract for Surveying Services
Incorporated into the Contract by Reference

Attachments	Title
A	General Provisions
B	Services To Be Provided by the State
C	Services To Be Provided by the Surveyor
D	Work Authorizations
	Form D-1 Work Authorization
	Form D-2 Supplemental to a Work Authorization
E	Schedule of Rates
F	Computer Graphics Files
G	Not Applicable
H-FG	Disadvantaged Business Enterprise (DBE) for Federal Funded Professional or Technical Services Contracts – See Attachment H Instructions **Not Applicable**
H – FN	Disadvantaged Business Enterprise (DBE) for Race-Neutral Professional or Technical Services Contracts – See Attachment H Instructions **Not Applicable**
H – SG	Historically Underutilized Business (HUB) Requirements for State Funded Professional or Technical Services Contracts – State of Texas HUB. Subcontracting plan required – See Attachment H Instructions
H – SN	Historically Underutilized Business (HUB) Requirements for State Funded Professional or Technical Services Contracts – No State of Texas HUB **Not Applicable**
Exhibits	Title
H – 1	Subprovider Monitoring System Commitment Worksheet
H – 2	Subprovider Monitoring System Commitment Agreement
H – 3	Monthly Progress Assessment Report **Not Applicable**
H - 4	Subprovider Monitoring System Final Report
H - 5	Federal Subproviders and Supplier Information **Not Applicable**
H - 6	HUB Subcontracting Plan (HSP) Prime Contractor Progress Assessment Report

ATTACHMENT A

GENERAL PROVISIONS

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12A	License for TxDOT Logo Use
13	Civil Rights Compliance
14	Insurance
15	Child Support Certification
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19	Noncollusion
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ATTACHMENT A

GENERAL PROVISIONS

ARTICLE 1. WORK AUTHORIZATIONS

A. Use. The Surveyor shall not begin any work until the State and the Surveyor have signed a work authorization for the work. The State will make no payment for any work performed or cost incurred before a work authorization is fully executed or after the completion date specified in the work authorization. The completion date for a work authorization may not extend beyond the Contract Period. All work authorizations must be issued within two years after this contract is fully executed.

B. Contents. Each work authorization shall specify (1) the scope of work to be performed; (2) a period of performance with a beginning and ending date; (3) a full description of the work to be performed; (4) a work schedule with milestones; (5) a maximum cost; (6) whether the basis of payment is lump sum, unit cost, or specified rate; and (7) a work authorization budget calculated using rates set forth in Attachment E (Schedule of Rates). Additional contract terms and conditions may not be included in a work authorization. A work authorization may not waive any responsibilities or obligations contained in this contract. In the event of any conflict in terms and conditions between a work authorization and this contract, the terms and conditions of this contract shall prevail. Each work authorization shall be signed by both parties and become a part of this contract.

C. Budget. A work authorization budget shall set forth in detail (1) a list of the work to be performed; (2) the computation of the cost of the work described in the work authorization; and (3) the maximum amount payable under the work authorization. The State will not pay items of cost that are not authorized under Attachment E (Schedule of Rates) and will not pay rates that exceed those authorized in Attachment E (Schedule of Rates).

D. No Guaranteed Work. Work authorizations are issued at the discretion of the State. While it is the State's intent to issue work authorizations under this contract, the Surveyor shall have no cause of action based on the State's failure to issue work authorizations under this contract or on the number of work authorizations issued.

E. Emergency Work Authorizations. The State, in its sole discretion, may accept the Surveyor's signature on a faxed copy of a work authorization as satisfying the Surveyor's obligation to execute the work authorization if the signed original is received by the State within five business days after the State's receipt of the fax.

ARTICLE 2. SUPPLEMENTAL TO A WORK AUTHORIZATION

A. Necessity of Supplemental to a Work Authorization. Work under a work authorization is limited to the work specified in the work authorization. Before any work may be performed that is not specified in a work authorization and before any additional costs are incurred, the parties shall execute a supplemental to a work authorization in the form set forth as Form D-2 in Attachment D (Work Authorizations). A supplemental to a work authorization may not be executed after the expiration of the work authorization it is supplementing or outside the Contract Period. Under no circumstances will the State pay more than the maximum amount payable set forth in Attachment E (Schedule of Rates), as it may be amended by supplemental agreement from time to time.

B. Extension of Time. If the Surveyor determines or reasonably anticipates that the work authorized in a work authorization cannot be completed before the specified completion date, the Surveyor shall promptly notify the State. In its sole discretion, the State may agree to extend the work authorization period by joint execution of a supplemental to a work authorization.

C. Change in Scope. The scope of work authorized in a work authorization may only be altered through execution of a supplemental to a work authorization. If the change in scope affects the amount payable under a work authorization, a revised work authorization budget shall be incorporated in the supplemental to a work authorization.

ARTICLE 3. SUSPENSION OF WORK AUTHORIZATIONS

A. Notice. The State may suspend a work authorization without terminating this contract by notifying the Surveyor orally. Oral notification must be followed by written confirmation.

B. Reinstatement. The state may reinstate a suspended work authorization by giving written notice. Unless waived in writing by the parties, the reinstatement will be effective sixty business days after the notice is provided.

C. Contract Period Not Affected. Suspension of a work authorization does not affect the Contract Period. The work authorization will terminate under its own provisions or at the end of the Contract Period, whichever occurs first, unless this contract, the work authorization, or both are amended to authorize additional time, as appropriate.

D. Limitation of Liability. The State is not liable for work performed or costs incurred before the date authorized by the State to begin work, during periods when work is suspended, or after the completion date of the work authorization, or after the Contract Period.

ARTICLE 4. SUPPLEMENTAL AGREEMENTS

The terms of this contract may be modified by Supplemental Agreement. A supplemental agreement must be fully executed within the Contract Period.

ARTICLE 5. ADDITIONAL WORK

A. Notice. If the Surveyor believes that any assigned work is beyond the scope of this contract or any work authorization issued under this contract, the Surveyor shall promptly notify the State in writing and demonstrate how the assigned work constitutes additional work.

B. Supplemental Agreement. If the State finds that the work does constitute additional work, the State shall so advise the Surveyor. The parties may then execute a supplemental agreement, a work authorization, or a supplemental to a work authorization, as appropriate.

C. Waiver of Rights. By failing to comply with this article, the Surveyor waives any right to compensation or reimbursement with regard to additional work.

ARTICLE 6. PROGRESS

A. Communications. From time to time during the progress of the work, the Surveyor shall confer with the State. The Surveyor shall prepare and present all information that is requested by the State or is necessary for the State to evaluate the work.

B. Reports. The Surveyor shall promptly advise the State in writing of events that may have a significant effect on the progress of a work authorization.

(1) The Surveyor shall promptly advise the State in writing of any problems, delays, or adverse conditions that will materially affect the ability to meet goals on schedule. This disclosure will be accompanied by statement of the action taken or contemplated and any state or federal assistance needed to resolve the situation.

(2) The Surveyor shall also promptly advise the State in writing of favorable developments or events that enable meeting goals sooner than anticipated.

ARTICLE 7. PERSONNEL, EQUIPMENT, AND MATERIAL

A. Surveyor Resources. The Surveyor shall maintain an office, employ sufficient personnel, and possess adequate equipment to perform the services required under this contract. The Surveyor certifies that it currently has adequate qualified personnel in its employment for performance of the services required under this contract or that it will be able to obtain adequate qualified personnel from sources other than the State.

B. Removal of Contractor Employee. All employees of the Surveyor assigned to this contract shall have sufficient knowledge and experience to enable them to perform the duties assigned to them. The State may require the Surveyor to remove any employee from work authorized in this contract if in the sole opinion of the State, the work of that employee does not comply with this contract or the conduct of that employee is detrimental to the work.

C. Removal of Project Manager. The Surveyor shall notify the State in writing as soon as possible after a project manager is removed from work on this contract and shall give the reason for the removal. In any event, this notice must be given no later than three business days after the removal.
D. State Approval of Replacement Project Manager. The Surveyor may not replace the project manager, temporarily or permanently, without the advance written approval of the State.
E. Ownership of Acquired Property. Except to the extent that a specific provision of this contract states to the contrary, the State shall own all intellectual property acquired or developed under this contract and all equipment purchased by the Surveyor or its subcontractors under this contract. All intellectual property and equipment owned by the State shall be delivered to the State when the contract terminates.

ARTICLE 8. SUBCONTRACTING
A. Prior Approval. The Surveyor shall not assign, subcontract, or transfer any professional services related to the work under this contract without the advance written approval of the State.
B. Required Provisions. All subcontracts for professional services shall include the provisions contained in Attachment A (General Provisions) and any other provisions required by law.
C. Surveyor Responsibilities. A subcontract does not relieve the Surveyor of any responsibilities under this contract.

ARTICLE 9. SURVEYOR'S RESPONSIBILITIES
A. Accuracy. The Surveyor shall be responsible for the accuracy of work and shall promptly make any revisions or corrections made necessary by its errors, omissions, or negligent acts. The Surveyor's responsibility for revisions and corrections under this article will be determined by the State. Errors made by the Surveyor will remain the Surveyor’s responsibility as long as allowed by applicable law. If the Surveyor submits work that does not comply with the terms of this contract, the State shall instruct the Surveyor to take actions necessary to bring the work into compliance with this contract. No additional compensation shall be paid for work performed under this paragraph.
B. Seal. The Surveyor shall sign, seal, and date all appropriate surveying submissions to the State in accordance with the Texas Surveying Practice Act and the rules of the Texas Board of Professional Land Surveying.

ARTICLE 10. INSPECTION OF WORK
A. Review Rights. Authorized representatives of the State and, when federal funds are used, the U.S. Department of Transportation shall have the right at all reasonable times to review the work performed under this contract and the premises in which work is being performed.
B. Reasonable Access. The Surveyor shall provide and require its subproviders to provide all reasonable facilities and assistance for the safety and convenience of state or federal representatives in the performance of their duties.

ARTICLE 11. SUBMISSION OF WORK PRODUCT
At the State's request, all work product shall be submitted in preliminary form for approval by the State before the final work product is issued. The State's comments on the Surveyor's preliminary work product shall be addressed in the final work product.

ARTICLE 12. MAINTENANCE, RETENTION, AND AUDIT OF RECORDS
A. Retention Period. The Surveyor shall maintain all books, documents, papers, accounting records, and other evidence pertaining to costs incurred and services provided (Records). The Surveyor shall make the Records available at its office during the Contract Period and for seven years from the date of final payment under this contract, until completion of all audits, or until pending litigation has been completely and fully resolved, whichever occurs last.
B. Availability. The State, the Federal Highway Administration, the United States Department of Transportation, its Office of Inspector General, the State Auditor’s Office, and the United States

Comptroller General shall have access to the Records for the purpose of making audits, examinations, excerpts, and transcriptions.

C. State Auditor. The State Auditor may conduct an audit or investigation of any entity receiving funds from the state directly under this contract or indirectly through a subcontract under this contract. Acceptance of funds directly under this contract or indirectly through a subcontract under this contract 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 subject to an audit or investigation must provide the State Auditor with access to any information the State Auditor considers relevant to the investigation or audit.

ARTICLE 12 A. LICENSE FOR TxDOT LOGO USE

A. Grant of License; Limitations. The Surveyor is granted a limited revocable non-exclusive license to use the registered TxDOT trademark logo (TxDOT Flying "T") on any deliverables prepared under this contract that are the property of the State. The Surveyor may not make any use of the registered TxDOT trademark logo on any other materials or documents unless it first submits that request in writing to the State and receives approval for the proposed use. The Surveyor agrees that it shall not alter, modify, dilute, or otherwise misuse the registered TxDOT trademark logo or bring it into disrepute.

B. Notice of Registration Required: The Surveyor's use of the Flying 'T' under this article shall be followed by the capital letter R enclosed within a circle (®) that gives notice that the Flying 'T' is registered in the United States Patent and Trademark Office (USPTO).

C. No Assignment or Sublicense. The Surveyor may not assign or sublicense the rights granted by this article without the prior written consent of the State.

D. Term of License. The license granted to the Surveyor by this article shall terminate at the end of the term specified in Article 2 of this contract.

ARTICLE 13. CIVIL RIGHTS COMPLIANCE

A. Compliance with Regulations: The Surveyor will comply with the Acts and the Regulations relative to Nondiscrimination in Federally-assisted programs of the U.S. Department of Transportation, the Federal Highway Administration, as they may be amended from time to time.

B. Nondiscrimination: The Surveyor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, or national origin in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The Surveyor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 45 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 Surveyor for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Surveyor of the Surveyor's obligations under this contract and the Acts and Regulations relative to Nondiscrimination on the grounds of race, color, or national origin.

D. Information and Reports: The Surveyor shall 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 Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations or directives. Where any information required of the Surveyor is in the exclusive possession of another who fails or refuses to furnish this information, the Surveyor will so certify to the State or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

E. Sanctions for Noncompliance: In the event of the Surveyor's noncompliance with the Nondiscrimination provisions of this contract, the State will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

a) withholding of payments to the Surveyor under the contract until the Surveyor complies and/or
b) cancellation, termination, or suspension of the contract, in whole or in part.

F. Incorporation of Provisions: The Surveyor will include the provisions of paragraphs (A) through (E) in every subcontract, including procurement of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Surveyor will take such action with respect to any subcontract or procurement as the State or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance provided, however, that in the event an Surveyor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the Surveyor may request the Texas Department of Transportation to enter into such litigation to protect the interests of the State; and, in addition, the Surveyor may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 14. INSURANCE

The Surveyor certifies that it has insurance on file with the Contract Services, of the Texas Department of Transportation in the amount specified on Texas Department of Transportation Form 1560-CS. The Surveyor certifies that it will keep current insurance on file with that office for the duration of the Contract Period. If insurance lapses during the Contract Period, the Surveyor shall cease work until a new certificate of insurance is provided.

ARTICLE 15. CHILD SUPPORT CERTIFICATION

Under Section 231.006, Texas Family Code, the Surveyor certifies that the individual or business entity named in this contract, bid, or application is not ineligible to receive the specified grant, loan, or payment and acknowledges that this contract may be terminated and payment may be withheld if this certification is inaccurate. If the above certification is shown to be false, the Surveyor is liable to the state for attorney’s fees, the cost necessary to complete the contract, including the cost of advertising and awarding a second contract, and any other damages provided by law or the contract. A child support obligor or business entity ineligible to receive payments because of a payment delinquency of more than thirty (30) days remains ineligible until: all arrearages have been paid; the obligor is in compliance with a written repayment agreement or court order as to any existing delinquency; or the court of continuing jurisdiction over the child support order has granted the obligor an exemption from Subsection (a) of Section 231.006, Texas Family Code, as part of a court-supervised effort to improve earnings and child support payments.

ARTICLE 16. OWNERSHIP OF DATA

A. Work for Hire. All services provided under this contract are considered work for hire, and all data, basic sketches, charts, calculations, plans, specifications, and other documents created or collected under the terms of this contract are the property of the State.

B. Disposition of Documents. All documents and data prepared by the Surveyor and all documents and data furnished to the Surveyor by the State shall be delivered to the State at its request. The Surveyor, at its own expense, may retain copies of documents or any other data that have been furnished the State under this contract, but use of the documents or data is subject to permission by the State.

C. Release of Survey Data and Documents. The Surveyor will not release any survey data or documents created or collected under this contract except to its subproviders and to the extent necessary to complete this contract. All subcontracts shall include a provision that acknowledges the State’s ownership of the survey data and documents and prohibits its use except to the extent necessary to complete this contract. The Surveyor is responsible for any improper use of survey data or documents by its employees, officers, or subproviders, including costs, damages, or other liability

resulting from improper use. Neither the Surveyor nor any subprovider may charge a fee for survey data or documents.

ARTICLE 17. PATENT RIGHTS

The State and the U. S. Department of Transportation shall have the royalty-free, nonexclusive, and irrevocable right to use and to authorize others to use any patents developed by the Surveyor under this contract.

ARTICLE 18. COMPLIANCE WITH LAWS

The Surveyor shall comply with all applicable federal, state, and local laws, statutes, codes, ordinances, rules, and regulations and with the orders and decrees of any court and of any administrative body or tribunal in any manner affecting the performance of this contract, including worker's compensation laws, minimum and maximum salary and wage statutes and regulations, nondiscrimination laws, and licensing laws and regulations. At the request of the State, the Surveyor shall furnish satisfactory proof of its compliance with this article.

ARTICLE 19. NONCOLLUSION

A. Warranty. The Surveyor warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for the Surveyor, to solicit or secure this contract and that it has not paid or agreed to pay any company or Surveyor any fee, commission, percentage, brokerage fee, gifts, or any other consideration, contingent on or resulting from the award or making of this contract.

B. Liability. For breach or violation of this warranty, the State shall have the right to annul this contract without incurring any liability or in its discretion, to deduct from the contract price or compensation or otherwise to recover the full amount of the fee, commission, percentage, brokerage fee, gifts, or other consideration.

ARTICLE 20. DEBARMENT CERTIFICATIONS

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 Surveyor certifies that it is not currently debarred, suspended, or otherwise excluded from or ineligible for participation in Federal Assistance Programs under Executive Order 12549. The parties to this contract shall require any party to a subcontract or purchase order awarded under this contract to certify its eligibility to receive Federal funds and, when requested by the State, to furnish a copy of the certification.

ARTICLE 21. LOBBYING CERTIFICATION

In executing this contract, the signatories certify to the best of his or her knowledge and belief, that:

A. **Payment of Funds.** 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. **Certification Status.** The Surveyor certifies that it is not:

1. a person required to register as a lobbyist under Chapter 305, Government Code;
2. a public relations firm; or
3. a government consultant.

C. **Disclosure Form.** 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 Funding Agency shall complete and submit the federal Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

D. Subawards. The parties shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

E. Penalties. Submission of this certification is a prerequisite imposed by Title 31 U.S.C. §1352 for making or entering into this transaction. 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.

ARTICLE 22. GRATUITIES

A. Employees Not To Benefit. Employees of the Texas Department of Transportation may not accept any benefit, gift, or favor from any person who is doing business with or who reasonably speaking may do business with the State under this contract. The only exceptions are ordinary business lunches and items that have received the advance written approval of the Executive Director of the Texas Department of Transportation.

B. Liability. The State may terminate this contract if the Surveyor or any other person who is doing business with or who reasonably speaking may do business with the State under this contract offers benefits, gifts, or favors to State employees in violation of this policy.

ARTICLE 23. CONFLICT OF INTEREST

The Surveyor represents that the firm has no conflict of interest that would in any way interfere with its or its employees' performance of services for the department or which in any way conflicts with the interests of the department. The Surveyor further certifies that this agreement is not barred because of a conflict of interest pursuant to Texas Government Code, Section 2261.252, between it and the State. Specifically, the Surveyor certifies that none of the following individuals, nor any or their family members within the second degree of affinity or consanguinity, owns 1% or more interest, or has a financial interest as defined under Texas Government Code, Section 2261.252(b), in the firm: any member of the Texas Transportation Commission, TxDOT's Executive Director, General Counsel, Chief of Procurement and Field Support Operations, Director of Procurement, or Director of Contract Services. The firm shall exercise reasonable care and diligence to prevent any actions or conditions that could result in a conflict with the department's interests.

ARTICLE 24. INDEMNIFICATION

A. Errors, Omissions, Negligent Acts. The Surveyor shall indemnify the State and its officers and employees from all claims and liability that result from any error, omission, or negligent act of the Surveyor or of any person employed by the Surveyor under this contract.

B. Attorney Fees. The Surveyor shall also indemnify the State from any and all expense, including attorney fees that may be incurred by the State in litigation or otherwise, to the extent that the expense results from any error, omission, or negligent act of the Surveyor or of any person employed by the Surveyor under this contract.

ARTICLE 25. DISPUTES

A. Procurements by the Surveyor. The Surveyor shall be responsible for the resolution of any claim arising out of any procurement made by the Surveyor in support of the services authorized by this contract.

B. Disputes Concerning Work or Cost. Any dispute concerning this contract or work or rates under this contract shall be resolved under 43 TAC §9.2.

ARTICLE 26. TERMINATION AND REMEDIES

A. Causes. This contract may be terminated by:

1. Written agreement of the parties;
2. Written notice from either party because the other party did not fulfill its contractual obligations; or
3. Thirty days' written notice from the State, with or without cause.

B. Payments Due After Termination. If the State terminates this contract, the State will not be liable for any fees other than those that are due at the time of termination. If this contract is terminated under Article 26(A)(3), the Surveyor shall not incur costs during the thirty days after notice is given if those costs are more than the costs incurred during the immediately preceding thirty days.

C. Value of Completed Work. The State shall determine the value of any work that has been done at the time of termination. Compensation for partial work shall be calculated on the basis of the percentage of work completed at the time of termination. In making that calculation, the State will consider

1. Actual costs incurred, not to exceed the rates set forth in Attachment E (Schedule of Rates), in performing the work to the date of termination;
2. The amount of work that was satisfactorily completed as of the date of termination;
3. The value of the work that is usable to the State;
4. The cost to the State of employing another firm to complete the required work;
5. The time required to employ another firm to complete the work;
6. Other factors that affect the value to the State of the work performed.

D. Payment of Additional Costs. If this contract is terminated under Article 26(A)(2), the State may take over the project and prosecute the work to completion. The Surveyor shall be liable to the State for any additional cost to the State caused by the termination.

E. Excusable Delays. Except with respect to defaults by subproviders, the Surveyor will not be considered in default for any failure that arises out of causes beyond the control and without the negligence of the Surveyor. These include acts of God or the public enemy, acts of the Government in its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and unusually severe weather.

F. Surviving Requirements. Except for provisions that specifically establish responsibilities that extend beyond the Contract Period, termination and payment under this article extinguish the rights, duties, and obligations of the State and the Surveyor under this contract.

G. Remedies. This contract shall not be considered as specifying the exclusive remedy for any default. All legal remedies may be pursued by either party and shall be cumulative.

ARTICLE 27. SEVERABILITY

If any provision in this contract is for any reason held to be invalid, illegal, or unenforceable in any respect, that invalidity, illegality, or unenforceability shall not affect any other provision of this contract. In that case, this contract shall be construed as if the invalid, illegal, or unenforceable provision had never been contained in it.

ARTICLE 28. SUCCESSORS AND ASSIGNS

The Surveyor and the State bind themselves and their successors, executors, administrators, and assigns to each other party of this contract and to the successors, executors, administrators, and assigns of each other party with regard to all covenants of this contract. The Surveyor shall not assign, subcontract, or transfer its interest in this contract without the written approval of the State.

ARTICLE 29. PRIOR CONTRACTS SUPERSEDED

This contract constitutes the sole agreement of the parties for the services authorized in it and supersedes any prior understandings or written or oral contracts between the parties respecting its subject matter.

ARTICLE 30. NEPOTISM DISCLOSURE

A. In this section the term "relative" means:
(1) a person's great grandparent, grandparent, parent, aunt or uncle, sibling, niece or nephew, spouse, child, grandchild, or great grandchild, or
(2) the grandparent, parent, sibling, child, or grandchild of the person's spouse.

B. A notification required by this section shall be submitted in writing to the person designated to receive official notices under this contract and by first-class mail addressed to Contract Services, Texas Department of Transportation, 125 East 11th Street, Austin Texas 78701. The notice shall specify the Surveyor's firm name, the name of the person who submitted the notification, the contract number, the district, division, or office of TxDOT that is principally responsible for the contract, the name of the relevant Surveyor employee, the expected role of the Surveyor employee on the project, the name of the TxDOT employee who is a relative of the Surveyor employee, the title of the TxDOT employee, the work location of the TxDOT employee, and the nature of the relationship.

C. By executing this contract, the Surveyor is certifying that the Surveyor does not have any knowledge that any of its employees or of any employees of a subcontractor who are expected to work under this contract have a relative that is employed by TxDOT unless the Surveyor has notified TxDOT of each instance as required by subsection (b).

D. If the Surveyor learns at any time that any of its employees or that any of the employees of a subcontractor who are performing work under this contract have a relative who is employed by TxDOT, the Surveyor shall notify TxDOT under subsection (b) of each instance within thirty days of obtaining that knowledge.

E. If the Surveyor violates this section, TxDOT may terminate the contract immediately for cause, may impose any sanction permitted by law, and may pursue any other remedy permitted by law.

ARTICLE 31. OFFICE OF MANAGEMENT AND BUDGET AUDIT REQUIREMENTS

The parties shall comply with the requirement of the Single Audit Act of 1984, P.L. 98-502, ensuring that the single audit report includes the coverage stipulated in OMB Circular A-133.

ARTICLE 32. PUBLIC INFORMATION AND CONFIDENTIALITY

The Surveyor is required to make any information created or exchanged with the state pursuant to this contract, and not otherwise excepted from disclosure under the Texas Public Information Act, available in a format that is accessible by the public at no additional charge to the state.

ARTICLE 33. E-VERIFY CERTIFICATION

Pursuant to Executive Order RP-80, the Surveyor certifies and ensures that for all contracts for services, the surveyor shall, to the extent permitted by law, utilize the United States Department of Homeland Security's E-Verify system during the term of this agreement to determine the eligibility of:

1. All persons employed by the surveyor during the term of this agreement to perform duties within the State of Texas; and
2. All persons, including subcontractors, assigned by the surveyor to perform work pursuant to this agreement.

Violation of this provision constitutes a material breach of this agreement.

ARTICLE 34. RESTRICTIONS ON EMPLOYMENT OF FORMER STATE OFFICER OR EMPLOYEE

The Surveyor shall not hire a former state officer or employee of a state agency who, during the period of state service or employment, participated on behalf of the state agency in this agreement's procurement or its negotiation until after the second anniversary of the date of the officer's or employee's service or employment with the state agency ceased.

ARTICLE 35. NON-DISCRIMINATION PROVISIONS

A. Relocation Assistance: 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.

B. Disability:

a) 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.
b) Titles II and III of the Americans with Disabilities Act, which prohibit 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 the Department of Transportation regulations at 49 C.F.R. parts 37 and 38.

C. Age: The Age Discrimination Act of 1974, as amended, (42 U.S.C. § 6101 et. Seq.), prohibits discrimination on the basis of age.

D. Race, Creed, Color, National Origin, or Sex:

a) The Airport and Airway Improvement Act of 1982 (49 U.S.C. § 4.71, Section 4.7123), as amended, prohibits discrimination based on race, creed, color, national origin, or sex.
b) The Federal Aviation Administration's Nondiscrimination state (4 U.S.C. § 47123) prohibits discrimination on the basis of race, color, national origin, and sex.
c) Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 et. seq.), prohibits discrimination on the basis of sex.
d) Title IX of the Education Amendments of 1972, as amended, prohibits discrimination because of sex in education program or activities (20 U.S.C. 1681 et. seq.).

E. Civil Rights Restoration Act: 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 and 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.

F. Minority Populations: Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority and low-income populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations.

G. Limited English Proficiency: 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 Surveyor must take reasonable steps to ensure that LEP persons have meaningful access to its programs (70 Fed. Reg. at 74087 to 74100).

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ATTACHMENT B

SERVICES TO BE PROVIDED BY THE STATE

Subject to availability, the services to be provided or performed by the State will include, but not be limited to, the following items:

A. Name, address and phone number of the State's Project Manager.

B. Specifications requirements for all surveys.

C. Periodically inspect equipment and procedures of the Surveyor.

D. Maintain oversight of all services provided by the Surveyor through periodic inspections.

E. Control, Section and Job Number (CSJ).

F. Copies of the latest Horizontal and Vertical Control Data.

G. Approved Schematic Design Layout, if any.

H. Planimetric (2D) and Digital Terrain Model (3D) Files.

I. Approved district design standards including Title Sheets with Title Blocks.

J. Diagrams, sketches, photographs, and other applicable documents.

K. Current Right-of-Way (ROW) Geo-Database Templates.

L. ROW Mapping Check List (s).

M. Existing ROW maps.

N. Access to State's Real Time Kinematic (RTK) Virtual Reference Station (VRS) Network via License Agreement.

O. Required Horizontal and Vertical Datum to be used.

P. 3.5" Aluminum Disks (ROW, Benchmark and Global Positioning System (GPS) Control).

Q. Metal Delineator Post (Wing Channel Post).

R. Delineator Placement Detail Sheet.

S. 8 ½" x 11" Survey Control Data Sheet form in *Microsoft Office Word 2010*.

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T. The State's current Level Library Files.

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ATTACHMENT C

SERVICES TO BE PROVIDED BY THE SURVEYOR

General Standards

All surveys must meet or exceed the standards set in the Professional Land Surveying Practices Act, the General Rules of Procedures and Practices promulgated by the Texas Board of Professional Land Surveying (TBPLS), and the Texas Department of Transportation (TxDOT) TxDOT Survey Manual, latest edition, and shall be accomplished in an organized and professional manner, subject to the approval of the State.

The Surveyor shall use the State's *ROW Vol. 1 - Procedures Preliminary to Release*, (online at: http://onlinemanuals.txdot.gov/txdotmanuals/ppr/index.htm) and the TxDOT Survey Manual, latest edition, as the basis for the format and preparation of all right-of-way documents produced, including Right-of-Way (ROW) maps, property descriptions (including parcel plats), and other Right-of-Way work products, unless otherwise specified by the State.

The surveyor shall use the North American Datum of 1983 (NAD83), Texas Coordinate System of 1983 (State Plane Coordinates), applicable to the zone or zones in which the work is performed, with values in U.S. Survey Feet, as the basis for all horizontal coordinates derived, unless otherwise directed by the State. The Surveyor shall use the datum adjustment currently in use by the State unless otherwise specified by the State.

Project or surface coordinates must be calculated by applying a Combined Adjustment Factor (CAF) to State Plane Coordinate values. The State may direct the Surveyor to use a specific CAF for a project to: a) match existing or ongoing projects, b) conform to a county-wide surface adjustment factor, or c) be calculated specifically for the project area.

Elevations must be based on the North American Vertical Datum 88 (NAVD88), unless otherwise specified by the State.

All GPS work, whether primary control surveys or other, must meet or exceed the current TxDOT Survey Manual, latest edition, to the order of accuracy specified in the categories listed below or in a work authorization. If the order of accuracy is not specified in this Contract or in a work authorization, the work must meet or exceed the order of accuracy specified in the publications listed in this paragraph.

All conventional horizontal and vertical control surveys must meet or exceed the TxDOT Survey Manual, latest edition, and the Texas Society of Professional Surveyors (TSPS) Manual of Practice for Land Surveying in the State of Texas, latest edition, to the order of accuracy specified, and in the categories listed below or in a work authorization. If

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the order of accuracy is not specified in this Contract or in a work authorization, the work must meet or exceed the order of accuracy specified in the publications listed in this paragraph.

In order to ensure accuracy and accountability of the services provided under this Contract, the State may require the Surveyor to certify work performed under this Contract as true and correct according to FGCS standards, the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

The Surveyor shall provide temporary signing and traffic control in and around survey operations; the signing and traffic control shall comply with provisions of the Texas Manual of Uniform Traffic Control Devices. All signs, flags and safety equipment shall be provided by the Surveyor. The Surveyor shall notify the Public Information Office of the District where the work is to be performed at least five working days in advance of any lane closures.

The Surveyor shall provide all personnel, equipment, and materials necessary for the performance of the activities required by this agreement or by any work authorization.

The Surveyor shall provide Survey Data (original and processed) to the State on a compact disk or other approved medium. The Survey Data must be fully compatible with the State's computer system and with programs in use by the State at the time of the submission, without further modification or conversion. The current program formats used by the State are: *Microsoft Office Word 2010* for word processing, *MicroStation V8i* and *GEOPAK Survey* for graphics applications and ArcGIS for its Geo-Database platform. Data collection programs must be compatible with the current import formats allowed by *GEOPAK Survey* and be attributed with current Feature Codes. These programs may be replaced at the discretion of the State.

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 State.

The Surveyor shall perform Quality Control/Quality Assurance on all procedures, field surveys, data, and products prior to delivery to the State. The State may also require the Surveyor to review the survey work performed by other surveyors. If, at any time, during the course of reviewing a submittal of any item it becomes apparent to the State that the submittal contains errors, omissions, and inconsistencies, the State may cease its review and return the submittal to the Surveyor immediately for appropriate action by the Surveyor. A submittal returned to the Surveyor for this reason is not a submittal for purposes of the submission schedule.

The Standards for services that are not boundary-related but that relate to surveying for engineering projects may be determined by the construction specifications, design specifications, or as specified by the State.

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Specific Work To Be Performed

The Surveyor shall perform surveying services for projects and locations as directed by the State per the function codes and description of work provided below.

FUNCTION CODE 130(130) – RIGHT-OF-WAY (ROW) DATA

ROW Mapping

ROW Mapping includes the performance of on the ground surveys and preparation of parcel maps, legal descriptions (metes and bounds descriptions), and right-of-way maps.

1. PURPOSE

   The purpose of right-of-way mapping is to prepare documents suitable for the acquisition of real property interests and the probable issuance of a title policy.

2. DEFINITIONS

   For purposes of this Contract, the following definitions shall apply:

   a. Abstract Map (Working Sketch) – A drawing to scale prepared from record documents depicting proposed right-of-way lines, existing right-of-way lines, easement lines, and private property lines with relevant grantee names, recording data, and recording dates.

   b. Closure/Area Calculation Sheet – A computer generated print-out of the area and the perimeter bearings, distances, curve data, and coordinates of an individual parcel of land to be acquired.

   c. Denial of Access Line – A line which indicates specific location where access to the roadway is denied.

   d. Property Description – A document prepared as an exhibit for the conveyance of a property interest, reflecting a boundary survey, signed and sealed by a Registered Professional Land Surveyor (RPLS), attached to an acquisition deed as Exhibit A, and consists of the following two (2) parts:

      i. A written metes and bounds description delineating the area and the boundary and describing the location of an individual parcel of land unique to all other parcels of land.

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ii. A parcel plat – An 8 ½ inch by 11 inch formatted drawing to scale depicting all the information shown on the right-of-way map regarding an individual parcel of land to be acquired.

e. Owner – The most current title holder of record as determined by a study of the Real Property Records.

f. Parent Tract – A unit or contiguous units of land under one ownership, comprising a single marketable tract of land consistent with the principle of highest and best use.

A parent tract may be described by a single instrument or several instruments. A single parent tract cannot be severed by a public right-of-way, easement, or separate ownership which destroys unity of use.

g. Parent Tract Inset – A small line drawing, to an appropriate scale, of the parent tract perimeter placed upon the right-of-way map in the proximity of the respective parcel. Parent tract insets are used in cases where the parent tract cannot be shown to the same scale as the right-of-way map. Since parent tract insets are used to identify the limits and location of parent tracts, they must include public right-of-ways, utility easements and fee strips, and identifiable water courses which bound the parent tract.

h. Point of Beginning (P.O.B.) – A corner of the parcel of land to be acquired, located on the proposed right-of-way line and being the beginning terminus of the first course of the property description.

i. Point of Commencing (P.O.C.) – A monumented property corner which can be identified in the Real Property Records and is located outside the proposed right-of-way corridor. For title purposes, the point of commencing must be a monumented back corner of the parent tract. In the event a monumented back corner of the parent tract cannot be recovered, the nearest identifiable monumented property corner located outside the proposed right-of-way corridor may be used.

j. Preliminary Right-of-Way Layout – A drawing to scale depicting proposed right-of-way lines; existing right-of-way lines; proposed pavement; access denial lines; the proposed centerline alignment, private property lines; easement lines; visible improvements; visible utilities; and the station and offset from the centerline alignment to each Point of Curvature (PC), Point of Tangency (PT), and angle point in the proposed right-of-way lines and to each PC, PT, and

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angle point in the existing right-of-way lines in areas of no proposed acquisition.

k. Right-of-Way Maps – A series of 22 inch by 34 inch drawings to scale depicting the results of relevant elements of records research, field work, analysis, computation, and map making required to determine title, delineate areas and boundaries, and locate and describe utilities and improvements to the extent necessary to appraise the value and negotiate the acquisition of individual parcels of private land for a proposed right-of-way project.

3. PROCEDURE

All standards, procedures and equipment used by the Surveyor shall be such that, at a minimum, the results of the survey shall be in compliance with the “Precision and Accuracy Requirements” set forth by the latest Board Rule as promulgated by the Texas Board of Professional Land Surveying (TBPLS).

a. Abstract Map (Working Sketch)

The Surveyor shall prepare an abstract map sufficient to determine the following:

i. Any and all interests of public record held in the land to be acquired.

ii. The total record holdings to be acquired from an owner contiguous to a land.

iii. Any and all interests in land held in common to be acquired (shopping mall parking lots, subdivision reserves, etc.)

iv. Any and all improvements proposed by other agencies which may have a bearing on project development.

v. All called monuments, bearings, and distances as per recorded information.

b. Right-of-Way Map

The Surveyor shall field locate items such as: property corners, existing right-of-way markers, improvements, and visible utilities. The Surveyor shall verify and update the planimetric file as directed by the State.

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The Surveyor shall prepare a right-of-way map for each proposed right-of-way project. A right-of-way map must include a title sheet, an index sheet, a survey control index sheet, a horizontal control data sheet, and sufficient plan sheets to cover the proposed project, and other sheets as directed by the State. The State has developed standard title sheets, index sheets, and plan sheets, copies of which the Surveyor shall request and secure for all purposes of this Contract.

By mutual agreement between the TBPLS and the State, right-of-way maps need not be signed and sealed by a RPLS.

Plan sheets must include, but need not be limited to, the following items of information:

i. Proposed right-of-way lines delineated with appropriate bearings, distances, and curve data. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.

ii. Existing right-of-way lines delineated with appropriate bearings, distances, and curve data to the extent necessary to describe the individual parcels of land to be acquired. Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.

iii. The proposed project baseline alignment delineated with appropriate bearings, distances, and curve data. Curve data must include the station of the curve, Point of Intersection (PI), radius, delta angle, arc length, tangent length, long chord bearing and distance, and the N and E coordinates of the curve PI. All alignment PCs, PTs, and even 500 foot stations must be labeled as to station.

iv. Proposed paving lines combined with relevant existing paving lines must be shown to the extent necessary to compile a complete picture of proposed traffic movements. Proposed paving on the final product submitted to the State must be shaded with a dot pattern or highlighted by some other means acceptable to the State.

v. Denial of Access lines must be shown sufficiently to indicate areas where access is to be denied and where access is to be permitted.

vi. Private property lines must be delineated with appropriate bearings, distances, and curve data to the extent necessary to

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describe the individual parcels of land to be acquired. Curve data shall include the radius, delta angle, arc length, and long chord bearing and distance.

vii. League lines and survey lines must be shown and identified by name and abstract number.

viii. County lines and city limit lines must be located and identified by name.

ix. A north arrow must be shown on each sheet, and, if possible, located in the upper right corner of the sheet.

x. Monumentation set or found must be shown and described as to material and size.

xi. A station and offset must be shown for each PC, PT, and angle point in the proposed right-of-way lines. Stations and offsets shall be shown with respect to the proposed centerline alignment.

xii. Intersecting and adjoining public right-of-ways must be shown and identified by name, right-of-way width, and recording data.

xiii. Railroads must be shown and identified by name, right-of-way width, and recording data.

xiv. Utility corridors must be identified as to easement or fee.

xv. Easements and fee strips must be shown and identified by width, owner, and recording data.

xvi. Building lines or set-back lines must be shown and identified.

xvii. Visible improvements located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line must be shown and identified.

xviii. Structures must be identified as commercial or residential, by number of stories, and as to type (brick, wood frame, etc.).

xix. Structures which are severed by a proposed right-of-way line must be dimensioned to the extent necessary to completely delineate the severed parts.

xx. Parking areas, billboards, and other on-premise signs which are severed by a proposed right-of-way line must be dimensioned to

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the extent necessary to delineate that portion of the parking area, billboard, or sign which is located within the proposed right-of-way corridor.

xxi. In cases where structures are located outside the proposed right-of-way corridor and within ten feet of a proposed right-of-way line, the shortest distance between the structure and the proposed right-of-way line must be shown.

xxii. If the structure is an element of the planimetric furnished to the Surveyor by the State, the Surveyor may snap to the structure to determine the shortest distance to the proposed right-of-way line. However, if the distance is less than three feet, the Surveyor shall verify the distance in the field.

xxiii. Visible utilities located within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line must be shown and identified.

xxiv. Visible location of vents and filler caps of underground fuel storage tanks situated within the proposed right-of-way corridor or within 50 feet of the corridor must be determined and shown.

xxv. Points of commencing and points of beginning must be shown and labeled. Points of beginning must be shown with their respective N and E surface coordinates. As an exception, a point of commencing will not be required in the case of a total taking without a remainder.

xxvi. Each parcel of land to be acquired must be identified by a parcel number which shall appear in the ownership tabulation and on the right-of-way map in the proximity of the respective parcel. If the Surveyor is unfamiliar with the criteria used by the State to assign parcel numbers, the Surveyor shall seek the assistance of the State at the time the abstract map is complete.

xxvii. An ownership tabulation must be shown that includes the parcel number, existing area of the parent tract, lot(s) and block(s) constituting the parent tract when applicable, owner's name, type of conveyance, film code, county clerk's file number, taking area, and remaining area of the parent tract located left and right of the centerline alignment or both. Types of conveyance, film code and file numbers refer to conveyances to the State and will be added to the right-of-way map by the State at a later date. The Surveyor must provide several blank lines in the tabulation block to facilitate future map additions.

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xxviii. A parent tract inset must be shown for each parent tract which cannot be shown to scale on the right-of-way map. The use of broken scale lines must be avoided. When parent tract insets are used, the point of commencing with the appropriate bearing and distance to the point of beginning may be shown on the parent tract inset.

xxix. A note must be included on the title sheet and each map sheet stating the source of bearings, coordinates, and datum used. The note must also include the National Geodetic Survey (NGS) or other basis monument(s) name or identification number, State Plane Coordinate zone information, EPOCH information, Grid or Surface values and the Combined Adjustment Factor or Surface Adjustment Factor.

xxx. Appropriate notes must be included on the title sheet and each map sheet stating the following:

- Month(s) and year abstracting upon which the map is based.
- Month(s) and year field surveys were conducted upon which the map is based.
- Month and year the map was completed by the Surveyor.

xxxi. The right-of-way Control-Section-Job (CSJ) number, if available, shall be shown on each right-of-way map sheet.

xxxii. The Surveyor shall Place four Tick Marks, one in each quadrant of the map sheet, showing the Latitude and Longitude (Lat/Long) and the surface coordinate of each mark. The tick marks may be placed on the match lines of each map sheet, if convenient. A foot note must also be placed on the sheet defining the tick marks as Lat/Long in Decimal Degrees.

c. Exhibits

The Surveyor shall prepare a Property Description for each parcel or tract consisting of two parts: (1) a metes and bounds description of the property and (2) a parcel plat. Each part of a Property Description must be signed and sealed by a RPLS.

i. Metes and bounds description

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A metes and bounds description must be prepared for each parcel of land to be acquired. The State has developed standard formats for metes and bounds descriptions, copies of which the Surveyor shall request and secure for all purposes of this Contract. Metes and bounds descriptions must include, but need not be limited to, the following items of information:

- State, County, and Survey within which the proposed parcel of land to be acquired is located.

- A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable.

- A reference by name to the grantor and grantee, date and recording data of the most current instrument(s) of conveyance describing the parent tract.

  Where possible, the Engineer shall use execution dates in deed references as opposed to recording or filing dates. In any case, the metes and bounds description shall make clear which date is being used.

- A point of commencing.

- A point of beginning with the appropriate N and E surface coordinates.

- A series of courses, identified by number and proceeding in a clockwise direction, describing the perimeter of the parcel of land to be acquired, and delineated with appropriate bearings, distances, and curve data.

  Curve data must include the radius, delta angle, arc length, and long chord bearing and distance.

  Each course must be identified either as a proposed right-of-way line, an existing right-of-way line, or a property line of the parent tract. Each property line of the parent tract must be described with an appropriate adjoiner call.

- A description of all monumentation set or found shall include, as a minimum, size and material.

- A reference to the source of bearings, coordinates, and datum used.

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ii. Parcel plat

A parcel plat must be prepared for each parcel of land to be acquired. The State has developed standard formats for parcel plats, copies of which the Surveyor shall request and secure for all purposes in this Contract. Parcel plats must include each and every item of information shown on the right-of-way map which concerns the individual parcel.

4. ADHERENCE TO STANDARDS

For purposes of clarity, consistency, and ease of understanding, the State, as an acquiring agency of private property for public use, has adopted standards and formats for right-of-way mapping which have proven to facilitate the processes of negotiation, appraisal, relocation assistance, and condemnation. The Surveyor shall adhere to these standards and formats to every extent possible to ensure that the needs of the State are met.

5. GENERAL SPECIFICATIONS

For purposes of this Contract, the following general specifications for right-of-way mapping apply:

a. Completed right-of-way maps must be submitted to the State in both Microstation CADD files and Adobe PDF format that conform to producing a final print or plot which is 22 inches by 34 inches in size with a 21 inch by 32 inch printed border positioned ½ inch from the top, bottom, and right edge of the sheet.

b. Parcel plats must be submitted to the State on 8 ½ inch by 11 inch bond paper with respective borders of 7 ½ inches by 10 inches, positioned ½ inch from the top, bottom, and right edge of the sheet. Match lines must be used where more than one sheet is required.

c. Right-of-way maps must be drawn to a scale of 1 inch = 50 feet. An appropriate scale other than 1 inch = 50 feet may be used on some proposed right-of-way projects with prior approval by the State.

d. The smallest size lettering acceptable on a right-of-way map shall be 1/10 of one inch (Leroy #100) because right-of-way maps are reduced in size by one-half for archiving purposes, t . A right-of-way map which contains any lettering smaller than 1/10 of one inch will not be accepted by the State.

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e. Parcel plats must be drawn to a preferred scale of 1 inch = 50 feet. An appropriate scale other than 1 inch = 50 feet may be used on some proposed right-of-way projects with prior approval by the State. In the case of a very large parcel which would be difficult to show with clarity on a single 8 ½ inch by 11 inch sheet, the Surveyor shall use multiple 8 ½ inch by 11 inch sheets with matching lines.

f. The smallest size lettering acceptable on a parcel plat shall be 0.06 of an inch (Leroy #60).

g. Property descriptions shall be submitted on 8 ½ inch by 11 inch bond paper.

h. The Surveyor shall obtain State approval prior to using a paper product not previously approved by the State.

6. GENERAL REQUIREMENTS

For purposes of this Contract, the following general requirements shall apply:

a. Copies of instruments of record submitted to the State must be indexed by parcel number.

b. Coordinates appearing on right-of-way maps, on parcel plats, and in property descriptions must be surface coordinates based on the Texas Coordinate System. The appropriate combined adjustment factors (sea level factor multiplied by the scale factor) for each zone of the coordinate system, which have been developed by the State, must be noted.

In order to obtain surface coordinates, the Surveyor shall multiply grid coordinates by the appropriate combined adjustment factor for each zone, as provided by the State (The Grid coordinates multiplied by the combined adjustment factor = surface coordinates).

c. Line and curve tables may be used when necessary.

d. The number of centerline alignment stations to be shown on a single plan sheet are restricted to the extent necessary to allow approximately four inches between match lines and sheet borders for future details and notes.

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e. A minimum four inch by four inch space shall be reserved at the bottom right corner of each map sheet for future revision notes.

f. Based on the discretion and direction of the State, a 5/8 inch Iron Rod with the State's Aluminum Cap (or other appropriate monument) may be set on the proposed right-of-way line, and may be replaced at a later date with the State's Type II right-of-way marker.

When the State's 5/8" iron rod with the State's Aluminum Cap is set for PCs, PTs, PIs, and 1500 foot stations, the double asterisk symbol (**) must be shown on the map sheets and written into and shown in the property description and must be accompanied by the following note:

**The monument described and set may be replaced with the State's Type II right-of-way marker upon the completion of the construction project, under the supervision of a RPLS, either employed or retained by the State.

7. GIS SUBMISSION REQUIREMENTS AND STANDARDS

All ROW Mapping project work authorizations are subject to the following submission requirements and standards:

a. The required geo-referenced parcel data (features) must be submitted in ArcGIS 10 format or the current version in use by the State and in the format of the current ROW Geo-Database Template, which shall be provided by the State.

b. The template is available for download from the ROW Division's webpage on the State's internet site (txdot.gov), along with more detailed requirements.

c. The template's Coordinate System is Geographic coordinates (longitude and latitude), North American Datum of 1983 in Decimal Degrees (8 or more place after the decimal point).

d. The data must be geospatially correct and submitted to the State in the exact format of the template.

8. ELECTRONIC RIGHT-OF-WAY MAPPING STANDARDS

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The primary purpose of this section is to provide instructions for the graphics standards, file management structure, and naming conventions, for right-of-way mapping electronic deliverables submitted to the State's Right-of-Way Division by the Districts, other Divisions, and Consultants, as an integral part of the right-of-way mapping package.

The software, file types and file formats must be compatible with those used by the District/Division Design for Schematics and PS&E (e.g., native *MicroStation V8i* files for graphics, *Microsoft Office Word 2010* for metes and bounds descriptions).

a. *MicroStation V8i*

All graphic files for Map Sheets and Parcel Plats must be native DGN files created using *MicroStation V8i* with the State's current seed files and the State's workspace environment, settings, and resource files.

b. Level Library Files

The Surveyor shall use the State's current *MicroStation V8i* Level Library Files for right-of-way mapping. The files contain all the predefined levels that will normally be needed for right-of-way mapping and to show existing utilities.

c. Separate DGN Files for Each Map Sheet

The Surveyor shall provide one DGN file for each map sheet so that each right-of-way map sheet is spatially correct (snapping on elements gives correct coordinate values), This allows multiple users to work on different sheets at the same time from a server in production, with all the sheets utilizing the same master reference files. (Note: It is possible to have all the sheets in one DGN, but only one person at a time would be able to work on the project.)

The sheet file naming convention is "ROW CSJ_Sheet Number.dgn", with an example as follows: "212104065_S01.dgn"

In the example above, the first nine (9) numbers "212104065" is the right-of-way CSJ for the project and "S01" is the sheet number, beginning with number 1 as the cover sheet.

d. Format of the MDF/MRF (Master Design File or Master Right-of-Way Files) DGN Reference Files and Map Sheet Naming Conventions

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The recommended naming prefix for design files is MDF (Master Design File). Therefore, the prefix must be different for the right-of-way files because the location of the existing and proposed right-of-way in the design files from the schematic will change to some degree after an on the ground survey is made for right-of-way mapping. Therefore, the prefix could be MRF for Master Right-of-Way File.

The corrected Master Right-of-Way Files shall be given to the design engineer to be used in the final PS&E so that all features of construction and the relocation of utilities shall be correctly placed in relation to the highway right-of-way and the right-of-way of cross streets or roadways.

The Master Right-of-Way File naming convention is: “MRF ROW CSJ_Logical Name.dgn”, with examples as follows: MRF212104065_Schematic90.dgn (Schematic layout 90% submittal);

MRF212104065_Schematic100.dgn (Schematic layout 100% submittal);
MRF212104065_SchemApprov.dgn (Final Approved [State & FHWA] Schematic);
MRF212104065_PSEDesign.dgn (Final P.S.&E. Design);
MRF212104065_ExROW.dgn (Existing right-of-way determined by RPLS);
MRF212104065_PropROW.dgn (Proposed right-of-way of final design);
MRF212104065_DeedPlot.dgn (Deed Record);
MRF212104065_Planimetric.dgn (Aerial mapping topography); MRF212104065_ROWTopo.dgn (Improvements data collection); MRF212104065_DesignTopo.dgn (Design level data collection topography); MRF212104065_ExUtil.dgn (Existing utilities), etc.

All sheet files with a plan view must have the MRF referenced to allow more than one sheet file to be worked on at the same time.

e. File Structure of Master and Reference DGN Files

If possible, the file structure will not have any subfolders, to allow better transfer of data to different PC or server drive names or CD/DVD’s without path problems to reference files when the sheet files are opened.

f. Lines Weights, Line Styles, Colors, Text Size, Text Fonts, Scale, and Annotations

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Legibility is the primary concern when choosing the scale, line weights and text size. Not only must the sheets be legible at full scale sheet size (22 inches x 34 inches), they must be completely legible at half scale sheet size (11 inches x 17 inches). Even if the originals or first generation plots are legible, the reproductions (copies) must also be legible.

The normal scales for the full scale sheet size must be 1 inch = 50 feet (urban) and 1 inch = 100 feet (rural), which shall be 1 inch = 100 feet and 1 inch = 200 feet, respectively, when plotted or reduced to the half scale sheet size.

Minimum line weights, text size and text font are dictated by legibility at half scale sheet size (11 inches x 17 inches). Even if the originals or first generation plots are legible, the reproductions (copies) must also be legible.

Standard cell library: TxdotSurv_04.cel or current State cell files; Standard Font: 1 Leroy; and standard State color tables: V256COLR.ctb or Txgpk.ctb.

The Surveyor shall use the State's current *GEOPAK Survey* SMD file that sets up new feature codes in SMD file for alignment chains, parcel chains and survey chains that can be drawn by *GEOPAK Survey* from the GPK file with the correct line styles, colors and weights to the designated levels loaded into the dgn by the State's current level library files.

The Surveyor shall use *MicroStation Packager* for the submission of electronic deliverables, which would capture any non-State standard rsc, cel, text, etc. files that were used in the mapping that look and plot differently in the State's *MicroStation® V8i* workspace.

g. Text and Line Colors When Using Color Digital Orthoimagery in the Background

The predominate colors of the digital orthoimagery (greens, browns, etc) dictate which line and text colors stand out and are legible. Some degree of trial and error is sometimes needed.

h. Required Data in the *GEOPAK* Right-of-Way GPK File

Alignments, chains of proposed and existing right-of-way lines, parent tracts and taking parcels, and all otherpoints collected in the field (start with schematic or design GPK file) are required.

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If the design GPK file is too detailed for right-of-way use, input files can be created for the information sought from the design GPK file to load into the right-of-way GPK file.

i. Surface Coordinate and the ROW GIS Geo-Database

Surface adjustment factors and basis of datum must be well documented in the electronic deliverables "file structure/deliverables read me" file.

j. Requirements for Electronic Deliverables

Native *MicroStation V8i* DGN files (reference files, sheets files, and parcel plats files);

GEOPAK Survey GPK files;

Separate comma delimited point files (ASCII file) and .csv file in the following types of coordinates: Surface or Projected Coordinates, Grid Coordinates (Texas Coordinate System of 1983 in U.S. Survey feet) and Geographic Coordinates (WGS-84 in decimal degrees) in the following format: point number, northing or latitude, easting or longitude, elevation, feature code, description. Text/.csv point file naming convention is: ROWCSJ_Type of Coordinates.csv (Example: 212101065_Surface.csv, 212101065_Grid.csv, and 212101065_WGS84.csv);

PDF's created in *MicroStation V8i* of Map Sheets (both 22 inches x 34 inches and 11 inches x 17 inches, one set in black and white and another set in color if there is orthoimagery for the background;

PDF's of signed and sealed Property Descriptions, Parcel Plats, and Surveyor's Reports and *Microsoft Office Word 2010* documents of Property Descriptions and Surveyor's Reports;

Raw and processed GPS files including adjustment reports.

DELIVERABLES

The Surveyors shall prepare and submit the following:

- An Abstract Map (Working Sketch) of the current record title holders.
- A Preliminary Map showing the proposed schematic and existing right-of-way.

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- A Right-of-Way map for the project limits under cover of Title Sheet, Index Sheet, Control Data Sheet, and Exhibits of the property descriptions and parcel plats.

- Documentation stating that the appropriate monuments were set on the proposed right-of-way lines at intersecting property lines, and at all PCs, PTs, angle points, intersecting right-of-way lines of side streets, and at 1,500 foot stations.

- Documentation stating that the appropriate monuments were set on the existing right-of-way lines in areas of no acquisition at all PCs, PTs, angle points, and 1,500 foot stations, and as directed by the State.

- The Surveyor's report, outlining the approach, reasons or basis for the existing right-of-way determination, and conclusions made.

- A copy of the State's right-of-way mapping check list, signed by the Surveyor.

FUNCTION CODE 160(150) – ROADWAY DESIGN

A. Design Surveys and Construction Surveys

Design Surveys and Construction Surveys include performance of surveys associated with the gathering of survey data for topography, cross-sections, and other related work in order to design a project, or during layout and staking of projects for construction.

1. PURPOSE

The purpose of a design survey is to provide field data in support of transportation systems design.

The purpose of a construction survey is to provide field data in support of highway construction.

2. DEFINITIONS

A 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. A design survey may include, but need not be limited to locating existing right-of-way, cross-sections or data to create cross-sections and Digital Terrain Models (DTM), horizontal and vertical location of utilities and

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improvements, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc.

A construction survey is defined as the combined performance of reconnaissance, field work, analysis, computation, and documentation necessary to provide the horizontal and vertical position of specific ground points to be used by the construction contractor for determining lines and grades.

3. TASKS TO BE COMPLETED

a. Design Surveys

The State will request design surveys on an as needed basis. The Surveyor shall perform tasks including, but not limited to the following:

i. Obtain or collect data to create cross-sections and digital terrain models.

ii. Locate existing utilities.

iii. Locate topographical features and existing improvements.

iv. Provide details of existing bridge structures.

v. Provide details of existing drainage features (e.g., culverts, manholes, etc.).

vi. Locate wetlands.

vii. Establish additional and verify existing control points. Horizontal and Vertical control ties must be made and tabulated, to other control points in the vicinity, which were established by other sources such as, the National Geodetic Survey (NGS), and the Federal Emergency Management Agency (FEMA), and any other local entities as directed by the State.

viii. Locate existing right-of-ways.

ix. Review right-of-way maps.

x. Locate boreholes.

xi. Perform hydrographic surveys.

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xii. Update existing control data and prepare survey control data sheets, as directed by the State for inclusion into a construction plan set.

The Surveyors 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 State's forms for these sheets can be downloaded from the State's website.

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
- 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 Engineer employed by the State
- RPLS signature, seal, and date
- The State's title block containing District Name, County, Highway, and CSJ

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 control (base control monument/benchmark name, number, datum).
- Basis of Datum for the vertical control (base control monument, benchmark name, number, datum).

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- Date of current adjustment of the datum.
- Monumentation set for Control (Description, District name/number and Location ties).
- Surface Adjustment 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 Engineer employed by the State.
- RPLS signature, seal and date.
- The State's title block containing District Name, County, Highway, and CSJ.

b. Construction Surveys

The State will request construction surveys on an as needed basis. The Surveyor shall perform tasks including, but not limited to the following:

i. Stake existing or proposed right-of-ways.

ii. Stake existing or proposed baseline/centerline.

iii. Stake proposed bridge structures.

iv. Stake proposed drainage structures (e.g., manholes, culverts, etc.).

v. Set grade stakes.

vi. Recover and check existing control points.

vii. Establish additional control points.

viii. Check elevations and locations of structures.

ix. Determine and resolve conflicts associated with survey data.

4. TECHNICAL REQUIREMENTS

a. Design surveys and construction surveys must be performed under the supervision of a RPLS currently registered with the TBPLS.

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b. Horizontal ground control used for design surveys and construction surveys, furnished to the Surveyor by the State or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the State.

Reference may be made to standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

c. Vertical ground control used for design surveys and construction surveys, furnished to the Surveyor by the State or based on acceptable methods conducted by the Surveyor, must meet the standards of accuracy required by the State.

Reference may be made to standards of accuracy for vertical control traverses, as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

d. Side shots or short traverse procedures used to determine horizontal and vertical locations must meet the following criteria:

i. Side shots or short traverses must begin and end on horizontal and vertical ground control as described above.

ii. Standards, procedures, and equipment (may be GPS Equipment, LiDAR, Total Stations, etc.) used must be such that horizontal locations relative to the control may be reported within the following limits:

- Bridges and other roadway structures: less than 0.1 of one foot.
- Utilities and improvements: less than 0.2 of one foot.
- Cross-sections and profiles: less than 1 foot.
- Bore holes: less than 3 feet.

iii. Standards, procedures, and equipment (may be GPS Equipment, LiDAR, Total Stations, etc.) used must be such that vertical locations relative to the control may be reported within the following limits:

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- Bridges and other roadway structures: less than 0.02 of one foot.
- Utilities and improvements: less than 0.1 of one foot.
- Cross-sections and profiles: less than 0.2 of one foot.
- Bore holes: less than 0.5 of one foot.

5. AUTOMATION REQUIREMENTS

a. Planimetric design files (DGN) must be fully compatible with the State's *MicroStation V8i* graphics program without further modification or conversion.

b. Electronically collected and processed field survey data files must be fully compatible with the State's computer systems without further modification or conversion. All files must incorporate only those feature codes currently being used by the State.

c. DTM must be fully compatible with the State's *GEOPAK* system without further modification or conversion. All DTM must be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

DELIVERABLES

The Surveyors shall prepare and submit the deliverables as specified in individual work authorizations for design surveys and construction surveys. The deliverables shall be any combination of the following:

- Digital Terrain Models (DTM) and the Triangular Irregular Network (TIN) files in a format acceptable by the State.
- Maps, plans, or sketches prepared by the Surveyor showing the results of field surveys.
- Computer printouts or other tabulations summarizing the results of field surveys.
- Digital files or media acceptable by the State containing field survey data (ASCII Data files).

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- Maps, plats, plans, sketches, or other documents acquired from utility companies, private corporations, or other public agencies, the contents of which are relevant to the survey.

- Field survey notes, as electronic and hard copies.

- An 8 ½ inch by 11 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 datums used. A pre-formatted survey control data sheet form in MicrosoftOffice Word 2010 format will be provided by the State.

- A digital and hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, and survey control data sheets.

- All GEOPAK GPK files.

- Survey reports in a format requested by the State.

B. Aerial Mapping

Aerial Mapping involves the collection and reduction of aerial survey data, and preparation of site maps and topographic maps.

1. PURPOSE

The purpose of aerial mapping is to provide planimetric digital mapping (DGN) and DTM in support of roadway design.

2. DEFINITIONS

For purposes of this Contract, the following definitions shall apply:

a. Aerial Photograph – A vertical photograph taken from an aircraft at an altitude above mean terrain elevation to produce a photo scale of 1:3,000.

b. Analytical triangulation – The process of expanding a skeletal network of ground control points to provide the dense control network to reference each individual photogrammetric stereo model to the actual ground.

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c. Ground control – Ground control targets sufficient in number and geospatial distribution to allow analytical triangulation and mapping to meet American Society for Photogrammetry and Remote Sensing (ASPRS) Class standard for 1” = 40’ scale map accuracy with a one foot contour interval.

d. Airborne GPS/IMU – An airborne GPS receiver on-board the aircraft recording GPS data to be included in the analytical triangulation with the purpose of reducing the number of ground control points required for an aerial mapping task. Inertial Measurement Unit (IMU) data to supplement the analytical triangulation is optional and its use is at the discretion of the Certified Photogrammetrist.

e. DGN – A two or three dimensional graphics file produced by *MicroStation V8i*. These files may contain features and improvements plotted in a horizontal plane along the N and E axes which correspond to Texas State Plane Coordinates. These files may contain 2D or 3D elements representing topographic, existing, proposed, schematic, and general layout features.

f. Digital terrain Model (DTM) – A three dimensional digital model of the ground containing those features necessary to define surface relief. A three dimensional model does not normally contain those planimetric features not necessary to define relief.

g. Flight Map – A map depicting the flight line layout over the project area.

h. Horizontal and Vertical Ground Control – Survey control points for which the N and E coordinate and elevation have been determined by on-the-ground surveys.

i. Low Altitude Photography – Aerial photography with a film photo scale of 1:3000 or a digital image with a ground pixel size of 5 cm or less.

j. Medium Altitude Photography – Aerial photography with a film photo scale of 1:12,000 or a digital image with ground pixel size of 20 cm.

k. Planimetric Map – A two dimensional map containing natural ground features and improvements plotted in a horizontal plane along the N and E axes. A planimetric map does not include relief elements such as spot elevations, cross-sections, or contours.

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l. Project Photo Length – The distance over which photographs are required to be taken.

3. TASKS TO BE COMPLETED

a. Aerial Photography

The Surveyor shall provide aerial photography for low altitude aerial mapping appropriate for detailed design.

i. Ground Control Accuracy Standards

- The Surveyor shall provide horizontal ground control that meets standards of accuracy required by the State and as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

- The Surveyor shall provide vertical ground control that meets standards of accuracy required by the State and as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

ii. Paneling Placement Specifications

For purposes of this Contract, all standards and specifications shall be in accordance with established guidelines and recommended or approved by the State.

iii. Aerial Photography Standards and Specifications

For purposes of this Contract, all standards and specifications shall be in accordance with established guidelines and recommended or approved by the State.

iv. LiDAR Technology

The use of LiDAR Technology (mobile, terrestrial or aerial) will be acceptable when approved by the State and the accuracies of the specified tasks it will be used for are met or exceeded.

DELIVERABLES

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The Surveyor shall provide:

- Digital Orthophotos on CD or DVD.
- A photo index of the scanned aerial film frames or digital image frames for each frame of photography in the project.

b. DGN, DTM and TIN Files

The Surveyor shall prepare DGN, DTM and TIN files covering the specific work location, meeting standards and specifications as required.

i. Horizontal Ground Control Accuracy Standards

The Surveyor shall provide horizontal ground control that meets standards of accuracy required by the State and as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

ii. Vertical Ground Control Accuracy Standards

The Surveyor shall provide vertical ground control that meets standards of accuracy required by the State and as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

iii. Map Accuracy Standard

Aerial mapping must meet or exceed the requirements for ASPRS Class 1 standard for 1” = 40’ scale mapping with a one foot contour interval.

Field verification of adherence to the required accuracy specification is at the discretion of the State.

iv. Statement of Map Accuracy

For maps that are not field checked but have been compiled to meet the State’s accuracy standard, the Surveyor shall include the following statement along with the Photogrammetrist’s seal on the delivered hard copy and digital versions of the map:

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"This map was compiled to meet the ASPRS Standard for Class 1 map accuracy."

If the map was checked and found to conform to this spatial accuracy standard, the statement above and the following statement must also be included on the delivered hard copy and digital versions of the map, and in the field check summary:

"This map was checked and found to conform to the ASPRS Standard for Class 1 map accuracy."

v. DGN File Specifications

- Files must be fully compatible with the State's *MicroStation* graphics system without further modification or conversion.
- File features and level structure must be in compliance with the State's current *Photogrammetry Mapping Legend*.
- Files must be capable of plotting maps to a 1 inch = 40 feet scale with the smallest text size being one tenth of one inch (1/10").

vi. DTM and TIN Files Specifications

- Files must be fully compatible with the State's *GEOPAK* graphics system without further modification or conversion.
- The State's current Level Library Files for Photogrammetry mapping will be provided by the State.
- File features and level structure must be in compliance with the State's current *Photogrammetry Mapping Legend*.
- Files must be capable of plotting maps to a 1 inch = 50 feet scale with the smallest text size being one tenth of one inch (1/10").

DELIVERABLES

The Surveyor shall provide:

- DGN, DTM and TIN files on a medium and in a format acceptable to the State, delivered on CD, DVD, flash-drive, or hard-drive.

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- Orthophotography (created using the DTM) delivered on CD, DVD, flash-drive, or hard-drive in tiff format (3 banded) with world files. If digital, depending on intended use, deliverable formats must include:

  - Raw tiff image – rectified – 4 Band Tiff (for archive only).
  - Color photography – rectified – 3 Band Tiff and Mr. Sid.
  - Infrared Photography – rectified – 3 Band Tiff and Mr. Sid.

- The State's *Photogrammetry Mapping Legend* and supplements

C. Horizontal and Vertical Control for Aerial Mapping

Horizontal and Vertical Control for Aerial Mapping involves the establishment of the horizontal and vertical control for aerial mapping.

1. PURPOSE

The purpose of an aerial photography control survey is to provide ground control in support of aerial Photogrammetry.

2. DEFINITIONS

An aerial photography control survey is defined as the combined performance of reconnaissance, field work, analysis, computation, and documentation necessary to provide the horizontal and vertical position of specific ground points to be used in setting the scale of aerial photographs and determining the relative position of elements visible in said photographs.

3. TASKS TO BE COMPLETED

The following is an outline of the tasks to be performed. The Surveyor shall:

a. Prepare and submit an Aerial Ground Control Layout showing the proposed control and offsite control points, and aerial ground control points, for approval by the State.

b. Establish and determine the coordinates of the offsite and control points, and aerial ground control points.

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c. Establish and determine the elevations of the offsite and control points, and aerial control points.

d. Place aerial ground control target material at the established points and maintain until the photographs from the flight are approved.

e. Prepare, to scale, a Survey Control Index Sheet, a Horizontal and Vertical Control Sheet, and an individual control data sheet for each offsite and control point, and aerial control point.

4. TECHNICAL REQUIREMENTS

a. Aerial photography control surveys must be performed under the direct supervision of a RPLS currently registered with the TBPLS.

b. The coordinate location of the aerial control points shall be based on acceptable methods, conducted by the Surveyor, and must meet the standards of accuracy as set forth below:

Reference may be made to standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

c. The elevation of the aerial control points must be based on acceptable methods, conducted by the Surveyor, and shall meet the standards of accuracy as set forth below:

Reference may be made to standards of accuracy for horizontal control traverses, as described in the TxDOT Survey Manual, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

d. The elevation of aerial control points based on side shots or short traverses must meet the following criteria:

i. Side shots or short traverses must begin and end on vertical ground control as described above.

ii. Standards, procedures, and equipment used must be such that the vertical location relative to the control may be reported to within 0.02 of one (1) foot.

5. AUTOMATION REQUIREMENTS

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Post processing of field data will be reviewed by the State. Data processed by standard calculators, computers, and other business hardware and software normally maintained and used by the Surveyor shall be considered acceptable.

DELIVERABLES

The Surveyor shall:

- Submit a final aerial control point layout showing the location of the points and labeled with their respective alpha-numeric designations.
- Submit a plot and computer graphics of an 11 inch by 17 inch index map showing an overall view of the project and the relationship of primary monumentation and control used in the preparation of the project, signed and sealed by a RPLS, and as directed by the State.
- Submit a plot and computer graphics of an 11 inch by 17 inch horizontal and vertical control sheet showing the primary survey control monumentation used in the preparation of the project, signed and sealed by a RPLS, and as directed by the State.
- Submit an 8 ½ inch by 11 inch data sheet for each aerial ground control point which must include, but need not be limited to, a location sketch, a physical description of the point, surface coordinates, the elevation, and datums used.
- Submit a CD or DVD containing the graphics files and scanned images of the control data sheets.
- Submit a written statement describing the datum used along with copies of all relevant NGS and data sheets.
- Submit a written tabulation of all aerial control points with their respective alpha-numeric designations, surface coordinates (for center panel points only), and elevations.

FUNCTION CODE 130(130) – RIGHT OF WAY (ROW) DATA

A. State Land Surveying

State Land Surveying includes the performance of land surveying associated with “the location or relocation of original land grant boundaries and corners; the

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calculation of area and the preparation of field note descriptions of both surveyed and un-surveyed land or any land in which the State or the Public Free School Fund has an interest; the preparation of maps showing such survey results; and the field notes and maps of which are to be filed in the General Land Office," as quoted in the Surveyors Act.

1. PURPOSE

The purpose of state land surveying is to survey all State owned real property under the management of the General Land Office (GLO) or the School Land Board (SLB), to be used by the State for highway purposes.

A survey performed by a Texas Registered Professional Land Surveyor (RPLS) is acceptable except in those circumstances in which the anticipated improvements may cause permanent shoreline alteration or other change or modification of a GLO property shoreline boundary. In such cases, a coastal boundary survey in the form and manner provided by Section 33.136, Texas Natural Resources Code, must be performed by a Texas Licensed State Land Surveyor (LSLS).

2. TASKS TO BE COMPLETED BY A LICENSED STATE LAND SURVEYOR

The State will request state land surveying on an as needed basis. The services shall include, but are not limited to the following:

The Surveyor shall:

a. Survey the coastal and water boundaries, navigable streams or rivers, and other waters that are tidally affected, requiring the determination of the gradient boundary or the mean high water, as appropriate.

b. Survey the profile of the waterway, along the proposed baseline of the highway.

c. Survey original land grant boundaries and un-surveyed lands.

d. Prepare field note descriptions, area calculations, parcel plats, and updating the current right-of-way maps, which are to be filed in the General Land Office.

3. GROUND CONTROL ACCURACY STANDARDS

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The Surveyor shall provide:

a. Horizontal ground control in accordance with the current project datum.

b. Vertical ground control in accordance with the current project datum.

DELIVERABLES

The Surveyor shall:

- Prepare all deliverables and present according to current right-of-way mapping standards.

B. Traffic Control

The Surveyor shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the Texas Manual on Uniform Traffic Control Devices – Part VI which can be found on the State's internet site.

In the event field crew personnel must divert traffic or close traveled lanes, a Traffic Control Plan based upon principles outlined in the latest edition of the Texas Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the Surveyor and approved by the State prior to commencement of field work. A copy of the approved plan shall be in the possession of field crew personnel on the job site at all times and shall be made available to the State's personnel for inspection upon request.

C. Underground Excavation

The Surveyor shall contact the "Texas Excavation Safety System, Inc." (DIGTESS), or call telephone number 811, to mark underground utilities prior to digging the holes for monuments, as necessary. The Surveyor shall maintain documentation of all notification calls. The Surveyor shall comply with the States excavation laws as they appear in the Texas Administrative Code (TAC).

D. Preventative Measures to Prevent the Spread of Oak Wilt Contamination

The Surveyor 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 the State:

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- 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 when Sap Beetles are least active. Also, if possible, avoid pruning or cutting during Spring months when Sap Beetles are most active.
- Treat wounds with pruning paint in Oak Wilt infected counties to discourage insects, especially during warm weather.
- Sterilize all pruning tools between each tree with either Lysol™ spray or a 70 percent rubbing alcohol solution. The use of chlorine bleach solutions to sterilize pruning tools is discouraged due to premature oxidation or rusting of steel parts.
- Destroy the tree cuttings by burning or burying the wood, or dispose of the wood in another approved method.

E. Additional Requirements

1. ADHERENCE TO SCHEDULE

If at any time during the Contract Period the Surveyor determines that it is unable to meet a scheduled submission date, the Surveyor shall notify the State in writing immediately. This notification shall consist of an explanation as to the reason(s) for the delay and a revised submission schedule, which shall to the extent possible, incorporate a plan to recover days lost as a result of subject delay.

If at any time during the Contract Period the Surveyor encounters unforeseen circumstances which may materially affect the scope, complexity or character of the work authorized by the State, the Surveyor shall notify the State in writing immediately with a complete description of the circumstances encountered.

2. TRANSMITTAL

All documents submitted to the State shall be accompanied by a letter of transmittal which shall include, but need not be limited to, the highway number, project limits, county, CSJ, contract number, work authorization number and an inventory of attachments.

3. RIGHT-OF-ENTRY

It shall be the responsibility of the Surveyor to secure permission to enter private property for purposes of survey. **It is the stated policy of the**

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State to make every effort to maintain positive relations with the general public. In pursuance of that policy, the Surveyor shall not commit acts which will result in damages to private property and the Surveyor shall make every effort to comply with the wishes and address the concerns of private property owners.

F. Compensation

1. Payment requests shall include the Surveyor's invoice.

2. Progress Report

   The Surveyor shall submit a monthly progress report electronically by the 5th of each month following the month through which status is being reported. Progress and percent complete shall be according to the task as included in the scope.

   With each payment request, the Surveyor shall submit the corresponding project progress report which shall, as a minimum, include the percentage of total work complete as of the date of the payment request and a description of current work activity. The percentage of total work complete shall not be based simply on the percentage of funds expended, but shall be based on the best judgment of the Surveyor as to the percentage of actual work complete.

ATTACHMENT D

D-1

WORK AUTHORIZATION NO. ____

CONTRACT FOR SURVEYING SERVICES

THIS WORK AUTHORIZATION is made under Surveying Contract No. _____ (Contract) between the State of Texas, acting through the Texas Department of Transportation (State), and _____ (Surveyor).

PART I. The Surveyor shall perform surveying services generally described as _____. The responsibilities of the State and the Surveyor as well as the work schedule are further detailed in Exhibits A (Responsibilities of the State), B (Responsibilities of the Surveyor), and C (Work Schedule) to this Work Authorization.

PART II. The maximum amount payable under this Work Authorization is $_____ and the method of payment is _____ as set forth in Attachment E of the Contract. This amount is based on the rates set forth in Attachment E (Schedule of Rates) to the Contract and the costs set forth in Exhibit D (Budget) to this Work Authorization.

PART III. Payment to the Surveyor under this Work Authorization shall be made in accordance with Exhibit D.

PART IV. This Work Authorization is effective when executed by both parties and terminates on _____ or when the contract terminates, whichever occurs first.

PART V. This Work Authorization does not waive the parties' responsibilities and obligations as established by the Contract.

PART VI. Exhibits A, B, C, D, and H-2 are made part of this Work Authorization.

THE SURVEYOR	**THE STATE OF TEXAS** **TEXAS DEPARTMENT OF TRANSPORTATION**
_____ (Business name)	
_____ (Signature)	_____ (Signature)
_____ (Printed Name and Title)	_____ (Printed Name and Title)
_____ (Date)	_____ (Date)

List of Exhibits:
Exhibit A – Responsibilities of the State
Exhibit B – Responsibilities of the Surveyor
Exhibit C – Work Schedule
Exhibit D – Budget
Exhibit H-2 – Subprovider Monitoring System Commitment Agreement

ATTACHMENT D

D-2

SUPPLEMENTAL WORK AUTHORIZATION NO. ____
TO WORK AUTHORIZATION NO. ____
CONTRACT FOR SURVEYING SERVICES

THIS SUPPLEMENTAL is made under Surveying Contract No. _____ (Contract) between the State of Texas, acting through the Texas Department of Transportation (State), and _____ (Surveyor).

The following terms and conditions of Work Authorization No. ____ are hereby amended as follows:

This supplemental is effective when executed by both parties. All other terms and conditions of Work Authorization No. ____ remain in full force and effect.

THE SURVEYOR	**THE STATE OF TEXAS** **TEXAS DEPARTMENT OF TRANSPORTATION**
_____ (Business name)	
_____ (Signature)	_____ (Signature)
_____ (Printed Name and Title)	_____ (Printed Name and Title)
_____ (Date)	_____ (Date)

ATTACHMENT E

SCHEDULE OF RATES

This attachment provides the basis of payment, which is indicated by an “X” in the applicable space on one or more of the following pages.

The basis of payment shall be accompanied by a Final Cost Proposal (FCP), which is included in this Attachment.

If more than one basis of payment is used, each one must be supported by a separate FCP.

LUMP SUM

X	**Definition** A lump sum is a single dollar figure paid for one or more deliverables. There may be multiple lump sums if each is associated with a distinct deliverable or group of deliverables. **Components** A lump sum includes labor rates, overhead, fee, and direct costs. Therefore, no additional payment will be made for labor rates, overhead, fee, or direct costs. **Required Documentation** Each invoice shall itemize charges by listing the deliverable or deliverables associated with the lump sum for which payment is requested. The Surveyor is not required to submit evidence of actual labor rates, hours worked, travel, overhead rates, or any other cost. **Audit Adjustment** Lump sums are not subject to change as the result of an audit. **Basis of Payment** Payment may be made at the time of completion for one or more interim or final deliverables. Pro rata payments may be made based on the percentage of work on a deliverable that has been completed. **Final Cost Proposal** The contract FCP must contain rates that are established at the time of the contract. One or more of the following methods must be used. First, the contract FCP may identify specified rates and direct costs that will be used later to build lump sums. Second, the contract FCP may identify unit costs and direct costs that will be used later to build lump sums. Third, the contract FCP may identify future work authorizations and corresponding lump sums. **Work Authorizations** A work authorization may have more than one lump sum if each is associated with a distinct deliverable or group of deliverables. If lump sum work authorizations will be used, the contract FCP must contain detailed and negotiated unit costs or specified rates so that the lump sum for future work authorizations can be calculated with certainty on the basis of cost figures contained in the contract FCP, or it must contain a schedule of future work authorizations with their associated lump sums. Lump sum work authorizations may not be calculated on the basis of actual labor rates, overhead rates, fee, or direct costs because actual costs are not audited or adjusted under a lump sum contract. The basis for lump sums may not be left for negotiation at the time work authorizations are issued.

UNIT COST

__X__	**Definition** A unit cost is a dollar figure paid for a unit of production. A different dollar figure may be associated with each unit of production. **Components** The unit cost includes labor rates, overhead, and fee, Therefore, no additional payment will be made for labor rates, overhead, or fee. **Required Documentation** Each invoice shall itemize charges by unit of production and unit cost and any direct costs. The Surveyor may be required to provide additional evidence of units of production and direct costs. The Surveyor is not required to provide evidence of actual labor rates, hours worked, overhead rates, or any other cost, except direct costs. **Audit Adjustment** Unit costs are not subject to change as the result of an audit. Direct costs are subject to change as the result of an audit. **Basis of Payment** Payment may be made at the time of completion for one or more units of production. Pro rata payments may not be made based on the percentage of work on a unit of production that has been completed. **Final Cost Proposal** The contract FCP must contain a schedule of all unit costs with their associated units of production and any direct costs. It must also clearly identify the circumstance that will cause a payment to become due. **Work Authorizations** Different units of production may be included in a work authorization in any combination. If unit cost work authorizations will be used, the contract FCP must contain unit costs for each unit of production that will be included in any work authorization as well as any direct costs. Unit costs may not be left for negotiation at the time work authorizations are issued.

SPECIFIED RATE

__X__	**Definition** A specified rate is an overall hourly rate that includes almost all cost elements. A different specified rate may be associated with each type of labor. **Components** The specified rate includes labor rates, overhead, and fee. Therefore, no additional payment will be made for labor rates, overhead, or fee. **Required Documentation** Each invoice shall itemize charges by name of worker, type of labor and specified rate, shall list any direct costs, and shall include copies of time sheets supporting the requested payment. The Surveyor may be required to provide additional evidence of hours worked and direct costs. The Surveyor is not required to provide evidence of actual labor costs, overhead rates, or any other cost, except direct costs. **Audit Adjustment** Specified rates are not subject to change as the result of an audit. Direct costs are subject to change as the result of an audit. **Basis of Payment** Payment may be made at the time of completion for one or more interim or final deliverables or on a periodic basis that is clearly identified. Pro rata payments may not otherwise be made. **Final Cost Proposal** The contract FCP must contain a schedule of all specified rates with their associated types of labor and any direct costs. It must also clearly identify the circumstance that will cause a payment to become due. **Work Authorizations** Different types of labor may be included in a work authorization in any combination. If specified rate work authorizations will be used, the contract FCP must contain specified rates for each type of labor that will be included in any work authorization as well as any direct costs. Specified rates may not be left for negotiation at the time work authorizations are issued.

FINAL COST PROPOSAL (FCP)

MAXIMUM AMOUNT PAYABLE $____**2,000,000.00**_____.

Detailed data and calculations:

ATTACHMENT E- FEE SCHEDULE

SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

PRIME PROVIDER NAME: **Jones & Carter, Inc.**

DIRECT LABOR

LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	HOURLY CONTRACT RATE
Principal	20+	$65.00	$195.84
RPLS - Project Manager	15+	$48.00	$144.62
Licensed State Land Surveyor	10+	$52.00	$156.67
RPLS - Task Leader	10 to 15	$42.00	$126.54
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	$31.00	$93.40
Survey Tech	1 to 5	$28.00	$84.36
Senior GIS Operator		$38.00	$114.49
GIS Operator		$28.00	$84.36
GIS Technician		$25.00	$75.32
Admin/Clerical		$21.00	$63.27
Abstractor		$24.00	$72.31
Flagger		$12.00	$36.15
INDIRECT COST RATE:	**173.90%**		
PROFIT RATE:	**10.0%**		

Contract rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

UNIT COST PAYMENT BASIS

PRIME PROVIDER NAME: **Jones & Carter, Inc.**

SERVICES TO BE PROVIDED		UNIT	COST
1 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$100.00
2 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$140.00
3 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$170.00
4 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$195.00

The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.

All unit costs are negotiated costs and are not subject to change or adjustment.

Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E - FEE SCHEDULE

SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

SUBPROVIDER NAME: **McGray & McGray Land Surveyors, Inc.**

DIRECT LABOR

LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE		HOURLY CONTRACT RATE
Principal	20+		$160.00
RPLS - Project Manager	15+		$140.00
RPLS - Task Leader	10 to 15		$125.00
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10		$93.00
Survey Tech	1 to 5		$85.00
Admin/Clerical			$57.00
Abstractor			$70.00
Flagger			$35.00

Contract rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

UNIT COST PAYMENT BASIS

SUBPROVIDER NAME: **McGray & McGray Land Surveyors, Inc.**

SERVICES TO BE PROVIDED		UNIT	COST
1 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$100.00
2 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$140.00
3 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$170.00
4 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$195.00

The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.

All unit costs are negotiated costs and are not subject to change or adjustment.

Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

SUBPROVIDER NAME: **McKim & Creed, Inc.**

DIRECT LABOR

LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	HOURLY CONTRACT RATE
Principal	20+	$65.00	$195.30
RPLS - Project Manager	15+	$48.00	$144.22
Licensed State Land Surveyor	10+	$51.00	$153.24
RPLS - Task Leader	10 to 15	$42.00	$126.20
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	$31.00	$93.14
Survey Tech	1 to 5	$27.00	$81.13
Senior Cartographer		$31.00	$93.14
Cartographer		$26.00	$78.12
Senior GIS Operator		$36.00	$108.17
GIS Operator		$28.00	$84.13
GIS Technician		$25.00	$75.12
Admin/Clerical		$21.00	$63.10
Project Coordinator - Mobile LiDAR		$41.00	$123.19
Mobile LiDAR Processing Technician		$28.00	$84.13
Project Coordinator - AM		$44.00	$132.20
Certified Photogrammetrist		$36.00	$108.17
Analytical Triangulation Specialist		$28.00	$84.13
Aerial Mapping Technician		$24.00	$72.11
Orthophoto Specialist		$24.00	$72.11
Mapping Editor (includes QA/QC, Finishing, & Finalization)		$26.00	$78.12
Aerial Office Technician		$20.00	$60.09
Project Coordinator - AP		$39.00	$117.18
Aerial Processing Technician		$28.00	$84.13
Project Coordinator - FWAL		$39.00	$117.18
Airborne LiDAR Processing Technician		$29.00	$87.13
Project Coordinator - HAL		$39.00	$117.18
Helicopter LiDAR Processing Technician		$29.00	$87.13
Photo Lab Specialist		$20.00	$60.09
Photo Processing Technician		$20.00	$60.09
INDIRECT COST RATE:	**173.15%**		
PROFIT RATE:	**10.0%**		

Contract rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

UNIT COST PAYMENT BASIS

SUBPROVIDER NAME: **McKim & Creed, Inc.**

SERVICES TO BE PROVIDED		UNIT	COST
1 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$100.00
2 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$140.00
3 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$170.00
4 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$195.00
LiDAR Mobile Mapping System, (Includes Vehicle Operator, LiDAR Technician mileage on project and fuel) (Does not include travel to project.)		day	$6,000.00
Mobilization for Aerial Photography/LiDAR Fixed Wing Aircraft (Includes aircraft, Pilot, Camera/LiDAR Operator, fuel and transportation cost)		per project	$18,000.00
Aerial Photography Flight Crew Fixed Wing Aircraft (Includes Pilot and Camera Operator)		hour	$180.00
LiDAR Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)		hour	$180.00
Mobilization for Helicopter Airborne LiDAR (Includes helicopter, Pilot, LiDAR Operator, fuel and transportation cost)		per project	$18,000.00
Helicopter Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)		hour	$185.00

The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.

All unit costs are negotiated costs and are not subject to change or adjustment.

Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

SUBPROVIDER NAME: **Poznecki-Camarillo, Inc.**

DIRECT LABOR

LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	HOURLY CONTRACT RATE
Principal	20+	$65.00	$200.15
RPLS - Project Manager	15+	$48.00	$147.80
RPLS - Task Leader	10 to 15	$41.00	$126.25
Senior Survey Tech (Must be Surveyor in Training (SIT), or have a minimum of five year's surveying experience)	5 to 10	$30.00	$92.38
Survey Tech	1 to 5	$28.00	$86.22
Senior GIS Operator		$35.00	$107.77
GIS Technician		$25.00	$76.98
Admin/Clerical		$20.00	$61.58
Mobile LiDAR Processing Technician		$27.00	$83.14
INDIRECT COST RATE:	**179.93%**		
PROFIT RATE:	**10.0%**		

Contract rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

UNIT COST PAYMENT BASIS

SUBPROVIDER NAME: **Poznecki-Camarillo, Inc.**

SERVICES TO BE PROVIDED		UNIT	COST
1 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$100.00
2 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$140.00
3 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$170.00
4 - Person Survey Crew (GPS and Robotic Total Stations included in indirect cost rate. Mileage not included.)		hour	$195.00
LiDAR Mobile Mapping System, (Includes Vehicle Operator, LiDAR Technician mileage on project and fuel) (Does not include travel to project.)		day	$6,000.00

The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.

All unit costs are negotiated costs and are not subject to change or adjustment.

Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

SPECIFIED RATE AND LUMP SUM PAYMENT BASIS

SUBPROVIDER NAME: **Gorrondona & Associates, Inc.**

DIRECT LABOR

LABOR/STAFF CLASSIFICATION	YEARS OF EXPERIENCE	HOURLY BASE RATE	HOURLY CONTRACT RATE
Senior GIS Operator		$36.00	$97.78
GIS Operator		$28.00	$76.05
GIS Technician		$25.00	$67.91
Admin/Clerical		$20.00	$54.32
Project Coordinator - Mobile LiDAR		$43.00	$116.80
Mobile LiDAR Processing Technician		$30.00	$81.49
Project Coordinator - AM		$44.00	$119.51
Certified Photogrammetrist		$37.00	$100.50
Analytical Triangulation Specialist		$29.00	$78.77
Aerial Mapping Technician		$27.00	$73.34
Orthophoto Specialist		$27.00	$73.34
Mapping Editor (includes QA/QC, Finishing, & Finalization)		$27.00	$73.34
Aerial Office Technician		$19.00	$51.61
Project Coordinator - AP		$39.00	$105.93
Aerial Processing Technician		$29.00	$78.77
Project Coordinator - FWAL		$39.00	$105.93
Airborne LiDAR Processing Technician		$29.00	$78.77
Project Coordinator - HAL		$39.00	$105.93
Helicopter LiDAR Processing Technician		$29.00	$78.77
Photo Lab Specialist		$20.00	$54.32
Photo Processing Technician		$20.00	$54.32
INDIRECT COST RATE:	**146.93%**		
PROFIT RATE:	**10.0%**		

Contract rates include labor, overhead, and profit.

All rates are negotiated rates and are not subject to change or adjustment.

Specified Rate Payment Basis - Contract rates to be billed. Documentation of hours must be maintained and is subject to audit.

Lump Sum Payment Basis - Invoice by deliverable, according to the table of deliverables. Documentation of hours worked not required.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

UNIT COST PAYMENT BASIS

SUBPROVIDER NAME: **Gorrondona & Associates, Inc.**

SERVICES TO BE PROVIDED		UNIT	COST
LiDAR Mobile Mapping System, (Includes Vehicle Operator, LiDAR Technician mileage on project and fuel) (Does not include travel to project.)		day	$6,000.00
Mobilization for Aerial Photography/LiDAR Fixed Wing Aircraft (Includes aircraft, Pilot, Camera/LiDAR Operator, fuel and transportation cost)		per project	$18,000.00
Aerial Photography Flight Crew Fixed Wing Aircraft (Includes Pilot and Camera Operator)		hour	$175.00
LiDAR Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)		hour	$180.00
Mobilization for Helicopter Airborne LiDAR (Includes helicopter, Pilot, LiDAR Operator, fuel and transportation cost)		per project	$18,000.00
Helicopter Flight Crew Fixed Wing Aircraft (Includes Pilot and LiDAR Operator)		hour	$185.00

The unit costs shown include labor, overhead, and profit. Payment based on units completed. No partial payments.

All unit costs are negotiated costs and are not subject to change or adjustment.

Unit Cost Payment Basis: If unit costs by year are included, unit costs billed should correspond to the fiscal or calendar year, if applicable, in which the work was done.

Note: Any direct labor, unit cost, or other direct expense classification included in the contract, but not in a work authorization, is not eligible for payment under that work authorization.

ATTACHMENT E- FEE SCHEDULE

OTHER DIRECT EXPENSES

RATES SHOWN APPLY TO PRIME PROVIDER AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	UNIT	FIXED COST	MAXIMUM COST
Lodging/Hotel - Taxes and Fees	day/person		$30.00
Lodging/Hotel (Taxes/fees not included)	day/person		Current State Rate
Meals (Excluding alcohol & tips) (Overnight stay required)	day/person		Current State Rate
Mileage	mile	Current State Rate	
SUV or ATV Rental (Includes taxes and fees; Insurance costs will not be reimbursed)	day		$120.00
Rental Car Fuel	gallon		$3.75
Rental Car (Includes taxes and fees; Insurance costs will not be reimbursed)	day		$58.00
Air Travel - In State - Short Notice (Coach)	Rd Trip/person		$450.00
Air Travel - In State - 2+ Wks Notice (Coach)	Rd Trip/person		$335.00
Air Travel - Out of State - 2+ Wks Notice (Coach)	Rd Trip/person		$500.00
Air Travel - Out of State - Short Notice (Coach)	Rd Trip/person		$700.00
Taxi/Cab fare	each/person		$30.00
Parking	day		$15.00
Toll Charges	each		$4.00
Standard Postage	letter	Current Postal Rate	
Certified Letter Return Receipt	each	Current Postal Rate	
Materials and Shipping	per package		$25.00
Courier Services	each		$30.00
Photocopies B/W (11" X 17")	each	$0.20	
Photocopies B/W (8 1/2" X 11")	each	$0.10	
Photocopies Color (11" X 17")	each	$1.00	
Photocopies Color (8 1/2" X 11")	each	$0.50	
Digital Ortho Plotting	sheet	$1.50	
Traffic Control Services, Arrow Boards and Attenuator trucks - Large Project (Includes labor, equipment and fuel)	day		$2,500.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Medium Project (Includes labor, equipment and fuel)	day		$1,800.00
Traffic Control Services, Arrow Boards and Attenuator trucks - Small Project (Includes labor, equipment and fuel)	day		$1,450.00
Law Enforcement/Uniform Officer (including vehicle)	hour		$60.00
Boat with Motor	day		$200.00
Deed Copies	sheet	$2.00	
Aerial Photographs (1" = 500' scale)	each		$27.00
Type II ROW Monument - Excavated/Drilled, rocks, rocky soil. 2-4 inch depth (includes crew time, equipment, materials, rentals, & labor). Brass Marker supplied by TxDOT	each	$65.00	
Type II ROW Monument - Poured 2-3 Feet (includes One Call, crew time, equipment, materials, rentals, labor). Brass Marker supplied by TxDOT	each	$200.00	

ATTACHMENT E- FEE SCHEDULE

OTHER DIRECT EXPENSES

RATES SHOWN APPLY TO PRIME PROVIDER AND ALL SUBPROVIDERS

SERVICES TO BE PROVIDED	UNIT	FIXED COST	MAXIMUM COST
Reprographics	per sq. ft.		$3.00
Terrestrial Laser Scanner (rates applied to actual time scanner unit is in use)	hour	$75.00	
Ground Target (includes paint, panel material, etc.)	each	$25.00	
Helicopter Equipment LiDAR - Project Flight Miles (On project flight miles)	per mile	$55.00	
Helicopter Equipment LiDAR - Transit Miles (including turn, maneuver miles and local airport to project)	per mile	$15.00	
Fixed Wing Airborne LiDAR - Project Flight Miles (On project flight miles)	per mile	$20.00	
Fixed Wing Airborne LiDAR - Transit Miles (including turn, maneuver miles and local airport to project)	per mile	$8.00	
Aerial Photography - Airborne GPS/IMU Data collection/Processing	per project	$2,225.00	
Aerial Photography - Project Flight Miles (On project flight miles)	per mile	$25.00	
Aerial Photography - Transit miles (including turn, maneuver miles and local airport to project)	per mile	$7.00	
Photo Lab Service - Black and White Processing (film, development, scanning)	Per Frame		$15.00
Photo Lab Service - Color Infrared Processing (film, development, scanning)	Per Frame		$25.00
Photo Lab Service - Color Processing (film, development, scanning)	Per Frame		$25.00
Photo Lab Service - Digital image processing	Per Frame		$22.00
Photo Lab Service - Enlargements, Lamination, Mounting	per sq. ft.		$5.50

Profit not allowed on Other Direct Expenses.

For Cost Plus Fixed Fee, Specified Rate, and Unit Cost - Fixed cost items to be billed at the fixed cost rate. Documentation, such as a usage log, must be maintained for audit purposes, and may be required to be submitted as a basis for reimbursement. For items with a maximum cost, actual cost to be billed not to exceed the maximum shown. Itemized receipts must be maintained for audit purposes, and may be required to be submitted as a basis for reimbursement. **For Lump Sum -** No documentation required. Invoicing by physical percent complete includes combination of direct labor and other direct expenses.

NOTE: For Cost Plus Fixed Fee, Specified Rate, and Unit Cost - Miscellaneous other direct expenses up to $100 per unit will be reimbursed at cost if approved and documented in advance by the State's Project Manager. Miscellaneous other direct expenses of $100 per unit or more will not be reimbursed unless a supplemental agreement to the contract and work authorization (if WAs are used) has been executed in advance authorizing the miscellaneous other direct expenses. No more than $2,500 in miscellaneous other direct expenses may be approved by the State's Project Manager over the life of this contract including prime provider and subproviders. **For Lump Sum -** This statement does not apply.

ATTACHMENT F

Computer Graphics Files

Data (original and processed) shall be provided to the State on a compact disk or other approved medium and shall be fully compatible with the State's computer system and with programs in use by the State at the time of submission without further modification or conversion. The program formats used by the State are: Microsoft® Word for word processing; MicroStation® for graphics applications; and CAiCE™ Visual® Transportation, GEOPAK®, and AASHTOWare® SDMS® for survey data.

ATTACHMENT G

Not Applicable

ATTACHMENT H-SG

Historically Underutilized Business for State Funded Professional or Technical Services Contracts HUB Goal Assigned-State of Texas Subcontracting Plan Required

1) **POLICY.** It is the policy of the Department to ensure that HUBs shall have an equal opportunity to participate in the performance of contracts; to create a level playing field on which HUBs can compete fairly for contracts and subcontracts; to ensure nondiscrimination on the basis of race, color, national origin, or gender in the award and administration of contracts; to help remove barriers to the participation of HUBs in department contracts; and, to assist in the development of firms that can compete successfully in the market place outside the HUB program. Consequently, the HUB requirements of the Department's HUB Program apply to this contract as follows:
   (1) The Provider agrees to insure that they shall take all necessary and reasonable steps to meet the HUB goal for this contract.
      a. The Provider and any subprovider(s) shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of contracts.
      b. When submitting the contract for execution by the Department, the Provider must complete and furnish Exhibit H-1 which lists the commitments made to all subproviders, including certified HUB subprovider(s) that are to meet the contract goal, and Exhibit H-2 which is a commitment agreement(s) containing the original signatures of the Provider and HUB(s) that were indicated in the original submitted State of Texas HUB Subcontracting Plan (HSP) in Section 8. For Work Authorization Contracts, Exhibit H-1 is required at the time of submitting the contract for execution by the Department. Exhibit H-2 will be required to be completed and attach with each work authorization number that is submitted for execution, if the HUB will be performing work. If non-HUB subprovider is performing work, insert N/A (not applicable) on the line provided. A prime must allow a HUB maximum opportunity to perform the work by not creating unnecessary barriers or artificial requirements for the purpose of hindering a HUB's performance under the contract. Any substitutions or changes to the HSP, in addition to any changes to the original contract award, shall be subject to prior written approval by the Department. <u>If there are any changes to the subproviders during the contract term, the Provider must furnish a Revised Exhibit H-1 showing the revised commitment of all subproviders.</u>
      c. Failure to carry out the requirements set forth above shall constitute a breach of contract and may result in a letter of reprimand; in termination of the contract by the Department; in a deduction from money due or to become due to the Provider, not as a penalty but as damages to the Department's HUB Program; or such other remedy or remedies as the Department deems appropriate.
2) **DEFINITIONS.**
   a. "Department" means the Texas Department of Transportation (TxDOT).
   b. "Contract" is the agreement between the Texas Department of Transportation and a Provider.
   c. "Provider" is any individual or company that provides professional or technical services.
   d. "Joint Venture" means an association of two or more businesses to carry out a single business enterprise for profit which combines their property, capital, efforts, skills and knowledge.
   e. "Historically Underutilized Business (HUB)" means any business so certified by the Texas Facilities Commission.
3) **PERCENTAGE GOAL.** The goal for Historically Underutilized Business (HUB) participation in the work to be performed under this contract is 23.7 % of the contract amount.
4) **PROVIDER'S RESPONSIBILITIES.** A Provider (HUB or non-HUB) must perform a minimum of 30% of the contract with its employees (as defined by the Internal Revenue Service). The contract is subject to the HSP Good Faith Effort Requirements.
   a. A Provider who cannot meet the contract goal, in whole or in part, should have documented any of the following and other efforts made as a "Good Faith Effort" to obtain HUB participation.
      (1) Whether the prime advertised in general circulation, trade association, and/or minority/women focus media concerning subcontracting opportunities.

(2) Whether the prime provided written notice to at least three (3) qualified HUBs allowing sufficient time for HUBs to participate effectively.
(3) Whether the prime documented reasons for rejection or met with the rejected HUB to discuss the rejection.
(4) Whether the prime provided qualified HUBs with adequate information about bonding, insurance, the plans, the specifications, scope of work and requirements of the contract.
(5) Whether the prime negotiated in good faith with qualified HUBs, not rejecting qualified HUBs who are also the lowest responsive bidder.
(6) Whether the prime used the services of available minority and women community organizations, contractor's groups, local, state, and federal business assistance offices, and other organizations that provide support services to HUBs.

NOTE: The Provider must not cause or allow subproviders to bid their services.

b. The preceding information shall be submitted directly to the Chair of the Consultant Selection Team responsible for the contract.
c. The Provider shall make all reasonable efforts to honor commitments to HUB subproviders named in the original HSP in Section 8. Where the Provider terminates or removes a HUB subprovider named in the initial commitment, the Provider must demonstrate on a case-by-case basis to the satisfaction of the Department that the originally designated HUB was not able or willing to perform. The term "unable" includes, but is not limited to, a firm that does not have the resources and expertise to finish the work and/or a firm that substantially increases the time to complete the project.
d. The Provider shall make all reasonable efforts to replace a HUB subprovider that is unable or unwilling to perform successfully with another HUB and must meet the HSP Good Faith Effort Requirements. Any substitution of HUBs shall be subject to prior written approval by the Department. The Department will request a statement from the firm being replaced concerning its replacement prior to approving the substitution. <u>If there are any changes to the subproviders during the contract term, the Provider must furnish a Revised Exhibit H-1 showing the revised commitment of all subproviders.</u>
e. The Provider shall designate a HUB liaison officer who will administer the Provider's HUB program and who will be responsible for maintenance of records of efforts and contacts made to subcontract with HUBs.

5) **<u>ELIGIBILITY OF HUBs</u>.**

a. The Texas Facilities Commission (TFC) certifies the eligibility of HUBs.
b. The TFC maintains a directory of certified HUBs. The HUB Directory is available through the Department's Business Opportunity Programs Office and through the Internet at the TFC's Website (<u>http://www.tfc.state.tx.us/divisions/commissionadmin/prog/HUB</u>).
c. Only HUB firms certified and identified in specific categories and classes at the time the contract is signed or at the time the commitments are submitted are eligible to be used in the information furnished by the Provider as required under Section 2.c. above.
d. If during the course of the contract it becomes necessary to substitute another HUB firm for a firm named in the information submitted by the Provider as required by Section 2.c. above, then only certified HUBs will be considered eligible as a substituted firm. The Provider's written request for substitutions of HUB subproviders shall be accompanied by a detailed explanation, which should substantiate the need for a substitution. The Department will verify the explanation with the HUB firm being replaced before giving approval of the substitution. <u>If there are any changes to the subproviders during the contract term, the Provider must furnish a Revised Exhibit H-1 showing the revised commitment of all subproviders.</u>
e. The 73rd Legislature passed Texas Civil Statutes, Article 601i, relative to contracts between governmental entities and certain disadvantaged businesses. The Statute provides for civil penalties for persons who falsely claim disadvantaged business status and for the general contractor who knowingly contracts with a person claiming to be a disadvantaged business.

6) **<u>DETERMINATION OF HUB PARTICIPATION</u>.**

A firm must be an eligible HUB and perform a professional or technical function relating to the project. Proof of payment, such as copies of canceled checks, properly identifying the Department's contract number or project number may be required to substantiate the payment, as deemed necessary by the Department. A HUB subprovider, with prior written approval from the Department, may subcontract 70% of a contract as long as the HUB subprovider performs a commercially useful function. All subcontracts shall include the provisions

required in the subcontract and shall be approved as to form, in writing, by the Department prior to work being performed under the subcontract. A HUB performs a commercially useful function when it is responsible for a distinct element of the work of a contract; and actually manages, supervises, and controls the materials, equipment, employees, and all other business obligations attendant to the satisfactory completion of contracted work. If the subcontractor uses an employee leasing firm for the purpose of providing salary and benefit administration, the employees must in all other respects be supervised and perform on the job as if they were employees of the subcontractor.

7) **COMPLIANCE OF PROVIDER.**

8) To ensure that HUB requirements of this contract are complied with, the Department will monitor the Provider's efforts to involve HUBs during the performance of this contract. This will be accomplished by a review of the monthly State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report (Exhibit H-6) submitted to the Business Opportunity Programs Office by the Provider indicating his/her progress in achieving the HUB contract goal, and by compliance reviews conducted by the Department. The State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report (Exhibit H-6) must be submitted at a minimum monthly to the Business Opportunity Programs Office, in addition to with each invoice to the appropriate agency contact.

The Provider shall receive credit toward the HUB goal based on actual payments to the HUB subproviders with the following exceptions and only if the arrangement is consistent with standard industry practice.

(1) Payments to brokers or firms with a brokering type operation will be credited only for the amount of the commission;
(2) Payments to a joint venture will not be credited unless all partners in the joint venture are HUBs;
(3) Payments to a HUB subprovider who has subcontracted a portion of the work required under the subcontract will not be credited unless the HUB performs a commercially useful function;
(4) Payments to a HUB will not be credited if the firm does not provide the goods or perform the services paid for;
(5) Payments made to a HUB that cannot be linked by an invoice or canceled check to the contract under which credit is claimed will not be credited.

A Provider must not withhold or reduce payments to any HUB without a reason that is accepted as standard industry practice. A HUB prime or subprovider must comply with the terms of the contract or subcontract. Work products, services, and commodities must meet contract specifications whether performed by a prime or subprovider.

A Provider's failure to meet the HUB goal and failure to demonstrate to the Department's satisfaction sufficient "Good Faith Effort" on his/her part to obtain HUB participation shall constitute a breach of contract. In such a case, the Department reserves the right to issue a letter of reprimand; to deduct the amount of HUB goal not accomplished by HUBs from the money due or to become due the Provider, not as a penalty but as damages to the Department's HUB program; or such other remedy or remedies as the Department deems appropriate.

9) **RECORDS AND REPORTS.**

a. After submission of the initial commitment (Exhibit H-1), required by Section 2.c. of this attachment, the Provider shall submit State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report (Exhibit H-6) at a minimum monthly, after contract work begins, on subcontracting involvement. One copy of the State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report (Exhibit H-6) is to be sent to the Business Opportunity Programs Office of the Department monthly. In addition, the State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report (Exhibit H-6) must be submitted with the Provider's invoice. All payments made to subproviders are to be reported. **These State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Reports are required monthly even during months when no payments to subproviders have been made.** The State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report will be required until all work on the contract has been completed. The Department may verify the amounts being reported as paid to HUBs by requesting copies of canceled checks paid to HUBs on a random basis.

b. Subproviders should be identified on the State of Texas HUB Subcontracting Plan Prime Contractor Progress Assessment Report (Exhibit H-6) by name, the amount of actual payment made to each during the billing period, cumulative payment amount and percentage of the total contract amount.
c. All such records must be retained for a period of seven years following final payment, or until an investigation, audit, examination, or other review undertaken during the seven years, and shall be available at reasonable times and places for inspection by authorized representatives of the Department and other agencies.
d. Prior to receiving final payment, the Provider shall submit a Final Report (Exhibit H-4), detailing the subprovider payments to the Business Opportunity Programs Office of the Department, and one copy to the Department with the Provider's final invoice.

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EXHIBIT H-1

Texas Department of Transportation
Subprovider Monitoring System
Commitment Worksheet

Contract #: 36-6IDP1310/PS#5445 Assigned Goal: 23.7% Federally Funded ___ State Funded XX

Prime Provider: Jones & Carter, Inc. Total Contract Amount: $2,000,000.00

Prime Provider Info: DBE ___ HUB ___ Both ___

Vendor ID #: 17418482448 DBE/HUB Expiration Date: _____

(First 11 Digits Only)

If no subproviders are used on this contract, please indicate by placing "N/A" on the 1st line under Subproviders.

Subprovider(s) (List All)	**Type of Work**	**Vendor ID #** (First 11 Digits Only)	**D=DBE H=HUB**	**Expiration Date**	**$ Amount or % of Work ***
McGray & McGray Land Surveyors, Inc.	15.1.3	17422732929	D H	5/5/19 5/5/19	10%
McKim & Creed, Inc.	15.4.1	32034934193			5%
Poznecki-Camarillo, Inc.	15.1.2	17422140909	D H	12/14/16 12/14/16	10%
Gorrondona & Associates, Inc.	15.3.1	17523329708	H	2/23/19	5%
Subprovider(s) Contract or % of Work* Totals					30%

*For Work Authorization Contracts, indicate the % of work to be performed by each subprovider.

Total DBE **or** HUB Commitment Dollars $_____

Total DBE **or** HUB Commitment Percentages of Contract _____25_____%
(Commitment Dollars and Percentages are for Subproviders only)

EXHIBIT H-2

Texas Department of Transportation
Subprovider Monitoring System Commitment Agreement

This commitment agreement is subject to the award and receipt of a signed contract from the Texas Department of Transportation (TxDOT). ***NOTE: Exhibit H-2 is required to be attached to each contract that does not include work authorizations. Exhibit H-2 is required to be attached with each work authorization. Exhibit H-2 is also required to be attached to each supplemental work authorization. If DBE/HUB Subproviders are used, the form must be completed and signed. If no DBE/HUB Subproviders are used, indicate with "N/A" on this line: _____ and attach with the work authorization or supplemental work authorization.***

Contract #: _____ Assigned Goal: _____% Prime Provider:_____

Work Authorization (WA)#: _____ WA Amount: _____ Date: _____

Supplemental Work Authorization (SWA) #: _____ to WA #: _____ SWA Amount:_____

Revised WA Amount: _____

Description of Work *(List by category of work or task description. Attach additional pages, if necessary.)*	**Dollar Amount** *(For each category of work or task description shown.)*
Total Commitment Amount *(Including all additional pages.)*	$

IMPORTANT: The signatures of the prime and the DBE/HUB and Second Tier Subprovider, if any (both DBE and Non-DBE) and the total commitment amount must always be on the same page.

Provider Name: **Address:** **Phone # & Fax #:** **Email:**	**Name:** _____ ***(Please Print)*** **Title:**_____ _____ **Signature** **Date**
DBE/HUB Sub Provider **Subprovider Name:** **VID Number:** **Address:** **Phone # & Fax #:** **Email:**	**Name:** _____ ***(Please Print)*** **Title:**_____ _____ **Signature** **Date**
Second Tier Sub Provider **Subprovider Name:** **VID Number:** **Address:** **Phone #& Fax #:** **Email:**	**Name:** _____ ***(Please Print)*** **Title:**_____ _____ **Signature** **Date**

VID Number is the Vendor Identification Number issued by the Comptroller. If a firm does not have a VID Number, please enter the owner's Social Security or their Federal Employee Identification Number (if incorporated).

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EXHIBIT H-4

Texas Department of Transportation
Subprovider Monitoring System
Final Report

The Final Report Form should be filled out by the Prime Provider and submitted to the Contract Manager and the Business Opportunity Programs Office for review upon completion of the contract. The report should reflect **all subcontract activity** on the project. The report will aid in expediting the final estimate for payment. If the HUB or DBE goal requirements were not met, documentation supporting good faith efforts must be submitted.

DBE Goal: _____% **OR** HUB Goal: %

Total Contract Amount: $_____ Total Contract Amount: $ _____

Contract Number:

Vendor ID #	Subprovider	Total $ Amt Paid to Date
	TOTAL	

This is to certify that _____% of the work was completed by the HUB or DBE subproviders as stated above.

_____
By: Prime Provider

_____
Per: Signature

Subscribed and sworn to before me, this _____ day of _____,20__

_____Notary Public _____ County

My Commission expires:_____

HUB Subcontracting Plan (HSP)
Prime Contractor Progress Assessment Report

This form must be completed and submitted to the contracting agency each month to document compliance with your HSP.

Contract/Requisition Number: _____ Date of Award: _____ (mm/dd/yyyy) Object Code: _____ (Agency Use Only)

Contracting Agency/University Name: _____

Contractor (Company) Name: _____ State of Texas VID #: _____

Point of Contact: _____ Phone #: _____

Reporting (Month) Period: _____ Total Amount Paid this Reporting Period to Contractor: $ -

Report HUB and Non-HUB subcontractor information

Subcontractor's Name	Subcontractor's VID or HUB Certificate Number	*Texas Certified HUB? (Yes or No)	Total Contract $ Amount from HSP with Subcontractor	Total $ Amount Paid This Reporting Period to Subcontractor	Total Contract $ Amount Paid to Date to Subcontractor	Object Code (Agency Use Only)
			$ -	$ -	$ -	
			$ -	$ -	$ -	
			$ -	$ -	$ -	
			$ -	$ -	$ -	
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Signature: _____ **Title:** _____ **Date:** _____

*Note: Prime contractors can verify subcontractor HUB certification status on-line at http://www2.tbpc.state.tx.us/cmbl/cmblhub.html

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