THE STATE OF TEXAS §
§
COUNTY OF HIDALGO §

AGREEMENT FOR PROFESSIONAL SERVICES
C-18-195-07-31

THIS AGREEMENT is made, by and between **HIDALGO COUNTY**, acting herein by and through the **Commissioner's Court**, hereinafter called the **"Owner"**, and **L & G Consulting Engineers Inc.** d/b/a **L & G Engineering**, Professional Engineers of **Mercedes, Texas**, hereinafter called the **"Engineer".**

WITNESSETH:

WHEREAS, the **Owner** desires to contract with the **Engineer** to provide professional engineering services required for the "MILE 6 from Mile 11 to SH 107" project for **Hidalgo County Precinct No. 1** hereinafter referred to as the **"Project".**

WHEREAS, pursuant to Texas Government Code Chapter 2254.002, (the "Texas Professional Services Procurement Act"), the **Owner** requested proposals from a professional engineer to assist the **Owner** by providing the Services;

WHEREAS, Owner has selected the **Engineer** to provide the Services within Hidalgo County Precinct No. 1, in accordance to Exhibit "A-1" Request for Qualifications (RFQ) Procurement Packet.

NOW, THEREFORE, the **Owner** and the **Engineer** in consideration of the mutual covenants and agreements herein contained do mutually agree as follows:

ARTICLE 1. Employment of Engineer. The **Owner** agrees to employ the **Engineer** and the **Engineer** agrees to perform professional engineering services in connection with the **Project** as stated in the articles to follow and for having rendered such services, the owner agrees to pay **the Engineer** compensation as stated in the articles to follow.

ARTICLE 2. Character and Extent of Services. This Agreement will provide for the development of the **Project** with the following:

2.1 Scope of Work. The **Owner** will furnish items and provide those services for the development of the **Project** and fulfillment of this Agreement, as identified in **EXHIBIT "A"** ***Services to be provided by the Owner,*** attached hereto and made a part of this Agreement.

2.2 Engineer's Services. For this Agreement, the professional services to be provided by the **Engineer** are those services more particularly identified in **EXHIBIT "B"**, attached hereto and made part of this Agreement.

2.3 Schedule of Work. The **Engineer** shall prepare a schedule of work (hereinafter referred to as "Work Schedule") in accordance with the terms identified in **EXHIBIT "C"** - ***Work Schedule***, attached hereto and made a part of this Agreement.

ARTICLE 3. Period of Service. Upon execution of this Agreement, the **Engineer** shall proceed with the work outlined under Article 2 hereof.

3.1 Termination Date. This Agreement is for a period of **five (5) years,** commencing, *July 17, 2018,* expiring, ***July 17, 2023*** or ***upon completion of the Scopes of the Project*** (hereinafter referred to as the "**Termination Date**"), unless extended by written supplemental agreement, as provided in Article 8 hereof, duly executed by the **Engineer** and the **Owner** prior to the **Termination Date**, or otherwise terminated as provided in Article 3.4 herein and below. The **Owner** assumes no liability or obligation for payment to the **Engineer** for work performed or costs incurred by the **Engineer** prior to the date authorized by the **Owner** for the **Engineer** to begin work, during periods when work is suspended, or subsequent to the **Termination Date.**

3.2 Extension of the Termination Date. The **Engineer** shall notify the **Owner** in writing as soon as possible if it is determined, or reasonably anticipated, that the work under this Agreement cannot be completed before the **Termination Date,** and the **Owner** may , at the **Owner's** sole discretion, extend the **Termination Date** by written supplemental agreement as

provided in Article 8 hereof. The **Engineer** shall allow adequate time for review and approval by the **Owner** of the written notice and request by the **Engineer** to extend the **Termination Date.**

3.3 Suspension of Work. Should the **Owner** desire to suspend the work under this Agreement, but not terminate this Agreement, the **Owner** shall provide thirty (30) calendar days verbal notification to the **Engineer**, followed by written confirmation from the **Owner** to the **Engineer** to that effect. The thirty-day notice may be waived as agreed in writing by both the **Owner** and the **Engineer**. The work under this Agreement may be reinstated and resumed in full force and effect within sixty (60) days of receipt of written notice from the **Owner** to the **Engineer**. The sixty-day notice may be waived as agreed in writing by both the **Owner** and the **Engineer.**

If the **Owner** suspends the work, the **Termination Date** as identified above is not affected, and this Agreement will terminate on the date specified, unless extended by written supplemental agreement, as provided in Article 8 hereof, duly executed by the **Engineer** and the **Owner** prior to the **Termination Date.**

3.4 Termination of Agreement. This Agreement may be terminated before the stated **Termination Date** identified in Article 3.1 herein by any of the following conditions:

(1) **Commitment of Current Revenues**. In the event that, during any term hereof, the **Owner** does not appropriate sufficient funds to meet to the obligations of this Agreement, the **Owner** may terminate this Agreement upon thirty (30) days written notice to the **Engineer.** The **Owner** agrees, however, to use reasonable efforts to secure funds necessary for the continued performance of this Agreement. The parties intend this provision to be a continuing right to terminate this Agreement at the expiration of each budget period of the **Owner** pursuant to the provisions of Tex. Loc. Govt. Code Ann. §271.903 (Vernon Supp. 1995).

(2) By mutual agreement and consent, in writing, of both the **Engineer** and the **Owner**.

(3) By the **Owner,** upon failure of the **Engineer** to fulfill the **Engineer's** obligations set forth herein in a satisfactory manner as determined by the **Owner** and in sole opinion of the **Owner**, after the **Owner** provides written notice to the **Engineer** of such failure and the **Engineer** has not corrected such failure within (30) days of such written notice by the **Owner.**

(4) By the **Engineer**, upon failure of the **Owner** to fulfill the **Owner's** obligations set forth herein, after the **Engineer** provides written notice to the **Owner** of such failure and the **Owner** has not corrected such failure within thirty (30) days of such written notice by the **Engineer.**

(5) By the **Owner** without cause upon thirty (30) days written notice to the **Engineer.**

(6) By satisfactory completion of all services and obligations described herein.

Should the **Owner** terminate this Agreement as herein provided, no fees other than fees due and payable at the time of termination shall thereafter be paid to the **Engineer** notwithstanding anything herein to the contrary. In determining the value of the work performed by the **Engineer** prior to termination, the **Owner** shall be the sole judge of the value of such work performed. Compensation for work at termination will be based on a percentage of the work completed at that time. Should the **Owner** terminate this Agreement under (5) of the paragraph above, the amount charged during the thirty (30) day notice period shall not exceed the amount charged during the preceding ninety (90) days.

If the termination of this Agreement is due to the failure of the **Engineer** to fulfill the **Engineer's** obligations under this Agreement, the **Owner** may take over the Project and prosecute the work to completion. In such case, the **Engineer** shall be liable to the Owner for any additional cost occasioned by the Owner.

If the **Engineer** defaults in the performance of this Agreement or if the **Owner** terminates this Agreement for fault on the part of the **Engineer**, the **Owner** will give consideration to payment of an amount in settlement to include: the actual costs incurred by the **Engineer** in performing the work to the date of default, the amount of work required which was satisfactorily completed to date of default, the value of the work which is usable to the **Owner**, the cost to the **Owner** of employing another consultant and/or firm to complete the work required and the time required to do so, and other factors which affect the value to the **Owner** of the work performed at the time of default. This Agreement shall not be considered as specifying the exclusive remedy for any default by the **Engineer,** but all remedies existing at law and in equity may be availed of by either party and shall be cumulative.

The termination of the Agreement and payment of an amount is settlement as prescribed above shall extinguish all rights, duties, and obligations of the **Owner** and the **Engineer** under this Agreement, except the obligations set forth in Articles 11.2, 12, 13, 15, 16, 17, 18.3, 19, 22 and 26 hereto.

ARTICLE 4. Progress and Coordination. The **Engineer** shall, from time to time during the progress of the work, confer with the **Owner**. The **Engineer** shall prepare and present such information as may be pertinent and necessary, or as may be requested by the **Owner**, in order to evaluate features of the **Engineer's** services and work.

At the request of the **Owner** or the **Engineer**, conferences shall be provided at the **Engineer's** office, the office of the **Owner,** or at other locations designated by the **Owner.** These conferences shall also include evaluation of the **Engineer's** services and work when requested by the **Owner.**

All applicable study reports shall be submitted in preliminary form for approval by the **Owner** before the final report is issued. The **Owner's** comments regarding the **Engineer's** preliminary report will be addressed by the **Engineer** in the final report.

If funds by other agencies or entities are to be used for the development of the project under this Agreement, the **Engineer's** services and work will be subject to periodic review and approval by other agencies or entities, including those of the city, county, state and/or federal agencies.

Should it be determined that the progress in the production of the **Engineer's** services and work does not satisfy the requirements of the approved **Work Schedule** as provided by **Exhibit "C",** attached hereto, the **Owner** shall review the approved **Work Schedule** with the **Engineer** to determine the corrective action needed by either the **Owner** or the **Engineer.**

The **Engineer** shall promptly advise the **Owner** in writing of events which have a significant impact upon the progress of the **Engineer's** services and work and the approved **Work Schedule**, including:

(1) problems, delays, adverse conditions which will materially affect the ability to attain contract objectives, prevent the meeting of time schedules and goals, or preclude the timely completion and submittal of **Project** deliverables by the **Engineer** within established time periods; this disclosure will be accompanied by a statement by the **Engineer** of recommended or immediate action taken, or contemplated, and any **Owner** or other agency or entity assistance needed to resolve the situation: and

(2) favorable developments or events which enable meeting the **Work Schedule** goals sooner than anticipated.

ARTICLE 5. Compensation and Fees. For and in consideration of the services to be rendered by the Engineer, the Owner shall compensate the Engineer as follows:

5.1 ***Basic Services***. For and in consideration of the ***Services*** to be rendered by the **Engineer**, as identified in Article 2 and more particularly identified in **EXHIBIT "B"**, attached hereto, the maximum amount payable by the **Owner** to the **Engineer** for ***Services***, subject to

adjustment in accordance with Article 6.1 herein, will be provided in each work authorization issued. An outline and breakdown of the **Services Fee** is more particularly identified in **EXHIBIT "D1"-*Fee Schedule***, attached hereto and made a part of this Agreement. Payments to the **Engineer** for ***Services*** shall be made by the **Owner**, upon presentation by the **Engineer** of the monthly **Request for Payment**, in accordance with the terms and provisions of Article 6 herein.

5.2 *Special Services*. Those services that may be required to provided by the **Engineer** as ***Special Services*** are set forth below and more particularly described in **EXHIBIT "B"**, attached hereto. For and in consideration of these ***Special Services*** rendered as required by the **Engineer,** the **Owner** shall pay the **Engineer** a negotiated lump sum fee (hereafter referred to as "**Special Services Fee**") at the hourly labor rates and non-labor rates (hereinafter referred to as "**Contract Rates**") specified in **EXHIBIT "D" - *Contract Rates***, attached hereto and made a part of this Agreement, and as follows:

1. **RESIDENT OR SITE ENGINEER, INSPECTOR** Actual performance of services of project site engineer, resident engineer and/or inspector, if required by **Owner**.

2. **DOCUMENT COPIES** Actual performance and/or providing of additional copies (over 10) of report; additional copies (over 10) of plans (contract drawings), specifications and estimates (PS&E); additional copies (over 10) of bidding documents: additional copies (over 10) of as-built drawings.

3. **EXTRA TRAVEL** Extra travel required of **Engineer** and authorized by **Owner** to points outside of Hidalgo County.

4. **EXPERT WITNESS** Assistance to the **Owner** as expert witness in any litigation with third parties, arising from the development or construction of the **Project**.

5. **MISCELLANEOUS**. Investigations involving detailed consideration of operation, maintenance and overhead expenses and (unless otherwise agreed) the preparation of rate schedules, earning and expense statements; preparation of feasibility studies; environmental document preparation; appraisals, valuations, and material audits; or inventories required for certification of force account construction performed by the **Owner**; preparation of change orders for extra work done by the **Contractor.**

ARTICLE 6. Method of Payment.

6.1 Request for Payment. Payments to the **Engineer** for services rendered will be made while work is in progress as executed through a lump sum fee assigned to each work authorization (hereinafter referred to as **"Work Authorization"**) in accordance with **Article 7**

herein. For each **Work Authorization,** the **Engineer** shall prepare and submit to the **Owner** monthly progress reports in sufficient detail to support the progress of the work and in support of a request for payment (hereinafter referred to as "**Request for Payment**"). The progress report shall indicate the percent completion of the work accomplished by the **Engineer** during the billing period and to the date of the **Request for Payment**. On or before noon of the first Monday of each month during the performance of the services, the **Engineer** shall submit to the **Owner** for approval a **Request for Payment**. Payment of the lump sum fee for each **Work Authorization** identified in the **Request for Payment** will be in proportion to the percent completion of the work tasks identified in such **Work Authorizations** together with a detailed breakdown of the amount and the sum of all prior payments. The **Owner** shall review each such **Request for Payment** and may make such exceptions as the **Owner** reasonably deems necessary or appropriate under the circumstances then existing. About ten (10) working days after the Commissioners Court of the **Owner** meets approving such payment, the **Owner** shall make payment to the **Engineer** in the amount approved as aforesaid subject to Article 6.4 herein and below.

If the **Project**, or any portion(s) thereof, are deleted or otherwise not constructed, compensation to the **Engineer** by the **Owner** for the **Project** or such portions of the project shall be only the amounts paid the **Engineer** for actual work performed in accordance with the **Work Authorization**(s) approved by the **Owner.**

6.2 Final Payment. After final completion of the work and acceptance thereof by the **Owner,** the **Engineer** shall submit a final request for payment (**"Final Request for Payment"**) which shall set forth all amounts due and remaining unpaid to the **Engineer** and upon approval thereof by the **Owner,** the **Owner** shall pay to the **Engineer** the amount due (**"Final Payment"**) under such **Final Request for Payment** in accordance with the provisions of Article 6.1 hereof. The **Final Payment** shall not be made until the **Engineer** delivers to the **Owner** an affidavit that so far as the **Engineer** has knowledge or information any and all amounts due for materials and services over which the **Engineer** has control have been paid.

6.3 Qualification on Obligations to Pay. Any provision hereof to the contrary notwithstanding, the **Owner** shall not be obligated to make any payment (whether a payment under Article 6.1 hereof or **Final Payment**) to the **Engineer** hereunder if any one or more of the following conditions precedent exist:

(1) The **Engineer** is in default of any of its obligations hereunder or otherwise is in default under this Agreement or under any contract documents related to this Agreement;

(2) Any part of such payment is attributable to the **Engineer's** services which are not performed in accordance with this Agreement; provided, however, such payment shall be made as to the part thereof attributable to the **Engineer's** services which were performed in accordance with this Agreement.

(3) The **Engineer** has failed to make payments promptly to consultants or other third parties used in connection with the **Project** for which the **Owner** has made payment to the **Engineer;**

(4) If the **Owner,** in good faith judgement, determines that the portion of the compensation then remaining unpaid will not be sufficient to complete the **Engineer's** services in accordance with this Agreement, no additional payments will be due the **Engineer** hereunder unless and until the **Engineer,** at its sole cost, performs a sufficient portion of the **Engineer's** services so that such portion of the compensation then remaining unpaid is determined by the **Owner** to be sufficient to so complete the **Engineer's** services.

6.4 No partial payment made hereunder shall be or construed to be final acceptance or approval of that part of the **Engineer's** services to which such partial payment related or relieves the **Engineer** of any of its obligations hereunder with respect thereto.

6.5 The **Engineer** shall promptly pay all bills for labor and material performed and furnished by others in connection with the performance of the **Engineer's** services.

6.6 Waiver. The making of the **Final Payment** shall constitute a waiver of all claims by the **Owner** except those arising from (1) faulty or defective services of the **Engineer** appearing after completion of the **Project.** (2) failure of the **Engineer's** services to comply with the requirements of this Agreement or any contracts or Agreements related to the **Project**, or (3) terms of any special warranties required by this Agreement or provided at law or in equity. The acceptance of **Final Payment** shall constitute a waiver of all claims by the **Engineer** except those

previously made in writing and identified by the **Engineer** as unsettled at the time of the **Final Request for Payment**.

ARTICLE 7. Work Authorization. After execution of this Agreement, the **Engineer** shall proceed with the work outlined under Article 2 hereof, only as authorized by the **Owner** through an agreed **Work Authorization** document in the form identified in **EXHIBIT "E"- *Work Authorization Form***, attached hereto and made a part of this Agreement. The **Engineer** will identify, as approved by the **Owner,** the needed services for the **Project,** as required through the course of the development to the **Project.** The **Owner** shall authorize the **Engineer** to perform one or more of the agreed tasks identified in **EXHIBIT "B",** attached hereto, in the form of individual work authorizations. Upon authorization from the **Owner,** the **Engineer** will prepare a **Work Authorization** document, which will include a description of the work to be performed, including a description of the tasks and milestones, a work schedule, and an estimated cost proposal agreed upon by the **Owner** and the **Engineer**. The estimated cost proposal shall set forth in detail the computation of the cost of each work task, at the hourly rates established and identified in **EXHIBIT "D",** attached hereto. The **Work Authorizations** shall not waive the **Owner's** and the **Engineer's** responsibilities and obligations established in this Agreement.

The estimated cost proposal for each **Work Authorization**, developed by the **Engineer** and approved by the **Owner** shall be used by the **Owner** to appropriate a purchase order for the **Work Authorization.** Each executed **Work Authorization** shall become a part of this **Agreement**. Upon satisfactory completion of the **Work Authorization**, the **Engineer** shall submit the **Project's** deliverables as specified in the executed **Work Authorization** to the **Owner** for review and acceptance.

Work included in a **Work Authorization** shall not begin until the **Owner** and the **Engineer** have signed the **Work Authorization**. All work must be completed on or before the completion date specified in the **Work Authorization**, unless extended by written agreement by the **Engineer** and the **Owner.** The **Engineer** shall promptly notify the **Owner** of any event that will

affect completion of the **Work Authorization.** All **Work Authorizations** must be executed and completed by both the **Engineer** and the **Owner** within the period established for this Agreement as specified in Article 3 hereof.

The final acceptance by the **Owner** of each **Work Authorization** for the **Project** shall serve as evidence of completion, on the part of the **Engineer,** of all services under this Agreement insofar as they pertain to that portion of work on the **Project** identified in the applicable work authorization.

ARTICLE 8. Supplemental Agreements. The terms of this Agreement may be amended by supplemental agreement if the Owner determines that (1) there is a need to extend the **Termination Date** identified in Article 3.1 hereof, (2) there has been a significant change in the scope, complexity or character of the services to be performed by the **Engineer,** and/or (3) for any other reason agreeable to the **Owner** and the Engineer. All supplemental agreements will be developed in the form identified in **EXHIBIT "F"** - ***Supplemental Agreement Form***, attached hereto and made a part of this Agreement, and incorporated herein by reference as **"Supplemental Agreement".**

If determined appropriate by the **Owner,** additional compensation to the **Engineer** for (1), (2) and/or (3) above shall be paid as a negotiated lump sum fee at the **Contract Rates** specified in **EXHIBIT "D"**, attached hereto. The negotiated lump sum fee shall be incorporated into the **Supplemental Agreement.**

Any **Supplemental Agreement** must be executed by both the **Engineer** and the **Owner** prior to the **Termination Date** specified in Article 3 hereof.

It is distinctly understood and agreed that no claim by the **Engineer** for additional work, as identified in Article 9 hereof, or changes or revisions in work, as identified in Article 10 hereof, shall be made by the **Engineer** until full execution of the **Supplemental Agreement** and authorization to proceed is granted by the **Owner**. The **Owner** reserves the right to withhold payment to the **Engineer** pending verification of satisfactory work performed by the **Engineer.**

ARTICLE 9. Additional Work. If the **Engineer** is of the opinion that any work it has been directed to perform is beyond the scope of this Agreement and constitutes extra work, the **Engineer** shall promptly notify the **Owner** in writing, In the event the **Owner** finds that such work does constitute extra work, the **Owner** shall so advise the **Engineer** and a written supplemental agreement will be executed between the **Owner** and the **Engineer** as provided herein. The **Engineer** shall not perform any proposed additional work or incur any additional cost prior to the execution by both the **Engineer** and the **Owner** of a supplemental agreement. Additional compensation from the **Owner** to the **Engineer** shall be paid as a negotiated lump sum fee at the Contract Rates specified in **EXHIBIT "D"** attached hereto. The negotiated lump sum fee shall be incorporated into the supplemental agreement as specified in Article 8 hereof. The **Owner** shall not be liable or under any obligation to compensate the **Engineer** for work performed or costs incurred by the **Engineer** relating to additional work not directly associated with the performance of the work authorized in this Agreement or as amended through supplemental agreement.

ARTICLE 10. Changes or Revisions in Work. If the **Owner** finds it necessary to request changes to the work, and the changes are within the applications of sound engineering principles, the **Engineer** shall make such revisions if requested and directed by the **Owner.**

10.1 Preliminary Work. The **Engineer** will make, without expense to the **Owner,** such revisions of any preliminary reports or drawings as may be required to meet the needs of the **Owner** and the applications of sound engineering principles.

10.2 Previously Approved or Satisfactorily Completed Work. If the **Owner** funds it necessary to request the **Engineer** to make changes to work previously approved by the **Owner** or work satisfactorily completed for which the **Owner** approves or, after a definite plan has been approved by the **Owner**, if a decision is subsequently made by the **Owner**, which for proper execution involves extra services and expenses for changes in or additions to the drawings specifications or other documents, this will be considered as additional work, and compensation from the **Owner** to the Engineer will be in accordance with Article 9 hereof.

10.3 Project Delays. If the **Engineer** is required to perform additional work due to delays by the imposition of causes not within the **Engineer's** control, such as by the re-advertisement of bids or by the delinquency or insolvency of contractors, such work associated with these delays shall be considered additional work, and the **Engineer** shall be compensated by the **Owner** for such extra services and expense in accordance with Article 9 hereof.

10.4 Reduction of Project Cost. Notwithstanding any provision herein to the contrary, in the event it is necessary for the **Owner** to require changes in the final plan of the **Project** to enable it to the reduce the construction cost of the **Project** to an amount within the sum estimated by the **Engineer,** the **Engineer** will be required to make such revisions or changes. These changes will only be considered additional work by the **Engineer,** if the **Engineer** previously provided these same changes as options to the **Owner** at the stage of preliminary work or prior to the approval of the final plan for the Project, and the option or options were not selected or approved by the **Owner** to be incorporated into the final plan of the Project. Payment for this additional work will then be made to the **Engineer** in accordance with Article 9 hereof. If **the Engineer** failed to provide these changes as an option or options to the **Owner** at the stage of preliminary work or prior to the approval of the final plan of the **Project**, these changes will not be considered additional work and no additional compensation will be made to the **Engineer.**

ARTICLE 11. Ownership and **Release of Documents**.

11.1 Ownership of Documents. Original drawings and specifications are the property of the **Engineer** however the **Project** is the property of the **Owner**, and the **Engineer** may not use the drawings and specifications thereof for any purpose not relating to the **Project** with the **Owner's** consent. The **Owner** shall be furnished with such reproductions of drawings and specifications as the **Owner** may reasonably require. Upon completion of the work or any earlier termination of this Agreement under Article 3.4 hereof, the **Engineer** will revise drawings to reflect changes made during construction and will promptly furnish the **Owner** with one complete set of reproducible record prints. Prints shall be furnished by the **Engineer,** as an additional service, at

any other time requested by **Owner.** All such reproductions shall be the property of the **Owner** who may use them without the **Engineer's** permission for any proper purpose relating to the **Project,** including but not limited to additions to or completion of the **Project.** Any additions or revisions by the **Owner** to a drawing signed, sealed, and dated by a registered professional engineer, shall be made in accordance with the Texas Engineering practice Act and the Rules of the State Board of Registration for Professional Engineers.

All documents furnished to the **Engineer** by the **Owner** shall be delivered to the **Owner** upon completion or termination of this Agreement. The **Engineer,** at the **Engineer's** own expense, may retain copies of such documents or any other data under this Agreement.

11.2 Release of Documents or Information. Release of information to the public or others regarding the **Project** will be accordance with the Texas Public Information Act.

ARTICLE 12 Discounts, Rebates, Refunds. In connection with procurement services rendered by the **Engineer,** if procurement services are required of the **Engineer** hereunder, all discounts, rebates and refunds shall accrue to the **Owner**. For some purchases, the **Engineer** may deem that payment within the discount period is not safe; and/or inspection, guarantees, or other considerations may dictate delay. In such cases, the **Engineer** shall promptly notify the **Owner** so that a course of action may be mutually agreed upon by the **Owner** and the **Engineer.**

ARTICLE 13. Records, Accounting, Inspection. The **Engineer** shall keep full and detailed records and accounts in a manner approved by the **Owner**. The **Engineer** shall afford the **Owner's** authorized personnel and independent auditors, if any, full access to the work performed by the **Engineer** regarding the Project and to all of the **Engineer's** books, records, correspondence, instructions, drawings, receipts, vouchers and other documents relating to such work under this Agreement and the **Engineer** shall preserve all such records for three (3) years after final payment. The **Engineer** shall deliver to the **Owner** upon completion of such work, a statement of the cost of such work detailed according to the accounting procedure and requirements of the **Owner**.

ARTICLE 14. Subcontracting and Assignment. The **Engineer** shall not assign, subcontract or transfer the **Engineer's** interest in this Agreement without the prior written consent of the **Owner.** The **Engineer** shall bind every subconsultant by written subcontract to observe all the terms of this Agreement to the extent that they may be applicable to each subconsultant. No subcontract relieves the **Engineer** of any responsibilities under this Agreement.

The **Engineer,** and the **Owner,** do hereby bind themselves, their successors, executors, administrators and assigns to each other party of this Agreement and to the successors, executors, administrators, and assigns of such other party in respect to all covenants of this contract.

ARTICLE 15. Patents. The **Engineer** shall indemnify and save the **Owner** harmless from all liability for alleged or actual infringement of any patent resulting from the use of apparatus or equipment furnished or designed by the **Engineer** or from the use of any process designed by the **Engineer** or effected by said apparatus or equipment, and the **Engineer** shall indemnify and save the **Owner** harmless from and against all costs, legal fees, expenses and liabilities incurred in or about any claim of or action for such infringement: provided, however, that the **Owner** shall promptly transmit to the **Engineer** all papers served on the **Owner** in any suit involving such claim of infringement, and provided further, that the **Owner** permits the **Engineer** to have entire charge and control of the defense of any such suit. If because of actual infringement the use of such apparatus, equipment, or process is enjoined, the **Engineer** shall refund the purchase price thereof in proportion to the length of service uncompleted, the life of such apparatus or equipment being assumed as five years. The **Engineer** hereby grants to the **Owner** a non-exclusive, royalty-free license under patents now or hereafter owned by the **Engineer** covering any machines, apparatus, processes, articles, or products included in the **Engineer's** work hereunder.

ARTICLE 16. Confidential Information, Inventions and Other Restrictions.

16.1 Confidential Information. The **Engineer** shall not use in any way, commercial or otherwise, except to the extent required by the proper performance of this Agreement; and shall

hold in confidence and not disclose to any person, for any reason or at any time, any information relating to the secret processes, products, compositions, machinery, apparatus or trade secrets of the **Owner**, or any other confidential information given to the **Engineer** by any of the **Owner's** commissioners, elected officials, employees, or representatives or acquired by the **Engineer** during the term of or as a result of this Agreement. Any information not generally available to the public shall be considered secret and confidential for the foregoing purposes; provided, however, that any technical information which was lawfully in the **Engineer's** possession prior to such disclosure to the **Engineer** by the **Owner** or which is or shall lawfully be published or become part of general knowledge from sources other than the **Engineer** or which otherwise shall lawfully become available to the **Engineer** from a source other than the **Owner**, shall not be subject to these provisions. All the foregoing stipulations shall apply to such information and work hereunder as well as to any information and ideas originated or developed by the **Engineer** in performing such work. Such information may, of course, be disclosed to the proper officials or employees of the **Owner** if necessary to perform the work hereunder. The **Engineer** shall, however, inform each of its employees who receive such information of these restrictions and the **Engineer** shall take all reasonable precautions and exert all reasonable efforts to assure conformance with such restrictions by all of its officers, employees, and agents, obtaining from them if necessary, agreements satisfactory to the **Owner,** effectuating the purposes of this Article.

16.2 Inventions. The **Engineer** shall communicate to the **Owner** at once, and require the **Engineer's** employees assigned to this **Project** to communicate to the **Owner** all inventions and improvements which any of the **Engineer's** employees, either alone or in conjunction with any of the **Owner's** employees may conceive, make or discover during the course of or as a result of work on this **Project** under this or any ensuing agreement with the **Owner** that relates to the processes, products, compositions, machinery or plants of the **Owner**, or relating in any way to any of the operations in which the **Owner** may be obligated to pay to the **Engineer** as compensation for services rendered by the **Engineer** under contract with the **Owner**. The

Engineer shall require its employees to execute patent applications and assignments thereof to the **Owner** or its nominees, and powers of attorney relating thereto for any country the **Owner** may designate, and shall take all other actions as the **Owner** may request to maintain and protect such inventions and improvements. The **Owner** shall pay all costs or charges incurred in protecting such inventions and improvements if the **Owner** desires to protect them. Before assigning any of the **Engineer's** employees to work under any contract with the **Owner** concerning this **Project,** the **Engineer** shall obtain from them agreements satisfactory to **Owner** complying in all respects with the terms and provisions of this Article.

16.3 The rights and obligations set forth in Article 16 shall survive the performance of this Agreement, or any termination, discharge or cancellation thereof

ARTICLE 17. Engineer's Seal, Responsibility and Warranties.

17.1 Engineer's Seal. The **Engineer** shall assign a responsible engineer or engineers licensed to practice in the State of Texas, who shall sign, seal and date all appropriate engineering submissions to the **Owner** in accordance with the Texas Engineering Practice Act and the Rules of the Stare Board of Registration for Professional Engineers.

17.2 Engineer's Responsibility. The **Engineer** shall be responsible for the accuracy of the work for the **Project** and shall promptly make necessary revisions or corrections resulting from errors, omissions, or negligent acts by the **Engineer**. No additional compensation will be made to the **Engineer** for any necessary revisions or corrections resulting from errors, omissions, or negligent acts by the **Engineer.**

The **Engineer's** responsibility for all questions arising from design errors and/or omissions will be determined by the **Owner** or a designee appointed by the **Owner**. The **Engineer** will not be relieved of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities until after the construction phase of the **Project** has been completed.

17.3 Warranties.

(a) The **Engineer** warrants that engineering design work performed by the **Engineer** hereunder shall be in accordance with sound engineering design practices and in conformance with applicable code and standards established for such work.

(b) Notwithstanding anything to the contrary contained in this Agreement, the **Owner** and the **Engineer** agree and acknowledge that the **Owner** is entering into this Agreement in reliance on the **Engineer's** experience and abilities with respect to performing the **Engineer's** services hereunder. The **Engineer** accepts the relationship of trust and confidence established between it and the **Owner** by this Agreement. The **Engineer** covenants with the **Owner** to use the **Engineer's** best efforts, skill, judgement and abilities to design the **Project** and to further the interests of the **Owner** in accordance with the **Owner's** requirements and procedures, in accordance with all professional standards, and in compliance with all applicable national, federal, state, county and municipal laws, regulations, codes, ordinances, orders and with those of any other body having jurisdiction. If the development of plans, specifications and estimates (hereinafter referred to as **"PS&E"**) are identified in this Agreement under Article 2 hereof or **EXHIBIT "B"**, attached hereto, as part of the services to be provided by the **Engineer** for the **Project**, prior to the commencement of construction, the **Engineer** shall certify in writing to the **Owner** that the **PS&E** for the **Project**, and the improvements when built in accordance therewith, conform to all applicable governmental regulations, statutes and ordinances then in effect. The **Engineer** represents covenants and agrees that there are no obligations, commitments or impediments of any kind that will limit or prevent performance of the **Engineer's** services.

(c) The **Engineer** represents, covenants and agrees that all of **Engineer's** services to be furnished by the **Engineer** under or pursuant to this Agreement form the inception of the Agreement until the **Project** has been fully completed, shall be of the standard and quality which prevail among engineers of similar experience, knowledge, skill and ability engaged in engineering

practice throughout Texas under the same or similar circumstances involving the design and construction of **Project.**

(d) The **Engineer** represents, covenants and agrees that the **Engineer's** special talent, training and experience cause the **Engineer** to be the prime professional on the **Project;** that because of such talent and training, the **Engineer** envisions the construction of the **Project** in its entirely and possesses the special skills which enable the **Engineer** to recognize dangerous conditions that a reasonable, prudent engineer having such special skills could anticipate may arise from the proper use of the **Project** after acceptance by **Owner;** and that the **Engineer** recognizes that any commissioners, elected officials, employees and agents of the **Owner,** plus residents and owners of property within the area affected by the **Project** are within a class of foreseeable persons who will be relying on the project being designed in a professional and safe manner.

(e) If the development of **PS&E** is identified in this Agreement under Article 2 hereof or **EXHIBIT "B"**, attached hereto, as part of the services to be provided by the **Engineer** for the **Project,** the **Engineer** represents, covenants and agrees that the **PS&E** of the **Project** will be accurate and free from any material errors. The **Engineer** additionally represents, covenants and agrees to the following: that the design of the **Project** will conform to its foreseeable use as a **Project** with all the amenities as set forth in any **PS&E** developed by the **Engineer** for the **Project;** that the result of such **PS&E**, if built in accordance therewith, will be suitable for purposes for which the **Project** is designed; and the **Project** will be inspected in a workmanlike, professional manner and will be suitable for the **Project's** intended purpose. The **Engineer's** responsibilities as set forth herein shall at no time be in any way diminished by reason of any approval by the **Owner** of any **PS&E** developed by the **Engineer** for the **Project**, nor shall the **Engineer** be released from any liability by reason of such approval by the **Owner**, it being understood that the **Owner** at all times is ultimately relying upon the **Engineer**'s skill and knowledge in preparing such **PS&E.**

(f) In connection with the **Engineer's** performance of procurement services hereunder, if any, the **Engineer** use its best efforts to obtain from all vendors of equipment and materials, fullest possible warranties against defective materials and workmanship for the benefit of the **Owner.**

ARTICLE 18. Engineer's Resources. The **Engineer** shall furnish and maintain, at the **Engineer's** own expense, office space for the performance of all services, skilled and sufficient personnel, as well as adequate and sufficient equipment to perform the services as required under this Agreement.

18.1 Project Manager. The **Engineer** shall provide a manager **(Project Manager)** for the **Project** that is a registered professional engineer in the State of Texas. The **Project** manager shall have such knowledge and experience as will enable that **Project Manager** during the course of the **Project** without prior consent of the **Owner.** If, due to situations beyond the control of the **Engineer,** the **Engineer** must change the **Project Manager** prior to the completion and acceptance of the **Project,** the **Engineer** will submit a request to change the **Project Manager** to the **Owner** for approval.

18.2 Employees of the Engineer. All employees of the **Engineer** shall have such knowledge and experience as will enable them to perform the duties assigned to them and required for the services under this Agreement. Any employee of the **Engineer** who, in the opinion of the **Owner**, is incompetent, or whose conduct becomes detrimental to the work required under this Agreement, shall immediately be removed form association with the **Project** when so instructed by the **Owner.** The **Engineer** certifies that the **Engineer** presently has employed sufficient and qualified personnel, and will maintain sufficient and qualified personnel for performance of the services under this Agreement.

18.3 Documents/Information Exchange The purpose of this Article is to define the required automated resources, format for graphics files, and information exchange pertaining to the **Project.** Taking into consideration that the **Owner** has a significant investment is the

development of the **Project,** there is a need for the **Engineer** to provide consistency in document development for information exchange. Consistency in document development for information exchange and production will help facilitate an economically efficient **Project**. Therefore, the **Engineer** shall provide the **Owner** with documents and information in accordance with the special requirement outlined in **EXHIBIT "B"** attached hereto.

ARTICLE 19. Indemnification. To the fullest extent permitted by applicable law, the **Engineer** and its agents, partners, subcontractors, and consultants (collectively **"Indemnitors"**) shall and do agree to indemnify, and hold harmless the **Owner**, the **Owner's** respective directors, elected officials, employees and agents (collectively **"Indemnitees"**) from and against all claims, damages, losses, liens, causes of action, suits, judgments and expenses, including attorney fees, of any nature, kind or description (collectively "Liabilities") of any person or entity whomsoever arising out of, caused by or resulting from the negligent performance of the **Engineer's** services through activities of the **Engineer**, its agents, partners, subcontractors and/or consultants performed under this Agreement, and which are caused by or result from error, omission, or negligent act of the **Engineer** or of any person employed or contracted by the **Engineer** provided that any such **Liabilities** (1) are attributable to bodily injury, personal injury, sickness, disease or death of any person, or to the injury to or destruction of tangible personal property including the loss of use and consequential damages resulting there from and (2) are caused in whole or in part by any negligent act or omission of the **Engineer,** anyone directly or indirectly employed by the **Engineer** or anyone for whose acts the **Engineer** may be legally liable. The **Engineer** shall also save harmless the **Owner** from any and all expense, including but not limited to, attorney fees which may be incurred by the **Owner** in litigation or otherwise resisting said claim or liabilities which may be imposed on the **Owner** as a result of such activities by the **Engineer,** its agents partners, subcontractors and/or consultants. In this connection, it is agreed and understood that the **Engineer** shall not be responsible for any portion of the liability proximately caused by the **Owner's** negligence.

ARTICLE 20. Joint and Several Liability. In the event more than one of the **Indemnitors** are connected with an accident or occurrence covered by the indemnification in Article 19 hereof, then each of such **Indemnitors** shall be jointly and severally responsible to the **Indemnitees** for indemnification and the ultimate responsibility among such **Indemnitors** for the loss and expense of any such indemnification shall be settled by separate proceedings and without jeopardy to any **Indemnitee**. The provisions of this Article shall not be construed to eliminate or reduce any other indemnification or right which the **Owner** or any of the **Indemnitees** has by law.

ARTICLE 21. Insurance. The **Engineer** shall obtain and maintain insurance in the limits of liability for each of the types of insurance coverage identified as follows.

(1) **Workers' Compensation**, endorsed with a waiver of subrogation in favor of the **Owner** in accordance with the statutory obligations imposed by Worker's Compensation or Occupational Disease laws under the Texas Workers' Compensation Law (**"Statutory Texas")**

(2) **Commercial General Liability**, endorsed with the **Owner** as an additional insured and endorsed with a waiver of subrogation in favor of the **Owner** ***all to the extent of the liabilities assumed by the Engineer under Article 19 and Article 20*** herein, in limits of liability not less than one million dollars (**$1,000,000**) combined single limit each occurrence and in the aggregate for bodily injury and property damage.

(3) **Texas Business Automobile Policy**, endorsed with the **Owner** as an additional insured and endorsed with a waiver of subrogation in favor of the **Owner** *all to the extent of the liabilities assumed by the Engineer under Article 19 and Article 20 herein*, in limits of liability not less than two hundred fifty thousand dollars (**$250,000**) each person for bodily injury, five hundred thousand dollars (**$500,000**) each occurrence for bodily injury, and one hundred thousand dollars (**$100,000**) each occurrence for property damage.

(4) **Professional Liability** in limits of **$1,000,000** each claim and aggregate.

The **Engineer** covenants and agrees to maintain an insurance policy in the minimum limits of liability for each of the types of insurance coverage identified above. The **Engineer** shall furnish the **Owner** with a certificate of insurance (***Hidalgo County* Certificate of Insurance**) showing the said policy to be in full force and effect during the period of service, identified in Article 3 hereto, for this Agreement. The completed Hidalgo County Certificate of Insurance shall be attached hereto and identified as **EXHIBIT "G"**- *Hidalgo County Certificate of Insurance*. The **Engineer** will be considered in breach of contract should the **Engineer** fail to maintain an insurance policy in the minimum limits of liability and requirements identified above while performing services for and under this Agreement, and will be subject to default and termination of the Agreement as outlined in Article 3.4 hereto. Additionally, the **Engineer** covenants and agrees to use its best efforts to maintain an insurance policy in the minimum limits of liability and requirements identified above until one year following the date of the acceptance of the **Project** by **Owner.**

ARTICLE 22. Compliance with Laws. The **Engineer** shall comply with all applicable Federal, State and local laws, statutes, codes, ordinances, rules and regulations and the orders and decrees of any court, or administrative bodies or tribunals in any manner affecting the performance of this Agreement including, without limitation, worker's compensation laws, minimum and maximum salary and wage statutes and regulations and licensing laws and regulations. When required the **Engineer** shall furnish the **Owner** with satisfactory proof of its compliance therewith.

ARTICLE 23. Non-collusion. The **Engineer** warrants that the **Engineer** has not employed or retained any company or persons, other than a bona fide employee working solely for the **Engineer**, to solicit or secure this Agreement, and that the **Engineer** has not paid or agreed to pay any company, engineer or any other person or entity any fee, commission, percentage, brokerage fee, gifts or any other consideration contingent upon or resulting from the award or execution of this Agreement. For breach or violation of this warranty the **Owner** shall have the right to annul this

Agreement without liability or, in the **Owner's** discretion, to deduct from the *Services Fee*, or otherwise recover, the full amount of each fee, commission, percentage, brokerage fee, gift or contingent fee.

ARTICLE 24. Gratuities. The **Owner** mandates that employees of the **Owner** shall not accept any benefits, gifts or favors from any person doing business or who reasonably speaking may do business with the **Owner** under this Agreement; the only exceptions allowed are ordinary business meals. Any person doing business with or who may reasonably seeking to do business with the **Owner** under this Agreement may not make any offer of benefits, gifts or favors to **Owner** employees, except as mentioned herein above. Failure on the part of the **Engineer** to adhere to this provision may result in the termination of this Agreement.

ARTICLE 25. Payment of Franchise Tax. The **Engineer** hereby certifies that the **Engineer** is not delinquent in Texas franchise tax payments, or that the **Engineer** is exempt from, or not subject to, such as tax. A false statement concerning corporation's franchise tax status shall constitute grounds for termination of the Agreement at the sole option of the **Owner.**

ARTICLE 26. Disputes. The **Engineer** shall be responsible for the settlement of all contractual and administrative issues arising out of any procurement made by the **Engineer** in support of the services under this Agreement.

ARTICLE 27. Severability. In the event any one or more of the provisions contained in this Agreement shall for any reason, be held to be invalid, illegal, or unenforceable in any respect such invalidity, illegality or unenforceability shall not affect any other provision thereof and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein .

ARTICLE 28. Notices. All notices to either party by the other required under this Agreement shall be personally delivered or mailed to such party at the following respective addresses:

OWNER	**ENGINEER**
Hidalgo County	**L & G Consulting Engineers, Inc.** d/b/a
302 W. University Drive	**L&G Engineering**
Edinburg, Texas 78539	2100 West Expwy 83
	Mercedes, Texas 78570

The Address may be changed by either party by written notice and notice sol mailed shall be effective upon mailing.

ARTICLE 29. Miscellaneous Provisions.

(a) This Agreement constitutes the entire Agreement between the **Engineer** and the **Owner** relating to the work herein described and supersedes any prior understanding or written or oral contracts between the parties respecting the subject matter defined herein. These are no previous or contemporary representations or warranties of the **Owner** or the **Engineer** not set forth herein.

(b) Except as specifically provided herein no modification, waiver, termination, rescission, discharge or cancellation of this Agreement or of any terms thereof shall be binding on the **Owner** unless in writing and executed by an officer or employee of the **Owner** specifically authorized to do so.

(c) No waiver of any provision of or a default under this Agreement shall affect the right of the **Owner** thereafter to enforce said provision or to exercise any right or remedy in the event of any other default whether or not similar.

(d) No modification, waiver, termination, discharge or cancellation of this Agreement or of any terms thereof shall impair the **Owner's** right with respect to any liabilities whether or not liquidated of the **Engineer** to the **Owner** theretofore accrued.

(e) All rights and remedies of the **Owner** specified in this Agreement are in addition to the Owner's other rights and remedies.

(f) The **Engineer** shall remain an independent contractor and shall have no power nor shall the **Engineer** represent that the **Engineer** has any power to bind the **Owner** or to assume or to create any obligation express or implied on behalf of the **Owner** except as specifically authorized in advance by the **Owner.**

(g) The Agreement shall be construed under the laws of the State of Texas and is performable in Hidalgo County, Texas.

(h) This Agreement may only be amended by a written document executed by the Owner and the **Engineer** as provided by Article 8 herein.

ARTICLE 30. Signatory Warranty The undersigned signatory or signatories for the **Engineer** hereby represent and warrant that the signatory is an officer of the organization for which he or she has executed this Agreement and that he or she has full and complete authority to enter into this Agreement on behalf of the **Engineer.** The above-stated representations and warranties are made for the purpose of inducing the **Owner** to enter into this Agreement.

WITNESS WHEREOF, the **Engineer** and the **Owner** have caused this **Agreement for Professional Services** to be effective as of the _____ day of _____, 2018.

ENGINEER:
L & G CONSULTING ENGINEERS INC.
d/b/a **L & G ENGINEERING**

BY: _____
Jacinto Garza, P.E./President

OWNER:
HIDALGO COUNTY

BY:_____
Ramon Garcia, County Judge

ATTEST:

_____
Arturo Guajardo, Jr., County Clerk

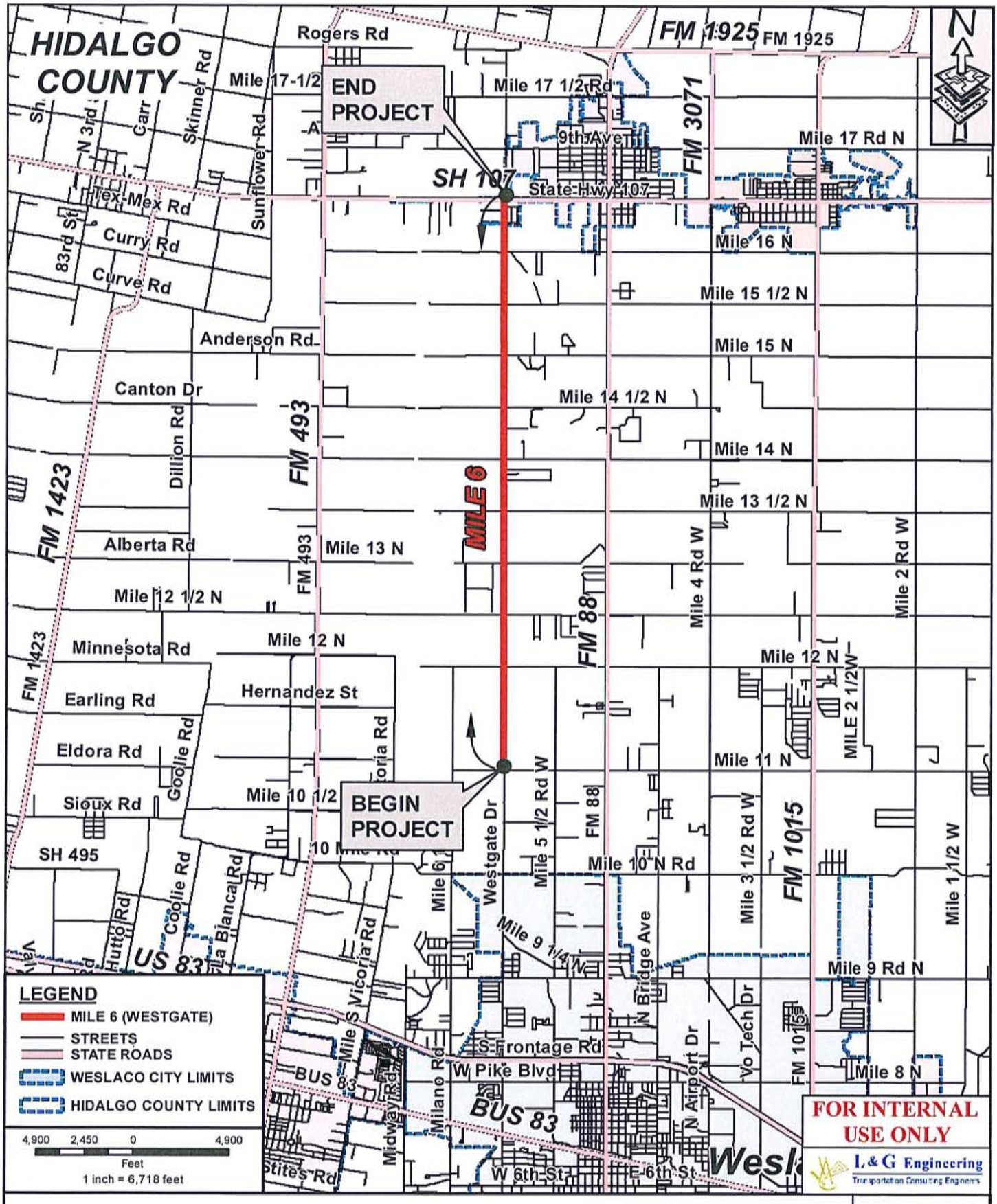
Approved by Commissioners' Court on: _____, 2018

APPROVED AS TO FORM:
Atlas, Hall & Rodriguez, L.L.P.

By:_____

ATTACHMENTS:

LOCATION MAP
EXHIBIT A – Scope of Services to be provided by the Owner
EXHIBIT B – Scope of Services to be provided by the Engineer
EXHIBIT C – Work Schedule
EXHIBIT D – Contract Rates
EXHIBIT D-1 – Estimated Project Fee Schedule
EXHIBIT E – Sample Work Authorization Form
EXHIBIT F – Sample Supplemental Agreement Form
EXHIBIT G – Certificate of Insurance (*Hidalgo County)*



MILE 6 (WESTGATE DRIVE) LOCATION MAP

FROM MILE 11 TO SH 107

APPROX. TOTAL PROJECT LENGTH 5.5 MILES

WESLACO

THE COUNTY OF HIDALGO TEXAS

EXHIBIT "A"

Services to be provided by the County

1. The County will issue work authorization to initiate all required services and designate the authorized representative of the coordination of each work authorization.

2. The County will provide copies of all subdivision plats of record and/or in the subdivision process.

3. The County will provide the Engineer with on-going guidance, timely reviews, and decisions necessary to complete services required by the work authorization in order to permit the Engineer to maintain an agreed upon project schedule.

4. The County will process all acceptable requests for payment in a timely manner.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 1-PROJECT DESCRIPTION

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY: HIDALGO COUNTY

CONTROL: _____

PROJECT/DESCRIPTION: PROFESSIONAL ENGINEERING SERVICES

LENGTH: 5.5 Miles

HIGHWAY: Mile 6

LIMITS: FROM MILE 11 TO SH 107

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification)

___ Surface Treatment
___ Overlay
___ Rehabilitation Existing Road (Scarify & Reshape)
___ Convert Non-Freeway to Freeway
___ Widen Freeway
___ Widen Non-Freeway
___ New Location Toll Freeway
___ New Location Non-Freeway
___ Interchange (New or Reconstruct)
___ Bridge Widening or Rehabilitation
___ Bridge Replacement
___ Upgrade to Standards - Freeway
___ Upgrade to Standards - Non-Freeway
___ Miscellaneous Studies (Use Function Code 110 for All Tasks)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation and/or City of _____.

COUNTY shall mean _____County.

CITY shall mean the City of _____.

LPA shall mean _____.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 2 – LEVEL OF SERVICE ANALYSIS AND ENGINEERING
(Function Code 102)

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	Preliminary Design Values *The Engineer will work with the Owner to establish basic design concepts, project controls and general scope of Projects.*
___	___	Preliminary Route Locations on Uncontrolled Mapping *The Engineer will evaluate various alternatives (route locations, alignment shifts, geometry) for the Project.*
___	___	Uncontrolled Mapping (w/Contours & GIS Info) *The Engineer will investigate the existing routes and coordinate with the Owner on establishing the best-fit alignments and mapping proposed geometry for Projects. Preliminary Location Exhibit will be developed.*
___	___	Preliminary Traffic Evaluations & Trends *The Engineer will investigate existing traffic models and trends for the proposed Projects and adjacent roadways tying into the proposed Projects.*
___	___	Preliminary Hydrologic Map *The Engineer will develop a Hydrologic Map for the Projects. Hydrologic Maps will be based on LIDAR and GIS information.*
___	___	Preliminary ROW Requirements *The Engineer will research and identify affected property owners on the Projects utilizing the latest appraisal district file information from Hidalgo County Appraisal District and information from Carson Maps.*
___	___	Preliminary Cost Estimates *The Engineer will calculate preliminary construction cost estimates for the location and geometry of the Projects.*
___	___	Preliminary Environmental Analysis (for fatal flaws) *The Engineer will perform Preliminary Environmental Constraint Mapping to determine if any fatal flaws exist along the proposed alignment.*
___	___	Project Fact Sheet with Est. Local Cost vs. Total Project Cost *The Engineer will produce a Project Fact Sheet providing summaries of all pertinent items in this scope of services (as required) and providing estimated local costs vs. total project costs for the Projects.*
___	___	Meetings, Coordination & Support for Project Development *The Engineer shall provide coordination services and shall assist in meetings and workshops with TxDOT, Hidalgo County, Hidalgo County Drainage District No. 1 and Hidalgo County Irrigation Districts, and all other affected parties. The Engineer shall serve as representative for the Owner in coordination items. The Engineer shall coordinate with the Owner's staff on all Project related items.*

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 3 - ROUTE AND DESIGN STUDIES

(Function Code 110)

Services Provided By: ENGINEER	CITY/COUNTY		
___	___	1.	Route Location Studies
___	___	2.	Level of Service Analysis
___	___	3.	Traffic Evaluations and Projections
___	___	4.	Develop Roadway Design Criteria
___	___	5.	Preliminary Cost Estimates
___	___	6.	Design Schematic (See Section 7, page 7-1 for schematic layout requirements)
___	___	7.	Preliminary Right-of-Way Requirements
___	___	8.	Design Concept Conference
		9.	Soil Core Hole Drilling
___	___		a. Pavement (See Section 7, pages 7-2 thru 7-3 for requirements)
___	___		b. Retaining Walls (See Section 10, page 10-1 for requirements)
___	___		c. Miscellaneous Structures (See Section 10, page 10-3 for requirements)
___	___		d. Bridges (See Section 11, page 11-2 thru 11-3 for requirements)

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 4 - SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

(Function Code 120)

Services Provided By: ENGINEER	CITY/COUNTY	
		1. Environmental Reports All Environmental Reports shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations, Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
		a. Environmental Assessments
___	___	(1) An Environmental Assessment shall be prepared, anticipating a Categorical Exclusion.
___	___	(2) An Environmental Assessment shall be prepared in accordance with 23 USC 327 and the 2014 TxDOT-FHWA Memorandum of Understanding, anticipating a Finding of No Significant Impact.
___	___	(3) An Environmental Assessment shall be prepared, anticipating the need for a Draft Environmental Impact Statement.
		b. Environmental Impact Statement
___	___	(1) A Draft Environmental Impact Statement shall be prepared. After appropriate interagency and public reviews within time limits prescribed by the Code of Federal Regulations, Title 23, Part 771 and 43 Texas Administrative Code 2.40-2.51, a Final Environmental Impact Statement shall be prepared.
___	___	(2) A Section 4(f) Statement (Department of Transportation Act) shall be provided by the ENGINEER. The format and content of the statement is found in FHWA Technical Advisory T6640.8A.
		2. Public Involvement All public involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
___	___	a. A public involvement meeting(s) and public hearing shall be scheduled, coordinated and conducted.
___	___	b. Technical assistance for one public meeting and one public hearing, preparation of, and maintenance of contact lists, minutes of meeting(s), exhibit preparation, and other tasks outlined by the COUNTY, shall be provided.
___	___	c. A Notice of Availability (NOA) shall be published by the COUNTY upon approval of the environmental decision.
		3. Technical Reports All technical reports shall be prepared in accordance with TxDOT's environmental rules and guidelines.
___	___	a. Air Quality Analysis An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis shall be provided as a Technical Report and a summary of the air quality results included in the administratively complete document for the project.
___	___	b. Biological Technical Report A biological form and technical report shall be prepared in accordance with the STATE'S Biological Guidelines. The report will include water resources, and threatened and endangered species.
		c. Cultural Resources Historical and archeological studies shall be completed in accordance with the STATE'S guidelines.

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	(1) Historic Structure Studies A records search, project coordination request, and reconnaissance survey shall be performed, and documentation prepared regarding identification efforts, National Register eligibility and potential impacts to historic properties in accordance with the state's historic structure requirements.
___	___	(2) Archeological Studies File searches, project coordination request, an archeological reconnaissance, and an archeological survey shall be conducted to determine if known archeological sites are present or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
___	___	d. Community Impact Analysis A community impact analysis shall be prepared in accordance with the STATE'S Community Impact Guidelines.
___	___	e. Hazardous Materials The consultant shall perform an Initial Site Assessment (ISA) for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process) and a Hazardous Materials Technical Report, as needed.
___	___	f. Indirect and Cumulative Impacts Analysis An indirect and cumulative impacts analysis shall be prepared in accordance with the STATE's guidelines.
___	___	g. Noise Analysis A noise analysis shall be prepared, including predicted noise levels and the consideration and evaluation of noise mitigation, in accordance with the STATE'S Noise Guidelines. The noise analysis shall be provided as a Technical Report and a summary of the noise analysis results shall be included in the administratively complete document.
___	___	4. Environmental Scoping The ENGINEER shall initiate the environmental scoping process with TxDOT. An environmental scoping document and risk assessment will be completed in coordination with TxDOT.
___	___	5. General Guidelines for Preparation of Environmental Documents
		a. All technical reports will be submitted electronically to TxDOT through their FTP site.
		b. The draft administratively complete document will be submitted to TxDOT electronically through their FTP site.
		c. The administratively complete document will be prepared in accordance with the content and format of FHWA Technical Advisory T6640.8A and the TxDOT Administrative Code 43 TAC §2.44.
		d. The administratively complete document will be submitted to TxDOT electronically through their FTP site.
		e. Upon completion and approval of the administratively and technically complete document, the Engineer will provide one (1) hard copy to the Client. All copies to TxDOT will be digital.
		f. Exhibits in the environmental document shall be color copies and text shall be black and white.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 5 - RIGHT-OF-WAY DATA

(Function Code 130)

Services Provided By:
SURVEYOR CITY/COUNTY

NOTE: No work involving right-of-way (ROW) data is to be performed until the ENGINEER has given the SURVEYOR written approval of the final location of the proposed ROW lines as approved by TxDOT and the CITY.

A. RIGHT-OF-WAY MAPPING:

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:
   2.1. Abstract Map – 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.
   2.2. 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.
   2.3. Access Denial Line – A line which indicates specific location where access to the roadway is denied.
   2.4. Property Descriptions – 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.
   2.5. Owner – The most current title holder of record as determined by a study of the Real Property Records.
   2.6. Parcel Plat – An 8 ½ inch by 11 inch drawing to scale depicting all the information shown on the right-of-way map regarding an individual parcel of land to be acquired.
   2.7. 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.
   2.8. 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 should include public right-of-ways, utility easements and fee strips, and identifiable water courses which bound the parent tract.
   2.9. 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.
   2.10. 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 should 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.

Services Provided By:
SURVEYOR CITY/COUNTY

2.11. Preliminary Right-of-Way Layout/Abstract Map – 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, 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 angle point in the existing right-of-way lines in areas of no proposed acquisition. *(Reference Sample Attached)*

2.12. Right-of-Way Maps/Property Description/Parcel Plats – A series of 22 inch by 34 inch and 11 inch by 17 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, 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. *(Reference Sample Attached)*

3. WORK TO BE PERFORMED:

___ ___ 3.1. Preliminary Right-of-Way Layout/Abstract Map:

An abstract map shall be prepared sufficient to determine the following:

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

3.1.2 The total record holdings of an owner contiguous to land to be acquired from that owner.

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

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

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

3.1.6. Preliminary Parcel numbering system.

3.1.7. Any and all utilities (permitted or of record)

3.1.8. Reference Sample provided.

___ ___ 3.2. Right-of-Way Map:

The SURVEYOR shall field locate property corners, existing right-of-way markers, improvements, visible utilities, verify and update the planimetric file, if provided, and as directed by the ENGINEER.

A right-of-way map shall be prepared for each proposed right-of-way project. A right-of-way map shall include a title sheet, an index sheet, a survey control index sheet, a horizontal and vertical control data sheet, and sufficient plan sheets to cover the proposed project, or as directed by the ENGINEER. 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. Plan sheets shall include, but need not be limited to, the following items of information.

By mutual agreement between the Texas Board of Professional Land Surveying and the TxDOT, right-of-way maps need not be signed and sealed by a Registered Professional Land Surveyor.

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

3.2.2. Existing right-of-way lines shall be delineated with appropriate bearings, distances, and curve data to the extent necessary to 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.

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___	___

3.2 *Right-of-Way Map Continued (continued)*

3.2.3. The proposed project baseline alignment shall be delineated with appropriate bearings, distances, and curve data. Curve data shall 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 shall be labeled as to station.

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

3.2.5. Access denial lines shall be shown sufficiently to indicate areas where access is to be denied and where access is to be permitted if required by the ENGINEER.

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

3.2.7. Porción lines, subdivision lines and survey lines shall be shown and identified by name and Porción number.

3.2.8. County lines and city limit lines shall be located and identified by name.

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

3.2.10. Monumentation set or found shall be shown and described as to material and size.

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

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

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

3.2.14. Utility corridors shall be identified as to easement or fee and recording information shall be identified.

3.2.15. Easements and fee strips shall be shown and identified by width, owner, distance of easement to a property corner of the parent track, and recording data.

3.2.16. Building lines or set-back lines shall be shown and identified.

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

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

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

3.2.20. Parking areas, billboards, and other on-premise signs which are severed by a proposed right-of-way line shall be dimensioned to the extent necessary to delineate that portion of the parking area, billboard, or sign which is located within the proposed right-of-way corridor.

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___	___	3.2 *Right-of-Way Map Continued (continued)*

3.2.21. In cases where structures are located outside the proposed right-of-way corridor and within 25 feet of a proposed right-of-way line, the shortest distance between the structure and the proposed right-of-way line shall be shown and field verified.

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

3.2.23. The location of underground utilities and fuel storage tanks situated within the proposed right-of-way corridor or within 50 feet of a proposed right-of-way line shall be determined and shown as required by the ENGINEER. The visible location of stand pipes, vents and filler caps in conjunction with available design and as-built drawings may be used to determine a most probable location and size in the event an actual location is indeterminable.

3.2.24. Points of commencing and points of beginning shall be shown and labeled. Points of beginning shall 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.

3.2.25. Each parcel of land to be acquired shall 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, he shall seek the assistance of the ENGINEER at the time the abstract map is complete. THE SURVEYOR SHALL SEEK ASSISTANCE FROM THE ENGINEER IN DEVELOPING AN OWNERSHIP TABULATION TABLE.

3.2.26. An ownership tabulation shall be shown which shall include 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/or right of the centerline alignment. Types of conveyance, film code and file numbers refer to conveyances into the STATE and will be added to the right-of-way map by the STATE at a later date. Several blank lines shall be provided in the tabulation block to facilitate future map additions.

3.2.27. A parent tract inset shall be shown for each parent tract which cannot be shown to scale on the right-of-way map. The use of broken scale lines should 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.

3.2.28. A note shall be included on the title sheet and each map sheet stating the source of bearings, coordinates, and datum used.

3.2.29. Appropriate notes shall be included on the title sheet and each map sheet stating the following:

a. Month(s) and year abstracting upon which the map is based.
b. Month(s) and year field surveys were conducted upon which the map is based.
c. Month and year the map was completed by the SURVEYOR.

3.2.30. The right-of-way CSJ number, if available, shall be shown on each right-of-way map sheet.

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3.3. Exhibits:
An Exhibit shall be prepared for each parcel or tract consisting of a property description and a parcel plat.

___ ___ 3.3.1. Property Description:

A property description shall be prepared for each parcel of land to be acquired. Standard formats for property descriptions, copies of which the SURVEYOR shall request to the ENGINEER and secure for all purposes of this Contract. Property descriptions shall include, but need not be limited to, the following items of information.

All property descriptions shall be signed and sealed by a Registered Professional Land Surveyor. The property description shall begin with a general description which shall include as a minimum:

a. State, County, and Survey within which the proposed parcel of land to be acquired is located.
b. A reference to unrecorded and recorded subdivisions by name, lot, block, and recording data to the extent applicable.
c. 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. Use execution dates in deed references as opposed to recording or filing dates. In any case, the property description shall make clear which date is being used.
   The property description shall continue with a metes and bounds description which shall include as a minimum:
d. A point of commencing.
e. A point of beginning with the appropriate N and E surface coordinates.
f. 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 shall include the radius, delta angle, arc length, and long chord bearing and distance. Each course shall be identified either as a proposed right-of-way line, and existing right-of-way line, or a property line of the parent tract. Each property line of the parent tract shall be described with an appropriate adjoiner call.
g. A description of all monumentation set or found shall include, as a minimum, size and material.
h. A reference to the source of bearings, coordinates, and datum used.

___ ___ 3.3.2. Parcel Plat:
A parcel plat shall 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 from the ENGINEER and secure for all purposes in this Contract. Parcel plats shall include each and every item of information shown on the right-of-way map which concerns the individual parcel. All parcel plats shall be signed and sealed by a Registered Professional Land Surveyor.

Services Provided By: SURVEYOR	CITY/COUNTY	
		4. DELIVERABLES: In preparing right-of-way maps, the following is an outline of the work to be submitted (records should be delivered in a binder):
___	___	4.1. An Abstract Map of the current record title holders included in the Preliminary Map showing the proposed schematic and existing right-of-way as per General Specifications defined in 2.11.
___	___	4.2. 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 as per General Specifications defined in 2.12, 3.2 and 3.3.
		ROW Map Submittal Requirements:
		4.2.1. Two (2) paper sets of half-size ROW maps (11"x 17")
		4.2.2. One (1) paper set of the full-size ROW maps (22"x 34")
		4.2.3. Four (4) sets of original metes & bounds descriptions (field notes) with parcel plats (signed & sealed by the surveyor). *Do not include traverse sheet.*
		4.2.4. City requires one (1) electronic copy of the ROW Map on a CD, and One (1) copy of the DGN electronic file on a CD from the surveyor-Both the electronic copy of the ROW Map and the DGN file can be on one CD.
		IF Roadway is ON-SYSTEM and after Administrative Approval of the ROW Maps by Division (REVISIONS) Submittal Requirements:
		4.2.5. Two (2) paper sets of the half-size of the affected ROW map sheets (11"x17"), detailing the revision
		4.2.6. One (1) paper set of the full-size of the affected ROW map sheets (22"x 34"), detailing the revision
		4.2.7. Four (4) sets of any revised original metes & bounds descriptions (field notes) with parcel plats (signed & sealed by the surveyor). *Do not include traverse sheet.*
		4.2.8. Division needs one (1) electronic copy of the revised ROW Map sheets on a CD, and
		4.2.9. One (1) copy of the DGN electronic file on a CD from the surveyor-detailing the revision-Both the electronic copy of the revised ROW Map sheets and the DGN file can be on one CD.
___	___	4.3. Appropriate monuments 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 1,000 foot stations of the proposed centerline alignment.
___	___	4.4. Appropriate monuments on the existing right-of-way lines in areas of no acquisition at all PCs, PTs, angle points, and 1,000 foot stations, and as directed by the ENGINEER of the proposed centerline.
___	___	4.5. A SURVEYOR's report, outlining the approach, reasons or basis for the existing right-of-way determination, and conclusions made.
___	___	4.6. Records used to establish ownership.
___	___	4.7. ROW and parcel filed notes signed and sealed by a RPLS.
___	___	4.8. Computation sheets of survey closures, ground surveys, etc. used to develop plats and meets and bound information.
___	___	4.9. Items indicated under the Automation Requirements Section 6.
___	___	4.10 Completed (Attached) Checklist with submittal of ROW Map etc.

Services Provided By:
SURVEYOR CITY/COUNTY

5. GENERAL REQUIREMENTS:

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

5.1. Copies of instruments of record submitted to the ENGINEER shall be indexed by parcel number.

5.2. Coordinates appearing on right-of-way maps, on parcel plats, and in property descriptions shall be surface coordinates based on the Texas State Plane Coordinate System. The combined adjustment factors (sea level factor x scale factor) which have been developed by the STATE for its use are as follows:

5.2.1. In (List Applicable Counties): Counties (---------- Zone), grid coordinates are multiplied by a combined adjustment factor of 1.xxxxxx to obtain surface coordinates. For work in Counties other than those listed, the ENGINEER will provide the combine adjustment factor.

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

5.4. The number of centerline alignment stations to be shown on a single plan sheet shall be restricted to the extent necessary to allow approximately 4 inches between match lines and sheet borders for future details and notes.

5.5. A minimum 4 inch by 4 inch space shall be reserved at the bottom right corner of each map sheet for future revision notes.

6. AUTOMATION REQUIREMENTS:

In addition to standard hard copy plots and mylar copies, the following will be required electronically:

6.1. Right-of-way maps and parcel plats shall be prepared using a *Micro Station* software graphics system capable of producing graphics files that can be plotted and viewed without further modification or conversion using the State's *Micro Station V8* graphics system.

6.2. It is the intent of the ENGINEER to secure graphics files which have elements of equal integrity, singularity, and attributes as elements prepared using the State's *Micro Station V8* graphics system.

6.3. For purposes of clarity, consistency, and ease of utilization, the SURVEYOR shall request and secure standards relevant to right-of-way mapping to the extent necessary to ensure that the needs of the ENGINEER are met. This includes, but may not be limited to, TxDOT seed file and corresponding units.def file, TxDOT font resource file, TxDOT GEOPAK SMD file, TxDOT DGNLIB, associated cell libraries and custom line styles, and other files as deemed appropriate for the project.

6.4. Graphics files furnished to the ENGINEER by the SURVEYOR shall be submitted on a Compact Disk CD, DVD or USB, in a format compatible with the STATE's computer system. The SURVEYOR shall confer with the ENGINEER regarding acceptable media and formats before making submissions. The SURVEYOR shall request and secure a Consultant File Index form provided by the ENGINEER, to be completed by the SURVEYOR, and to be submitted to the ENGINEER along with the graphics files.

6.5. Property descriptions shall be prepared using a computer word processing system capable of producing data files readable using *Microsoft Office Word Version 2007* word processing software.

6.6. Data files furnished to the ENGINEER by the SURVEYOR shall be submitted in ACSII format on a CD, DVD or USB.

6.7. Provide to the ENGINEER electronic copies of all instruments of record acquired pursuant to a work authorization.

Services Provided By:
SURVEYOR CITY/COUNTY

7. GENERAL SPECIFICATIONS:

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

7.1. Completed right-of-way maps shall be submitted to the ENGINEER on single or double matte mylar, 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. Two copies on 11 inch by 17 inch paper will also be supplied to the ENGINEER.

7.2. Parcel plats shall be submitted to the ENGINEER 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 shall be used where more than one sheet is required.

7.3. Right-of-way maps shall 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 upon prior approval by the ENGINEER.

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

7.5. Parcel plats shall 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 upon prior approval by the ENGINEER. 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.

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

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

7.8. The ENGINEER has encountered a number of mylar products which are considered unacceptable. The SURVEYOR shall confer with the ENGINEER regarding mylar products he intends to use which have not been previously used on State projects.

7.9. Zip-A-Tone or other similar stick-on products shall not be used on right-of-way maps or parcel plats.

8. ADHERENCE TO STANDARDS:

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

SAMPLES ATTACHED FC 130:

- PRELIMINARY Right-of-Way Layout / Abstract Map
- Right-of-Way Map, Field Notes, Parcel Sketches and Area Computation Sheets

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ROW MAP CHECKLIST

Consultant: _____
Contract/WA# _____
Responsible Office: _____
Project Manager: _____
County: _____
Highway: _____
RCSJ: _____
CCSJ: _____

As the responsible consultant project manager, I hereby certify that the attached ROW Map has undergone a QA/QC review, with the following applicable items specifically checked for accuracy, completeness and constructability (as noted by Checkmarks)

_____
Signature Date

_____
Printed Name

(This Checklist must be signed by the RPLS and turned in with all proposed ROW Projects.

MAP:

General

___ All documents have been proofread and are accurate.
___ Title Commitments for each individual parcel.
___ Graphics files compatible with Micro station and Word software are provided.
___ Photos of proposed ROW staking included.
___ Field notes and Parcel Plats are numbered continuous.
___ Scale shall be 1"=50' or 1"=100".

Title Sheet Requirements

___ Title and description of project including county, limits, etc....
___ Vicinity map with beginning and ending station
___ Equations and Exceptions
___ Index
___ Legend
___ Title block completely filled out with Construction and R.O.W. CSJs'
___ List all Major Utilities from Station to Station

Individual Map Sheet Requirements

___ Sheet size 34" X 22"
___ Text legible when reduced to half-scale.
___ Title block completely filled out with R.O.W. CSJ
___ Matchlines
___ Project layout sheet
___ Existing utility lines and easements, deed reference, as shown on Schedule "B" of the Title Commitment, and defined on parcel plats

Existing information:

___ R.O.W. lines
___ Whole property or whole property inset
___ Roadways
___ Survey, county, and city limit lines shown and labeled
___ Improvements shown and labeled *(see below)*
___ Monumentation i.e. P.C., P.T., Break Points
___ North arrow
___ Scale
___ Property lines

___ Property descriptions i.e., lot, block, tract, subdivision, etc…
___ Identify existing and proposed access denial locations *(if applicable)*

Proposed information:
___ #5- 2-ft iron road set monumentation i.e. P.C., P.T., Break Points and 1000' stations at proposed ROW lines and where existing ROW line is the proposed ROW.
___ Survey and R.O.W. lines
___ Basis of bearings
___ Parcel bearings and distances correspond with traverse sheet
___ Outside ties (P.O.C.) corresponds with field notes
___ Point of beginning (P.O.B.) established on proposed R.O.W. line
___ Parcel tied to baseline
___ Baseline information shown i.e. Stationing, bearings, curve data, etc…
___ Conveyance information shown in tables i.e. parcel number, grantors name, amount of take, remainder etc.
___ Math checked on remainder

Improvements:
___ Improvements bisected or within 25' of proposed R.O.W. line are shown on map with stationing and distance from proposed R.O.W. line. Buildings are labeled and dimensioned.
___ Off-premise outdoor advertising signs within proposed R.O.W. are shown and labeled.

Utilities:
___ All utilities within or crossing existing and proposed right of way are shown and labeled as to size, easement or fee width, and recording data of instrument.
___ Location of underground storage tanks and/or filler caps are shown and labeled

FIELD NOTES - Heading
___ County
___ Highway
___ Parcel number
___ R.O.W. CSJ
___ Construction CSJ

General Description or "preamble"
___ Area of parcel to be acquired is shown in acreage (0.000) for rural land and/or square feet (to nearest whole sq. ft.) for urban land or smaller parcels
Parent tract data is shown:
___ Size of parent tract
___ Survey data or lot, block, and subdivision
___ Name of last recorded seller and buyer
___ Date, volume and page or document number of last recorded conveyance
___ Records and county of last recorded conveyance

Beginning Description
___ Point of commencement is on outside tie and is described accurately by bearings and distances as it leads to the point of beginning.
___ Point of beginning is on proposed R.O.W. line

Particular Description
___ Traverse calls are clockwise sequence
___ Bearings and distances correspond exactly with map, parcel sketch, and traverse sheet
___ Bearings are to nearest whole second and distances are to the nearest one-hundredth of a foot
___ Calls are numbered
___ Denial of access shall be described from beginning to end *(if applicable)*

Closing Description
___ Last call leads back to P.O.B.
___ Restates area of parcel

___ Establishes taking in existing road R.O.W. if applicable
___ Legal description is referenced to Plat
___ Sealed and signed
___ Include an access clause whether access is permitted or denied *(if applicable)*

PARCEL SKETCH:

___ Shows P.O.B. and P.O.C.
___ All data corresponds exactly with Map and Field Notes
___ Sheet size is no larger than 81/2" x 11"
___ Plat closely matches example provided
___ Plat referenced to legal description
___ Sealed and signed
___ Include an access clause whether access is permitted or denied *(if applicable)*
___ Existing utility lines and easements (deed reference, if available);

TRAVERSE SHEET

___ Computations show area to be acquired in sq. ft. or acres, whichever is applicable
___ Computations show area that is existing road R.O.W. if applicable
___ Traverse calls are in clockwise sequence
___ Error of closure meets the following:

Secondary rural	.0003
Primary rural - secondary urban	.0002
Urban or industrial	.00013

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 6 - FIELD SURVEYING AND PHOTOGRAMMETRY

(Function Code 150)

Services Provided By:
SURVEYOR CITY/COUNTY

DESIGN AND CONSTRUCTION SURVEYS:

PURPOSE:

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

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

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, cross-sections or data to create cross-sections and Digital Terrain Models (DTM), horizontal and vertical location of utilities and 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.

1. **Design Surveying**

___ ___ a. Primary Project Control – 3 to 5 miles spacing
Precision shall be 1 part in 20,000 or better, unless otherwise directed by the District Engineer.
(1) Establish horizontal control points
(2) Establish vertical control points

NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE. ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960

___ ___ b. Secondary Project Control – Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Control Data Sheets for inclusion in the Construction Project Plans signed and sealed by an R.P.L.S.
(1) No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.
(2) The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
(3) The unadjusted ratio of precision should be one part in 10,000 or better. (The ratio of precision is the total length of the traverse divided by the total error.)
(4) The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.
(5) Project control base lines

___ ___ (6) Photogrammetric ground control
(a) Establish horizontal control
(b) Establish vertical control points
(c) Place and maintain control point targets

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: SURVEYOR	CITY/COUNTY	
___	___	c. Other Design Surveying

(1) **The limit of the Design surveys shall be 500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set H&V Control at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each H&V Control. Provide an H&V Control along each outfall identified on the Hydrologic Map. The H&V Control shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Control Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'/ft per mile error vertically.

(2) Complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.

(3) Locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.

(4) Field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).

(5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.

(6) The Surveyor shall stake the proposed centerline on the existing fields as approved by Engineer before construction for the purpose of utility adjustments and project location.

(7) Profile and cross section intersecting streets for ties into project (500-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.

(8) Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtances as identified by the engineer sample layout "EXHIBIT E". The SURVEYOR will meet with the ENGINEER before he ties down any irrigation lines. Jointly the SURVEYOR and the ENGINEER will identify from records such as the Irrigation District Maps and the A&M Data of existing irrigation lines that will need to be tied down. The SURVEYOR will follow the sample given to him by the ENGINEER and tie the structures horizontally and vertically and include in the field books to be submitted.

(9) Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.

(10) Tie to existing underground and overhead utilities (location, elevation and direction)

Horizontally – The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.

Vertically – The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: SURVEYOR	CITY/COUNTY	
___	___	(11) Cross section and profile all outfall channels identified on the Hydrologic Map for a distance of 200-ft beyond the proposed ROW upstream and downstream at 100-ft intervals. The SURVEYOR will provide a complete 2D/3D File including utilities of the outfalls identified.
		(12) Driveways and Turnouts (a) Inventory commercial entrances, public roads and side streets separately. (b) Obtain centerline station. (Width at ROW, PAV'T and existing radius. (c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes. (d) Obtain width at R.O.W. line. (e) Obtain elevations at both edges of the driveway or turnout in line with the side drain.
___	___	(13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map)
___	___	(14) Soil core hole staking at bridge class structures.
___	___	(15) Determine changes in topography from voids and outdated maps due to development, erosion, etc.
___	___	(16) Profiles of existing drainage facilities.
___	___	(17) Measurement of hydraulic opening under existing bridges.
___	___	(18) Obtain elevations of manholes and valves of utilities
___	___	(19) Provide temporary signs, traffic control, flags, safety equipment, etc.
___	___	(20) Ties to existing bridges railroad rail elevations or culverts that may conflict with new construction.
___	___	(21) Bridge widening top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.
___	___	(22) Inventory signs, mailboxes, and driveways
___	___	(23) Locate wetlands.
___	___	(24) Locate existing right-of-ways.

d. Construction Surveys:

In performing construction surveys, the following will be requested by the ENGINEER on an as needed basis, but need not be limited to:

___	___	(1) Stake existing and/or proposed right-of-ways.
___	___	(2) Stake existing and/or proposed baseline/centerline.
___	___	(3) Stake proposed bridge structures.
___	___	(4) Stake proposed drainage structures, such as manholes, culverts, etc.
___	___	(5) Set grade stakes.
___	___	(6) Recover and check existing control points.
___	___	(7) Establish additional control points.
___	___	(8) Check elevations and locations of structures.
___	___	(9) Determine and resolve conflicts associated with survey data.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By:
SURVEYOR CITY/COUNTY

2. Photogrammetric Products

a. Uncontrolled Photography
   (1) Contact Prints
   (2) Mosaics
   (3) Digital ortho plots

b. Mapping
   (1) Planimetric Maps
   (2) Contour Maps
   (3) Cross Sections
   (4) Profiles
   (5) Digital Terrain Models (DTM)

3. UTILITY SUBSURFACE INVESTIGATION:

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

3.1. Quality Level C - Existing Records: Utilities are plotted from review of available existing records that will be generated by the Engineer on the schematic and provided to the surveyor for his further creation of a Utility Map which will be turned in as a deliverable as part of this work order.

3.2. Quality Level B - Surface Visible Feature Survey: The Surveyor shall gather the field tied Utility Information and compare it to the existing records (if any) as provided by the Engineer and correlate with surveyed surface-visible features. The surveyor shall create a Utility Layout Map or plan layout 2D, showing the limits of the proposed project and limits of the work area required for this work authorization; including highway stations, limits within existing or proposed right of way. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Layout Map will include all utilities that have been field tied – 2D Horizontal Utilities. This Layout will be provided to the Engineer and a meeting held with Engineer to identify which utilities will need to be tied down vertically. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable to the Engineer. This information will be provided in the latest version of Micro Station or Geopak used by the State. The electronic file will be delivered on C.D. or DVD. A hard copy is required and must be signed, sealed, and dated by the Surveyor. Note: Determine and inform the Engineer of the approximate utility depths at critical locations. This depth indication is understood by the Engineer to be approximate only and is not intended to be used for preparing the construction plans.

3.3. Subsurface Utility Locate (Test Hole) Service (Quality Level A), **THE SURVEYOR SHALL ESTIMATE LOCATING VERICALLY 25 UTILITES PER MILE OR AS IDENTIFIED BY THE ENGINEER.** Locate shall mean to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B and C. The Surveyor shall:

3.3.1 Review the requested test hole locations that have been identified by the Engineer and Coordinate with utility owner inspectors as may be required by law or utility owner policy.

Services Provided By:
SURVEYOR CITY/COUNTY

3. *Utility Subsurface (continued)*

3.3.2 Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:

- Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
- Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
- Elevation of existing grade over utility at test hole location.
- Horizontal location referenced to project coordinate datum.
- Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
- Utility facility material(s).
- Utility facility condition.
- Coating/Wrapping information and condition.
- Unusual circumstances or field conditions.

3.3.3 Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the appropriate State District Office.

3.3.4 Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The Engineer shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.

3.3.5 Provide complete restoration of work site and landscape to equal or better condition than before excavation.

3.3.6 Plot utility location position information on the Utility Layout sheet and identify the vertical elevation and sealed by the responsible Surveyor. This information will be provided in the latest version of Micro Station or Geopak format used by the State. The electronic file will be delivered on C.D or DVD.

4. DELIVERABLES:

The deliverables to be specified in individual work authorizations for design surveys and construction surveys may be any combination of the following:

___ ___ 4.1. Digital Terrain Models (DTM) in a format acceptable by the ENGINEER.

___ ___ 4.2. Final H&V Field Book Binder with all pertinent information obtained in the field for Design Surveys. Maps, plans, or sketches prepared by the SURVEYOR showing the results of field surveys.

___ ___ 4.3. Computer printouts or other tabulations summarizing the results of field surveys.

___ ___ 4.4. Digital files or media acceptable by the ENGINEER containing field survey data.

___ ___ 4.5. 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.

___ ___ 4.6. Field survey notes, as electronic and/or hard copies.

___ ___ 4.7. A H&V Control Book identifying the basis of the Primary and Secondary Control and an 8 ½ inch by 11 inch survey control data sheet for each construction control point which shall 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. Survey control data sheets shall be signed and sealed by the supervising Registered Professional Land Surveyor.

Services Provided By: SURVEYOR	CITY/COUNTY	
		4. *Deliverables (continued)*
___	___	4.8. Final mylar set of 11 inch by 17 inch Survey Control data sheets sign and seal by the RPLS per TxDOT guidelines.
___	___	4.9. A digital and/or hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, data including property descriptions with field notes and plats, right-of-way maps, and survey control data sheets to include in the H&V Field Book Binder.
___	___	4.10. Survey reports in a format requested by the ENGINEER.
___	___	4.11. Items indicated under the Automation Requirements Section 6.

5. GENERAL REQUIREMENTS:

5.1. Design surveys and construction surveys shall be performed under the supervision of a Registered Professional Land Surveyor currently registered with the Texas Board of Professional Land Surveying.

5.2. Horizontal ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the STATE.

5.3. Reference may be made to standards of accuracy for horizontal control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

5.4. Vertical ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the ENGINEER.

5.5. Reference may be made to standards of accuracy for vertical control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

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

- Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.
- Standards, procedures, and equipment used shall 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.
- Standards, procedures, and equipment used shall be such that vertical locations relative to the control may be reported within the following limits:
- 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.

Services
Provided By:
SURVEYOR CITY/COUNTY

5. AUTOMATION REQUIREMENTS:

6.1 Planimetric design files (DGN) shall be fully compatible with the State's *Micro Station V8* graphics program without further modification or conversion.

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

6.3 Digital Terrain Models (DTM) shall be fully compatible with the STATE's GEOPAK system without further modification or conversion. All DTM files shall be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT 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 TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER 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 ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR's invoice. With each payment request, the SURVEYOR shall submit a project status report which will, 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.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT's specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR's Project Manager (RPLS) shall be accessible at all times and working from the local office.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 7 - ROADWAY DESIGN CONTROLS

(Function Code 160)

Services Provided By: ENGINEER	CITY/COUNTY	
		1. Geometric Design
___	___	a. Horizontal and Vertical Alignment (Preliminary based on office surveys)
___	___	b. Schematic Layout
		(1) The location of interchanges, main lanes, grade separations, frontage roads and ramps.
		(2) Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking.
		(3) For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown.
		(4) A complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps.
		(5) The tentative ROW limits.
		(a) Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements.
		(b) Provide a graphics file containing the approved schematic.
		(6) The geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway main lanes, ramps, frontage roads, and cross roads.
		(7) The current and projected traffic volumes as provided by the TxDOT (20 year traffic projection, unless otherwise determined by the District Engineer).
		(8) The control of access lines if Interstate or designated under House Bill 179.
		(9) Direction of traffic flow on all roadways.
		(10) Location and width of median openings for highway without access control.
		(11) The geometric of speed change (acceleration, deceleration, climbing) lanes.
___	___	2. General Guidelines for Project Development
		a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. An uncontrolled aerial mosaic will be provided for this use. Four copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable. The layout shall be submitted for two-lane arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the COUNTY has given the engineer written approval of the preliminary schematic layout.**
		b. All geometric design shall be in conformance with the State's Design Division, Operations and Procedures Manual, except where variances are permitted in writing by the STATE.
		c. The schematic layout shall include basic information which is necessary for the proper review and evaluation including the items listed above in the checklist for schematic layout.
		d. Handling of traffic during construction shall be a consideration in the development of preliminary designs.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	2. General Guidelines for Project Development *(continued)*
		e. Upon approval of the schematic layout by Design Division (FHWA on Federal-aid projects), it shall be the basis for an exhibit at any required public hearing prior to final development of the project. If there are any changes to the schematic after the Design Division and FHWA approval and before the public hearing, four copies of the revised schematic, as displayed at the hearing, shall be submitted either prior to or accompanying the public hearing data. If there are no changes in the schematic as displayed at the hearing, only photographs of the schematic and other displays shall be submitted with the public hearing data.
		f. For all freeway construction projects, these schematics shall show the location and text of the proposed main lane guide signs. A schematic layout shall be submitted through the district to the Traffic Operations Division, Traffic Safety Section for approval and subsequent coordination with the FHWA. All signing shall be in conformance with the Texas MUTCD.
		g. On complex projects, informal contact through the district with the Design Division and FHWA personnel is encouraged with regard to development of preliminary design prior to official schematic submission.
		h. The engineer shall furnish a project tape that is compatible with the STATE's computer system, a project listing, and a cross section plot showing the original design sections containing the earthwork input and original cross sections for the project. **Accuracy of the earthwork design is of utmost importance since it is the basis for contractor payments and construction staking.**
___	___	3. Exhibit for Airway/Highway Clearance Permits
		4. Grading Design
___	___	a. Refine the horizontal and vertical alignment of main lanes, frontage roads, ramps, cross roads and direct connectors based upon the approved schematic layout. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate super elevation rate.
___	___	b. Typical Sections
___	___	c. Design Cross Sections
___	___	d. Determine Cut and Fill Quantities
___	___	e. Slope Stability Analysis
___	___	f. Embankment Foundation Stability Analysis
___	___	g. Embankment Settlement Analysis
		5. Pavement Design
___	___	a. Prior to initiating detailed plan preparations for a project, a preliminary investigation shall be made to determine the approximate section and pavement type to be used for the pavement structure. The Flexible Pavement Design Manual for flexible pavement, "Appendix F" of the Design Division, Operations and Procedures Manual, and the current AASHTO Guide for the Design of Pavement Structures, may be used for this purpose.
___	___	b. The typical section shall also reflect proposed geometric including pavement cross slopes, lane and shoulder widths, and slope rates whenever this data have not been previously shown on a schematic submission.
		c. Embankment and Subgrade
		(1) Soil Core Holes (Show cost estimate with Function Code 110)
___	___	(a) Along center line
___	___	(b) Along center line of each roadway
		The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		5. Pavement Design *(continued)*
		c. Embankment and Subgrade *(continued)*
___	___	(2) Identify,interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)
___	___	d. Traffic Data for Pavement Design by STATE
___	___	e. Basic Design Criteria
___	___	f. Life Cycle Cost Analysis(es)
___	___	g. Cost Data
___	___	h. Pavement Material Properties
___	___	i. Rehabilitation Investigations
___	___	(1) Core Hole Survey (Show cost estimate with Function Code 110)
		(a) Determine type and depth of existing material, pavement, etc. The Engineer will determine whether to salvage ACP and FLEXBASE as well as their properties and provide this information to TxDOT.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 8 - DRAINAGE

(Function Code 161)

Services Provided By: ENGINEER	CITY/COUNTY	
		All hydraulic design shall be in accordance with the TxDOT's Hydraulic Manual, except where variances are permitted in writing by the COUNTY.
		1. Hydrologic Studies, Discharges
___	___	a. Hydrologic Map showing drainage areas, contours and drainage Q's.
___	___	b. Drainage area maps showing existing conditions and proposed improvements.
___	___	c. Hydrologic data/discharge determination
		2. Hydraulic Drainage Study and Documentation
		a. Hydraulic computations
___	___	(1) Storm water detention available within the ROW (linear ft. along side drain ditch).
___	___	(2) Storm water detention required outside the ROW (as per HCDD#1)
___	___	(3) Culverts
___	___	(4) Bridge waterways
___	___	(5) Channels
___	___	(6) Storm sewers/inlets
___	___	(7) Pump stations
___	___	(8) Storm Water Management facilities
___	___	(9) Other
		(a) Irrigation Canals/Siphons
___	___	b. Hydraulic report(s)
___	___	c. Federal Emergency Management Agency (FEMA) floodway requirements
___	___	d. Determine impact of proposed drainage plan on the following receiving stream(s)
		(1) Hidalgo County Drainage District Outfalls
		(2) All Irrigation District Outfalls impacted
		3. Layout, Structural Design and Detailing of Drainage Features
		a. Culverts
___	___	(1) New culverts
___	___	(2) Culvert widening and/or lengthening
___	___	(3) Culvert replacements
		b. Storm sewers
___	___	(1) New storm sewers
___	___	(2) Modify existing storm sewers
___	___	(3) Inlets
___	___	(4) Manholes
___	___	(5) Trunk lines
___	___	c. Pump stations
___	___	d. Subsurface drainage at retaining walls
___	___	e. Outfall channel(s) within the ROW
___	___	f. Outfall channel(s) outside the ROW
___	___	g. Detention Pond(s) within the ROW
___	___	h. Detention Pond(s) outside the ROW
___	___	i. Summary of Quantities
___	___	j. Storm Water Management facilities
___	___	4. Storm Water Pollution Prevention Plan (SW3P)
___	___	5. Scour Evaluation - Waterway Structures only (to be completed by Bridge Engineer under FC 170.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 9 - SIGNING, MARKINGS AND SIGNALIZATION

(Function Code 162)

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	1. Signing and Markings Layout a. Requirements (Separate Layout) (1) Roadway layout (2) Center line with station numbering (3) ROW lines (4) Culverts and other structures that present a hazard to traffic (5) Location of utilities, if not shown on plan and profile (6) Existing signs to remain, to be removed, to be relocated (7) Proposed signs (illustrated and numbered) (8) Existing overhead sign bridges to remain, to be revised, removed or relocated (9) Proposed overhead sign bridges indicating location by plan layout (electrical details need not be shown on this layout) (10) Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation (12) Quantities of existing pavement markings to be removed (13) Proposed delineators and object markers b. For projects involving freeway to freeway or other types of directional interchanges, projects including left-hand ramps or connections, the following information must be provided: (1) The location of interchanges, main lanes, grade separations, frontage roads and ramps (2) complete explanation of the sequence and methods of stage construction, where applicable, which would include the initial and ultimate proposed treatment of crossovers and ramps (3) The number of lanes in each section of proposed highway and the location of changes in numbers of lanes (4) The projected traffic volumes as provided by the STATE (20 year traffic projection, unless otherwise determined by the District Engineer) (5) Tentative ROW limits (6) Direction of traffic flow on all roadways (7) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations
___	___	2. Summary of Small Signs Tabulation
___	___	3. Summary of Large Signs Tabulation including all Guide Signs
___	___	4. Sign Detail Sheets a. All signs except route markers b. Design details for large guide signs c. Dimensions of letters, shields, borders, corner radii etc. d. Designation of shields attached to guide signs e. Designation of arrow used on exit direction signs

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		5. Traffic Signals
		a. Development of Justification (Warrant) Data
___	___	(1) Location Map Relationship of proposed installation to other traffic signals, highways, business areas and traffic generators
___	___	(2) Photographs as appropriate
___	___	(3) Accident data as appropriate
		(4) Vehicle volumes (provided by TxDOT)
___	___	(a) Existing
___	___	(b) Estimated
___	___	(c) Projected
___	___	(d) Pedestrian
___	___	(5) Traffic Survey - Count Analysis
___	___	(6) Recommendation based on above data
___	___	b. Layout
		(1) Title Sheet (when applicable)
		(a) Describe the location
		(b) Type of installation
		(c) Area map with project limits for each location
		(d) Index of sheets
		(e) Space for official signatures
		(2) Estimate and quantity sheet (when applicable)
		(a) List of all bid items
		(b) Bid item quantities
		(c) Specification item number
		(d) Paid item description and unit of measure
		(3) Basis of estimate sheet (list of materials)
		(4) General notes and specification data sheet
		(5) Condition diagram
		(a) Highway and intersection design features
		(b) Roadside development
		(c) Traffic control including illumination
		(6) Plan sheet(s)
		(a) Existing traffic control that will remain (signs and markings)
		(b) Existing utilities
		(c) Proposed highway improvements
		(d) Proposed installation
		(e) Proposed additional traffic controls
		(f) When applicable, proposed conduit for Railroad interconnect with standard details for runs under tracks.
		(g) Proposed illumination attached to signal poles.
		(7) Notes for plan layout
		(8) Elevation sheet(s) (span wire design)
		(9) Phase sequence diagram(s)
		(a) Signal locations
		(b) Signal indications
		(c) Phase diagram
		(d) Signal sequence table
		(e) Flashing operation (normal and emergency)
		(f) Preemption operation (when applicable)
		(g) Interval timing, cycle length and offset

Services Provided By: ENGINEER	CITY/COUNTY	
		5. Traffic Signals *(continued)*
___	___	b. Layout *(continued)*
		(10) Construction detail sheets(s)
		(a) Poles (TxDOT standard sheets)
		(b) Detectors
		(c) Pull Box and conduit layout
		(d) Controller Foundation standard sheet
		(11) Marking details (when applicable)
		(12) Barricade and warning sign standard sheet and any special details for work zone traffic control for special conditions
		(13) Aerial or underground interconnect details (when applicable)
		c. General Requirements
		(1) Contact local utility company
___	___	(a) Confirm power source
___	___	(b) Discuss route of aerial or underground interconnect cable (when applicable)
___	___	(c) Adjustment of overhead utility lines
___	___	(2) Prepare governing specifications and special provisions list
___	___	(3) Prepare project estimate
___	___	d. Summary of Quantities

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 10 - MISCELLANEOUS (ROADWAY)

(Function Code 163)

Services Provided By: ENGINEER	CITY/COUNTY	
		1. Retaining Walls
		a. Structural Details
___	___	(1) Cast-in-Place Cantilever at _____ locations. (TxDOT Standard Retaining Wall)*
___	___	(2) Tiedback Retaining Wall at _____ location. (TxDOT standard retaining wall)
___	___	(3) Specialized Retaining Wall at _____ locations (Unique Design).*
		b. Alternate Patented Retaining Walls at all locations. (Layouts Only)**
___	___	(1) Mechanically Stabilized Earth
___	___	(2) Concrete Block Wall Systems
___	___	c. Retaining Wall Layout (PLAN)
		(1) Designation of reference line
		(2) Beginning and ending retaining wall stations
		(3) Station of each retaining wall joint***
		(4) Offset from reference line
		(5) Horizontal curve data
		(6) Number of retaining wall panels and lengths***
		(7) Total length of wall
		(8) Indicate face of wall
		(9) All wall dimensions and alignment relations (alignment data as necessary)
		(10) Soil core hole locations
___	___	d. Retaining Wall Layout (ELEVATION)
		(1) Top of wall elevations at each joint or intervals***
		(2) Existing and finished ground line elevations
		(3) Height of stem at each joint***
		(4) Wall panel designations***
		(5) Top of footing elevations***
		(6) Limits of measurement for payment****
		(7) Type, limits and anchorage details of railing (If applicable)
		(8) Top and bottom of wall profiles and soil core hole data plotted at correct station and elevation. The plot shall be at the same scale as the wall profile. Ground water elevations and the observation date shall be shown.
___	___	e. Foundation Studies (Show cost estimate with Function Code 110)
___	___	(1) The soil core holes shall be obtained at approximately 200 foot intervals along retaining wall alignments. The core holes shall extend 25 feet below the footing elevation.
___	___	f. Stability Analysis (the ENGINEER shall estimate this task as part of his bid to complete the work).
___	___	g. Estimate
___	___	h. Summary of Quantities
___	___	i. Typical X-section.
___	___	j. General Guidelines for Retaining Walls
		(1) The ENGINEER shall make final design calculations and final detail drawings in accordance with standard requirements of the Texas Department of Transportation. **The designer and checker shall check all calculations and initial each page.**
		(2) The ground water level should be observed at the water strike.
		(3) For purposes of uniformity statewide, soil core hole data shall be shown on layouts as illustrated in the Bridges and Structures Foundation Exploration and Design Manual.
		(4) Foundation exploration shall conform to the requirements set forth in Administrative Circular No. 25-84, Administrative Circular 33-87 and Administrative Circular No. 25-92.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	2. Traffic Control Plan, Detours and Sequence of Construction Traffic Control Plans (TCP) are required for all projects. A detailed TCP shall be developed when traffic handling during construction involves complications for which a feasible solution is not covered by the Texas MUTCD or the current Barricade and Construction (BC) Standards. The following items are required on all Traffic Control Plan Layouts: a. The sequence of construction and method of handling traffic during each phase. b. The existing and proposed traffic control devices that will be used to handle traffic during each construction sequence. Include signals, regulatory signs, warning signs, construction warning signs, guide signs, route markers, construction pavement markings, channelizing devices, portable changeable message signs, flashing arrow boards, barricades, barriers, etc. c. The proposed traffic control devices (stop signs, signals, flag person, etc.) at grade intersections during each construction sequence. d. Where detours are provided, typical cross sections shall be shown. e. Road construction work hours shall be developed after an investigation of the traffic volumes has been performed.
		3. Illumination
___	___	a. Preliminary Roadway Illumination Layout and Circuit Layout (1) For projects involving freeway to freeway or other types of directional interchanges and projects including left-hand ramps or connections, provide the following: (a) The location of interchanges, main lanes, grade separations, frontage roads and ramps (b) A complete explanation of the sequence and methods of stage construction, where applicable, which would include the initial and ultimate proposed treatment of crossovers and ramps (c) The number of lanes in each section of proposed highway and the location of changes in the number of lanes (d) The projected traffic volumes as provided by the STATE (20 year traffic projection unless otherwise determined by the district engineer) (e) Tentative ROW limits (f) Direction of traffic flow on all roadways (g) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations
___	___	b. Final Roadway Illumination and Electrical Circuit Layouts (1) Roadway layout showing pavement edges, shoulders, curbs, retaining walls, etc. (2) Center line with station numbering. (3) ROW lines. (4) Symbol legend. Use department standard symbols for lighting and electrical. (5) Culverts and other structures that present a hazard to traffic. (6) Location of underground utilities, if not shown on plan profile. (7) Location of overhead electrical lines, both crossing and parallel to ROW. (8) Existing sign lighting circuits and roadway illumination to remain, to be removed, to be relocated. (9) Existing service poles, electrical circuits, ground boxes, etc. (10) Contact electric utility for service pole locations, voltage characteristics. (11) Location of proposed sign lighting circuits and roadway illumination. (12) Proposed electrical circuits. (13) Tabulation of all quantities including proposed, existing to be relocated, existing to be removed. The layout sheet quantities and lighting summary shall be shown. Tabulations to include estimated quantity with a column for final quantities.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		3. Illumination *(continued)*
___	___	c. General Guidelines for Illumination (If applicable) The ENGINEER shall submit to the COUNTY, well in advance of PS&E due date, the roadway illumination and electrical circuit layout sheets for review by the STATE. Two copies of the layout sheets are to be submitted. One copy will be returned to the Engineer showing corrections that are to be made by the ENGINEER. When final plan submission is made, the ENGINEER shall provide a written statement regarding completion of the corrections.
		4. Miscellaneous Drafting/Standards
___	___	a. Erosion Control
___	___	b. Landscape Development
___	___	5. Compute and Tabulate Quantities
___	___	6. Special Utility Details (Irrigation lines)
		7. Miscellaneous Structures
		a. Type of Structure*
		(1) Overhead Sign Bridges (O.S.B.) Modifications or special O.S.B. designs shall be prepared using the same design assumptions that are used for the standard O.S.B structures.
___	___	(a) New O.S.B. structure(s)
___	___	(b) Structural evaluation of existing O.S.B. structure(s) that are to remain in place or to be relocated.
___	___	(2) High Mast Illumination Poles (HMIP)
___	___	(3) Traffic Signal Supports
___	___	(4) Conventional Illumination Poles
___	___	(5) Sound Barrier Walls
___	___	b. Checklist for Layouts
		(1) Reference appropriate O.S.B. standard
		(2) Drilled shaft size and length
		(3) Soil strength used for design {indicate basis and boring(s) used}
		(4) Design height
		(5) Tower heights
		(6) Leg spacings
		(7) Design wind speed
___	___	c. Foundation Studies (Show cost estimate with Function Code 110) The soils exploration requirements for miscellaneous structures on this project are as follows: (To be provided by the Engineer on an as-needed basis)
		8. Agreements
___	___	a. Utility Agreements
___	___	b. Exhibits for Utility Agreements
___	___	c. Railroad Agreements
		d. Railroad Exhibits
___	___	(1) Railroad Underpasses
___	___	(2) Railroad Overpasses
___	___	(3) Railroad Grade Crossing (Replanking)
___	___	(4) Railroad Grade Crossing Warning Systems (Signals)
___	___	(5) Other Miscellaneous Sketches for Railroads
___	___	e. Traffic Signal Agreements
___	___	f. Exhibits for Traffic Signal Agreements
___	___	9. Estimate
___	___	10. Specifications and General Notes

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 11 - BRIDGE DESIGN

(Function Code 170)

Services Provided By: ENGINEER	CITY/COUNTY		NUMBER REQUIRED
		1. Preparation of Structural Details	
		a. New Structure(s)	
___	___	(1) Underpass(es)	
___	___	(2) Overpass(es)	
___	___	(3) Main Lanes	____
___	___	(4) Direct Connector(s)	____
___	___	(5) Ramp Bridge(s)	____
___	___	(6) Waterway Structure(s)**	____
___	___	(7) Pedestrian Structure(s)	____
___	___	(8) Utility Structure(s)	____
___	___	(9) Railroad Underpass(es)	____
___	___	(10) Railroad Overpass(es)	____
___	___	(11) Bridge Classification Culvert(s)**	____
___	___	(11) Alternate Structural Designs	____
___	___	(12) Alternate Foundation Design	____
		Total New Structures =	
		b. Existing Structure(s)	____
___	___	(1) Bridge Widening, Rehabilitation and/or Modification of Existing Structure(s)	
___	___	(2) Bridge Replacement	____
___	___	(3) Raising Bridge Elevation	____
___	___	(4) Bridge Classification Culvert(s) Widening and/or Modification of Existing Structures(s)	____
			____
___	___	(5) Railroad Overpass(es)	____
___	___	(6) Railroad Underpass(es)	____
		Total Existing Structures =	____

* Countour plots of bridge gores are required for projects involving ramps within the main bridge in order to ensure project transition. The Template data and vertical alignment necessary to generate the contour plots are also required.

** In the early stages of a project, it sometimes cannot be determined whether a Waterway Bridge Structure or a Bridge Classification Culvert (20' minimum length) will be required. Therefore, the ENGINEER should be aware that either of these two types of bridges may be reclassified later in the project for the other type when more information is known that would dictate a change in structure classification.

Services Provided By:
ENGINEER CITY/COUNTY

___ ___ 2. Preparation of Bridge Layouts (each bridge)

a. Bridge Layouts (PLAN)
(1) Horizontal curve information or bearing of centerline.
(2) Including horizontal, vertical, and template information of all roadways or railroads crossed.
(3) Bearing of center line or reference line.
(4) Skew angle(s).
(5) Slope for header banks and approach fills.
(6) Control stations at beginning and ending of bridge (with deck elevation), intersections, etc.
(7) Approach pavement and crown width.
(8) Bridge roadway width and curbs, face of rail, shoulders, or sidewalks.
(9) Approach slab and curb returns.
(10) Limits and type of riprap.
(11) Proposed features under structure.
(12) Location of profile grade line.
(13) North arrow.
(14) Typical bridge roadway section including preliminary proposed beam types and spacings.
(15) Cross slope and super elevation data.
(16) Minimum horizontal clearances when applicable.
(a) Dimensions to features that control clearances. (Calculate and indicate points of minimum vertical and horizontal clearances.
(17) Location of soil core holes (station and offset), shown on layout.
(18) Bent stations and bearings.
(19) Retaining wall locations.
(20) Traffic flow directional arrows.
(21) Railing types shown.
(22) Joint types and seal size, if used.
(23) Beam line numbers consistent with span details.
(24) Critical horizontal clearances (location of railroad tracks, nearby structures and utilities).
(25) Bearings of utilities.

b. Bridge Layouts (ELEVATION)
(1) Type of foundation.
(2) Finished grade elevations at beginning and end of bridge.
(3) Overall length of structure.
(4) Length, type of spans and units.
(5) Type of railing.
(6) Minimum calculated vertical clearance(s).
(7) Existing and proposed ground lines clearly marked.
(8) Grid elevations and stations.
(9) Bent numbers encircled.
(10) Stationing of bridge compatible with grid stations.
(11) Standard title.
(12) Profile grade data.
(13) Type of riprap.
(14) Soil Core Hole information with penetrometer test data shall be shown on the bridge layout at correct station, elevation and scale.
(15) Fixed/expansion condition of all bents.
(16) Column "H" heights.
(17) Number, size and length of foundations.

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	2. Preparation of Bridge Layouts (each bridge) *(continued)* c. Additional layout requirements for waterway structures and bridge classification culverts. (1) Design and 100-year peak discharges. (2) Design and 100-year high water (HW) (Recorded HW and date if available) (3) Natural and through-bridge velocities for design and 100-year floods. (4) Calculated backwater for design and 100-year floods. (5) Direction of flow for waterway crossings. (6) Contours for water crossing.
___	___	3. Bridge Classification Culvert, Estimate, Quantities, and Specifications (each bridge)
___	___	4. Foundation Studies (Show cost estimate with Function Code 110) The minimum number of soil core holes shall be obtained in accordance with Section 1-301 of the Bridges and Structures Foundation Exploration and Design Manual. Soil core holes shall be obtained at approximately (300 foot) intervals along bridge alignments. Texas cone penetrometer (TCP) tests shall be conducted in all soil types encountered at a maximum of (10 foot) intervals. If single column bents with single drilled shafts are planned, TCP values should be taken at close intervals in the upper (15 feet).
___	___	5. Bridge Total Quantities and Cost Estimates (each bridge)
___	___	6. Bridge Special Provisions and Specifications (each bridge)
___	___	7. Bearing seat elevations for each beam or girder. Top of cap elevations for non-beam type structures.
___	___	8. General Guidelines for Bridge Design a. The ENGINEER shall prepare a bridge layout of each bridge structure for Company's review and approval. The bridge layout shall be in conformance with the Bridges and Structures, Operation and Planning Manual and the Bridges and Structures, Detailing Manual. Soil core hole data is not required for submission of the preliminary bridge layout. **No bridge design work is to be performed until the COUNTY has given the engineer written approval of the preliminary bridge layout.** Several months may be required, after the preliminary bridge layout is submitted, for the district to obtain approval and/or permits from the following: • TxDOT Design Division, when applicable: - Railroad Companies - FHWA - U.S. Army Corps of Engineers - U.S. Coast Guard - Bureau of Reclamation - Texas Parks and Wildlife - Others Therefore, the bridge layout should be submitted at the earliest possible date and the ENGINEER's design schedule should reflect this. b. All bridge superstructure and substructure design will be reviewed by the Design Division for purposes of verifying structural integrity and optimization of design. c. The final bridge layout shall be in conformance with the Bridges and Structures, Operation and Planning Manual and the Bridges and Structures Detailing Manual.

Services
Provided By:
ENGINEER CITY/COUNTY

8. General Guidelines for Bridge Design *(continued)*

d. The ENGINEER shall make final design calculations and final detail drawings in accordance with standard requirements of the Texas Department of Transportation. All bridge design shall be in conformance with the Texas Department of Transportation Bridges and Structures Operation and Planning Manual, the current American Association of State Highway and Transportation Officials or American Railway Engineers Association Specifications for railway structures, Standard Specifications for Highway Bridges, including applicable interim specifications, and the Bridges and Structures, Foundation Exploration and Design Manual. The ENGINEER shall furnish design calculations to the Design Division. **The designer and checker shall check all calculations and initial each page.**

e. Structural steel or prestressed concrete shop drawings, form work drawings and false work drawings are not part of the design requirements. However, contract plans shall be in sufficient detail to permit the preparation of complete shop details for fabrication and erection.

f. Elements of the bridge (abutments, bents, slabs, etc.) shall be detailed to a metric scale of 1:20 (1/2 inch equals one foot architect scale) or 1:50 (1/4 inch equals one foot architect scale) to provide clear legible drawings when the drawings are reduced. Lettering shall be a minimum size of 4 millimeters (5/32 inch) height for hand lettering and 140 for lettering by computer-aided design and drafting (CADD).

g. Standard drawings for beams, diaframs, railings, armor joints, riprap, etc., shall be furnished to the ENGINEER upon request. These standards shall not be redrawn by the ENGINEER nor shall his title block be transferred to the standard drawings. Modifications to the standards, if necessary, shall be clearly identified and designated by "MOD" in the standard title. Specific special drawings prepared by the ENGINEER shall not be identified as standards.

h. Bridge layout sheets shall have the same vertical and horizontal scale. Usually a metric scale of 1:100 (1 inch = 10 feet) or 1:200 (1 inch = 20 feet) is used. Sections of existing and proposed structures usually have a metric scale of 1:50 (1 inch = 5 feet). Soil core holes shall be positioned and labeled on the bridge layout plan view. The core hole data shall be plotted at the correct station, at the same vertical scale, and at the proper elevation unless otherwise approved by the Design Division.

i. APPENDIX C, "GENERAL PLAN CHECKLIST", on pages C-1 thru C-5, more specifically relates various sheet types, details, summaries, standards, etc.

j. For purposes of uniformity statewide, soil core hole data shall be shown on layouts as illustrated in the Bridges and Structures Foundation Exploration and Design Manual.

k. Geometry and structural design errors found after acceptance of bridge plans shall be promptly corrected by the consultant at no cost to the Company.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 12 - CONSTRUCTION PHASE SERVICES
(Function Code 320)

Services Provided By:
ENGINEER CITY/COUNTY

___ ___ **CONSTRUCTION MANAGEMENT SERVICES:**

The ENGINEER will provide engineering, geotechnical testing and support services for and during the construction of the Project or portions of the Project approved by the COUNTY. Specific (basic and special) services for CONSTRUCTION MANAGEMENT AND SUPPORT by the ENGINEER will include the following:

Construction Bidding:

1) The ENGINEER will furnish the COUNTY the necessary copies of approved plans, specifications, notices to bidders, and proposals as prepared under PS&E.

2) The ENGINEER will assist the COUNTY on the tabulation of bids, recommendations to the Owner as to the proper action on all bid proposals received, and the preparation of formal contract documents for the award of each construction contract.

Construction Contract Administration and Inspection:

3) In general, the ENGINEER will provide the management and engineering support/data required for consultation and advisement to the COUNTY and act as the COUNTY's representative as provided in the General Condition of the Construction Contract.

4) The ENGINEER will coordinate and conduct a pre-construction conference (if required).

5) Defects and Deficiencies. The ENGINEER will use his best efforts to protect the COUNTY against defects and deficiencies in the work of the Contractor. The ENGINEER will promptly notify the COUNTY of any such defect or deficiency, and take all steps possible to require the Contractor to correct the defect or deficiency.

6) Contractor Payment. The ENGINEER will review quantities as submitted by the Contractor and will coordinate with the COUNTY for the preparation of the monthly and final estimates for payment to the Contractor.

7) The ENGINEER will provide Project site inspection of the authorized construction contract as follows:

   a) Project Engineer. The ENGINEER will provide visits by the Project Engineer or a competent representative of the ENGINEER to the site of construction for the purpose of monitoring the Contractor's progress and conformance to the construction contract plans and specifications.

   b) Resident Engineer and/or Construction Inspector(s). The ENGINEER will furnish the services of a Resident Engineer and/or Construction Inspector(s) for on the site inspection construction to monitor/inspect the Contractor's daily progress and conformance to TxDOT's PS&E specifications.

Miscellaneous Technical Activities:

8) Shop Drawings. The ENGINEER will review and check all shop or working drawings furnished by the Contractor.

9) Control of Materials & Equipment. The ENGINEER will provide inspection of all materials and equipment furnished/used by the Contractor as follows:

   a) Review and record all laboratory, shop and mill tests of materials and equipment for compliance with the construction contract specifications.

   b) Observe and/or perform Project record testing and/or independent assurance testing as outlined in the construction contract specifications.

10) Change Orders. When applicable the ENGINEER will prepare the engineering data, including plan sheet drawings, specifications, and estimates, for the preparation of construction contract change orders, which may be required due to actual field conditions encountered or new requirements directed by the COUNTY.

11) As Built Drawings. The ENGINEER will develop as built drawings to depict the work as actually constructed. The COUNTY will be furnished five (5) set of prints.

CONSTRUCTION MATERIAL TESTING:

The ENGINEER will provide the COUNTY with construction material testing services for the Project. The services to be provided include sampling and testing of all construction materials as required by the project plans and specifications. All sampling frequencies and test procedures will be performed in general accordance with the Texas Department of Transportation TEX methods (or ASTM methods as required) as outlined in the Guide Schedule for Sampling and Testing (11/07). The construction material testing includes, but is not limited to the following:

(a) Sampling and laboratory testing of soils and base materials proposed for use in the construction of Project (Roads/Bridges/Misc.) to determine compliance of these materials with project plans and specifications.
(b) Field density testing of soils and base materials to ensure proper compaction as required by project plans and specifications.
(c) Field sampling and testing of fresh concrete, and laboratory testing of hardened concrete to determine compliance with project plans and specifications.
(d) Field compaction testing of asphalt to ensure proper compaction during lay down operations.
(e) Field inspection, sampling and laboratory testing of asphalt materials to determine their material properties and their compliance with project plans and specifications.
(f) The ENGINEER will be responsible for concrete batching as well as the asphalt testing at the plants to insure delivery of acceptable material to the job site.
(g) Any additional laboratory testing as required/requested by the COUNTY and the project plans and specifications.
(h) Providing accurate and timely reports to the COUNTY and all/other recipients as designated by the COUNTY.
(i) The ENGINEER will verify the concrete and asphalt designs to assure it is in accordance with TxDOT specifications to be developed by the contractor.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 13 - FC 600 – ACQUISITION PROVIDER SERVICES
(for EST. 0 PARCELS AND 0 RELOCATIONS/DISPLACEMENTS)

(Services to be provided by L&G Engineering)

Services Provided By: ENGINEER	CITY/COUNTY	
		1) PROJECT ADMINISTRATION
___	___	a) Negotiation of Scope of Services for Work Authorization i) Acquisition Provider will visit project site with COUNTY personnel if necessary.
___	___	b) Project Presence at L&G Consultant Office Headquarters i) Full Project Office (1) No Joint Use of COUNTY or TxDOT facilities (2) Open during normal COUNTY and State work hours (3) Personnel available to answer questions (4) Availability of Project Files (5) At least one office staff member is required to be a current commissioned notary public.
___	___	c) Overhead Costs i) Administrative costs
___	___	d) Communication i) Provide monthly progress reports with invoice. ii) Participate in project review meetings as determined by the COUNTY. iii) Prepare initial property owner contact list for use by the COUNTY in distribution of Acquisition Provider introduction letters. iv) Prepare and Mail via Certified, Return Receipt Requested method, all introduction letters for each individual parcel.
___	___	e) File Management i) Project and parcel files will be kept in the COUNTY's Office, if necessary. Working files will be kept in the Acquisition Provider's project administrative office, but documents generated or received by the Acquisition Provider will be forwarded to the COUNTY office as they are generated or received by the Acquisition Provider, if necessary. ii) Prepare payment transmittal request utilizing standard payment submissions forms with supporting documentation. iii) Maintain records of all payments including check number, amount, and date paid, etc. iv) Provide copies of all incoming and outgoing correspondence as generated if requested by COUNTY at provider conference. v) Maintain copies of all correspondence and contacts with property owners.
		2) TITLE SERVICES
___	___	a) Secure preliminary title commitments from the Title Company that will be providing title insurance. Cost of preliminary title commitments will be paid by the Acquisition Provider (if requested by the title company) and will be included in the Acquisition Provider's scope of work for payment and paid as a separate item.
___	___	b) Secure title commitment updates in accordance with insurance rules and requirements for parcel payment submissions. Cost of title commitment updates will be paid by the Acquisition Provider (if requested by the title company) and will be included in the Acquisition Provider's scope of work and paid as a separate item.
___	___	c) Secure title insurance for all parcels acquired, insuring acceptable title to COUNTY OF HIDALGO. Written approval by the COUNTY required for any exception.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		3) APPRAISAL
___	___	a) Appraiser may be selected from TxDOT's list of state approved fee appraisers. This list will be available for review at all District offices or at the Right of Way Division Office at 118 E. Riverside Drive, Austin, Texas, upon request.
___	___	b) Secure written permission (if necessary) from the owner to enter the property from which land is to be acquired. If the Acquisition Provider and/or the fee appraiser, after diligent effort, are unable to secure the necessary letter of permission from the property owner, a waiver must be obtained, in writing from the COUNTY/TxDOT. Maintain permission letters with appraisal reports.
___	___	c) Prepare (if necessary) pre-appraisal contact with interest owner(s) for each parcel using acceptable COUNTY/TxDOT forms.
___	___	d) Contact property owners or their designated representative to offer opportunity to accompany the appraiser on the appraiser's inspection of subject property. Maintain record of contact in file.
___	___	e) Prepare complete appraisal report for each parcel to be acquired utilizing TxDOT Forms No. ROW-A-5 and ROW-A-6 as applicable. These reports shall conform to TxDOT/COUNTY policies and procedures along with the Uniform Standards of Professional Appraisal Practices.
___	___	f) As necessary, prepare written notification to COUNTY/TxDOT of any environmental concerns associated with the right of way to be acquired which could require environmental remediation.
___	___	g) All completed appraisals will be administratively reviewed by L&G Engineering ROW Office and recommended for approval by TxDOT.
___	___	h) As necessary, the appraiser will appear and or testify as an Expert Witness in eminent domain proceedings and be available for pre-hearing /pre-trial meetings as directed by L&G Engineering and/or TxDOT.
___	___	i) As necessary, the appraiser will coordinate with review appraiser regarding revisions, comments, or additional information that may be required.
___	___	j) The cost of the appraiser appearing as an expert witness for testimony at special commissioners hearing must be included in the proposed fee schedule for the appraiser. The cost of the appraiser's expert witness testimony for trial is not part of this contract, and shall be paid by the COUNTY.
		4) APPRAISAL REVIEW
___	___	a) Review Appraiser may be selected from TxDOT's list of state approved fee appraisers. This list is available for viewing at all District offices or the Right of Way Division office at 118 E. Riverside Drive, Austin, Texas upon request.
___	___	b) Review all appraisal reports for each parcel to determine consistency of values, supporting documentation related to the conclusion reached and compliance with TxDOT/COUNTY policies and procedures and the Uniform Standards of Professional Appraisal Practices.
___	___	c) Prepare and submit to TxDOT the Form ROW-RTA-10 "Tabulation of Values", for each appraisal.

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	d) The cost of the review appraiser appearing as an expert witness for testimony at special commissioners hearing must be included in the proposed fee schedule for the review appraiser. The cost of the appraiser's expert witness testimony for trial is not part of this contract, and shall be paid by the COUNTY.
		5) APPRAISAL UPDATES
___	___	a) Prepare complete appraisal update for the parcel to be acquired utilizing TxDOT Form No. ROW-A-5. These reports shall conform to COUNTY/TxDOT policies and procedures along with the Uniform Standards of Professional Appraisal Practices.
___	___	b) As necessary, prepare written notification to COUNTY/TxDOT of any environmental concerns associated with the right of way to be acquired which could require environmental remediation. All completed appraisals will be administratively reviewed by L&G Engineering Right of Way Office and recommended for approval by TxDOT.
___	___	c) As necessary, the appraiser will appear or testify as an Expert Witness in eminent domain proceedings and be available for pre-hearing or pre-trial meetings as directed by the COUNTY/TxDOT.
___	___	d) The cost of the appraiser appearing as an expert witness for testimony at special commissioners hearing must be included in the proposed fee schedule for the appraiser. The cost of the appraiser's expert witness testimony for trial is not part of this contract, and shall be paid by the COUNTY.
___	___	e) As necessary, the appraiser will coordinate with the review appraiser regarding corrections and/or additional information that may be required.
		6) NEGOTIATION, TASKS AND FEES
___	___	a) Analyze appraisal and appraisal review reports and confirm the TxDOT's approved value prior to making offer for each parcel.
___	___	b) Analyze preliminary title report to determine potential title problems, propose methods to cure title deficiencies.
___	___	c) Prepare the initial offer letter, instruments of conveyance, and any other documents required or requested by COUNTY /TxDOT on applicable COUNTY /TxDOT forms.
___	___	d) Mail (Certified Mail Return Receipt Requested) initial offer letter, draft deed, Bill of Rights Brochures, Acknowledgement of Appraisal and Appraisal Reports to address confirmed with the Appraisal District of Hidalgo County. Maintain follow-up contacts and secure the necessary instruments upon acceptance of the offer for the closing.
___	___	e) Provide a copy of the appraisal report for the subject property exclusively to the property owner or authorized representative at mailing of initial offer. Maintain original signed Receipt of Appraisal. (unless property owner refuses to sign it).
___	___	f) Respond to property owner inquiries verbally and in writing within two business days.
___	___	g) Prepare a separate negotiator contact report for each parcel per contact.

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	h) Maintain parcel files of original documentation related to the purchase of the real property or property interests.
___	___	i) Advise property owner on the Administrative Settlement process. Transmit to TxDOT any written counter offer from property owners including supporting documentation, and provider recommendation with regard to Administrative Settlements in accordance with COUNTY /TxDOT policy and procedures.
___	___	j) Prepare final offer letter, documents of conveyance as necessary.
___	___	k) Appear and provide Expert Witness testimony as an Acquisition Provider when requested.
___	___	l) Meet at the L&G Engineering ROW office in Mission once per week as agreed-upon with the Right of Way Acquisition Manager/Administrator.
___	___	m) Provide a monthly progress report per parcel by the 25th of the month with invoice.
___	___	n) The consultant shall, as part of this proposal, estimate 10% of the parcels identified on Page 37 may result in condemnation. The consultant shall be available for any meeting/hearings as requested by the COUNTY Attorney.
		7) CLOSING SERVICE FEES
___	___	a) Coordinate with COUNTY and Title Company to obtain an updated title commitment along with other Forms and certified copy of the instrument of conveyance necessary when requesting the Parcel Payment from the COUNTY.
___	___	b) Acquisition Provider shall attend closings and provide closing services in conjunction with Title Company.
___	___	c) Acquisition Provider shall record all original instruments immediately after closing at the respective County Clerk's Office, except for donations which must be forwarded to TxDOT for acceptance by the Texas Transportation Commission.
		8) RELOCATION ASSISTANCE SERVICES (separate Work Authorization will be issued once relocations have been identified, unless noted otherwise).
___	___	a) The amount of relocations or displacements as identified. L&G will provide relocation advisory services. L&G will compute replacement housing supplements (owner occupant and/or tenants)
___	___	b) L&G will provide advisory services to business displacements and relocate them effectively.
___	___	c) TxDOT will review, approve and pay for all relocation costs as per the Agreement.
		9) CONDEMNATION SUPPORT
___	___	a) Pre-Hearing Support i) Upon receipt of a copy of the final offer, request an updated title commitment for Eminent Domain from the Title Company. ii) Prepare a Bisection Clause for the original set of Legal Descriptions supplied by Surveyor, if applicable. iii) Use the information from the Title Commitment to join all interested parties on the necessary forms. Spouses of owners must also be joined.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		iv) Upon completion of the necessary forms, prepare a packet containing 2 copies each of the following documents: Title Commitment, Negotiator's Reports, Appraisal Acknowledgment, Preappraisal Contact Sheet, signed and sealed property description, and plat, Final Offer Letter, any correspondence from the land owner or representatives, along with one copy of the appraisal report. Submit packet to the COUNTY Office for submission to the COUNTY Attorney's office.
		v) Upon receipt of concurrence for the Appraisal Witness, request the update of appraisal.
		vi) Upon receipt of packet prepared by the COUNTY Attorney which will include Petition for Condemnation, Lis Pendens, Order Appointing Special Commissioners, Order Setting Hearing, Oath of Special Commissioner, and Notice of Hearings, developedby the COUNTY Attorney; the attorney shall file the original petition with the COUNTY Court at Law or other appropriate Court for a cause number to be assigned.
		vii) The COUNTY attorney shall file the Lis Pendens including the cause number with the COUNTY Clerk's Office.
		viii) Upon assignment of a court, the COUNTY Attorney shall file the Order Appointing Commissioners with the judge retaining a copy of the Order for the files.
		ix) Following appointment of Special Commissioners by the judge, the COUNTY shall secure the following documents: Oath of Commissioners signed by the Commissioners, Order Setting Hearing, 2 copies of the Notice of Hearing signed by the Commissioners.
		x) The COUNTY shall file all originals with the court and send copies marked "copy" to L & G Engineering.
		xi) The COUNTY Attorney shall send a copy of the petition to the Title Company so that the Title Company can make sure the appropriate parties were joined and that no changes in title have occurred.
		xii) The COUNTY Attorney shall set the Special Commissioners Hearing after the updated appraisal has been submitted, if there is no change in value. If there is an increase in value, COUNTY will approve the new value and the COUNTY's provider will present a revised offer and a final offer letter and submit a copy of the final offer letter.
		xiii) The COUNTY Attorney shall coordinate a pre-hearing conference prior to the hearing (the day before or earlier) to discuss facts of the case with the COUNTY, Appraiser, and Negotiator.
		xiv) After the hearing is set, the COUNTY Attorney shall serve Notices of Hearing to the indicated parties at least 11 days prior to the Commissioner's hearing. If it is necessary to join the Federal Government, be advised that they have an additional 60 days to prepare for the Hearing.
		xv) Once the notices have been served, the COUNTY Attorney shall file the original notices with the court and send copies stamped "copy" to L&G Engineering ROW Office.
		xvi) The COUNTY's Attorney shall send a reminder letter 2-3 weeks in advance to the COUNTY Administration offices, Acquisition Provider, the three special commissioners and court reporter concerning Hearing dates.
___	___	b) Post Hearing Support (by COUNTY Attorney)
		i) For the hearing, prepare the necessary forms and Special Commissioners time sheets and submit forms to Hidalgo COUNTY clerk's office.
		ii) Obtain the signatures of Special Commissioners on the Award of Commissioners and file with the court for the judge's signatures within 48 hours of the Hearing.
		iii) Give timesheets to Judge. The amount paid to the Special Commissioners is determined by the Judge.
		iv) Obtain and distribute 3 certified copies of the award as follows: 1 certified copy to the title company with a request for a commitment, 1 certified copy to the COUNTY, 1 certified copy to L&G Engineering with the Commitment to request the warrant in the amount of the Special Commissioners Award.

Services Provided By:
ENGINEER CITY/COUNTY

v) Send the Commitment and the Award to COUNTY, along with individual special commissioner's billing requesting the payment for their fees.
vi) File COUNTY warrant in the registry of the court. File a Notice of Deposit with the court and send certified copies to each defendant notifying them of the date of the deposit. The Date of Deposit is the Date of Take.
vii) Take photograph of the interest to be acquired (if necessary) on the day of deposit for relocation verification.
viii) Send written notices of the date of deposit to the COUNTY Administration office and all interested parties.
ix) Appear as Expert Witness as requested. Sub-contractors must also appear as Expert Witnesses as requested.
x) All acquisition negotiations file indicating all "due diligence" provided by the Acquisition Provider will be directed to the COUNTY Attorney's office for his further handling in accordance to the Eminent Domain process by the COUNTY.

10) COMPENSABLE UTILITIES

Utility Accommodation is an integral factor in road construction and design. Coordination of utility adjustments is a necessary function within planning, design, acquisition and construction and requires the administration of property rights issues, utility policy, and reimbursement of eligible utility adjustments. It includes the following tasks:

___ ___ a) Preliminary Design Consultations
i) Conduct Field Investigation and review Certificate of Convenience and Necessity boundaries to identify utility providers within the project area. Communications through letter, phone calls and email to establish a contact list. Coordinate data gathering by surveyors and design team. Introduce project to utility providers.

___ ___ b) Field Observations and Verifications
i) Provide maps to Utility providers to "redline" and identify conflicts. Coordinate exposures and data collection by surveyor. Provide and confirm utility data on project maps. Order Utility Location Service.

___ ___ c) Exchange of Information with Utility Providers
i) Provide project schedule.
ii) Request schedules for utility adjustments.
iii) Identify who is responsible for utility process.

___ ___ d) Confirmation of Property Interests
i) Request Documents.
ii) Coordination of data on maps and citation of property interest documents.
iii) Confirm utilities are within easements.

___ ___ e) Coordination of Agreements
i) Identify utilities that are compensable.
ii) Determine parties and agreements necessary to complete compensable process.
iii) Coordinate execution and processing of Standard Utility Agreements.

___ ___ f) Utility Meetings throughout project development
i) Set up and coordinate utility meetings during planning, design, acquisition and construction phases.
ii) Attend and participate in meetings by other parties.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		11) PAYMENT SCHEDULE
___	___	a) Project Administration
		i) Payment and Milestones
		(a) Full Project Office
		(1) Lump Sum Basis (assume 1 year project presence)
		(2) Initial payment of 25% upon establishment of a project office with functional phone and utility services.
		(3) Remainder paid out in equal monthly installments of 15% starting the following month.
		(4) Monthly billing to COUNTY OF HIDALGO will be required.
		b) Title Services
		ii) Payment
		(a) Per Parcel basis.
		iii) Milestones
		(a) 100% upon securing initial title commitment.
		c) Appraisal Services
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% paid upon delivery of complete and acceptable appraisal report
		d) Appraisal Review
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% upon submission of ROW-A-10
		e) Appraisal Update
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% upon delivery of complete and acceptable appraisal update.
		f) Negotiation, Task, and Fees
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 80% upon presentation of initial offer.
		(b) 20% upon successful negotiation and all instruments are recorded.
		g) Closing Service Fees
		i) Payment
		(a) Per Parcel Basis
		ii) Milestones
		(a) 100% upon recordation of instrument of conveyance.
		h) Relocation Assistance
		i) Payment
		(a) Per Relocation
		ii) Milestones
		(a) 100% upon issuance of 90-day vacancy letter.
		i) Compensable Utilities
		i) Payment
		(a) By percent complete

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESONSIBILITIES

Easements, Letters of Permission, Etc.

The ENGINEER shall be responsible for delineating easements. The ENGINEER will be responsible for securing the necessary legal instruments.

Coordination of Utilities

The ENGINEER shall furnish the COUNTY prints of a project layout which will be distributed by ENGINEER to various utility companies to determine which utilities are in the limits of the project. These shall be preliminary layouts. Upon completion of the preliminary drainage plans and U&D sheets, the ENGINEER shall distribute to the various utility companies and request return. Upon return of these prints, the ENGINEER will schedule a meeting with the various utility companies to discuss potential conflicts and conformance with the State's Utility Accommodation Policy. The ENGINEER is responsible for coordination with the various utility companies for exposing potential conflicts and field ties to uncover utilities in potential conflict areas.

Meetings

Meetings will be held with the FHWA, State Officials, local governments, property owners, utility owners, railroad companies, other consulting firms, etc., as needed or required by the COUNTY. The ENGINEER shall coordinate through the COUNTY for the development of this project with any local entity having jurisdiction or interest in the project (i.e., city, county, etc).

Specifications, Special Provisions, Special Specifications

Use the State's standard specifications or previously approved special provisions and/or special specifications. If a special provision and/or special specification is developed for this project, it shall be in the State's format and incorporate references to approved State test procedures.

Project Manager/Engineer Communication

The ENGINEER shall designate one Texas Registered Professional Engineer to be responsible throughout the project for project management and all communications, including billing, with the COUNTY**'s** Director. Any replacements to the ENGINEER's designated Project Manager/Engineer must be approved by the COUNTY.

Engineering documents produced for the department's engineering projects shall be signed, sealed and dated or CADD sealed in accordance with Administrative Order No. 5-89 and Administrative Circular No. 26-91.

Design Responsibilities

The ENGINEER is responsible for design errors and/or omissions that become evident before, during or after construction of the project. The ENGINEER's responsibility for all questions arising from design errors and/or omissions will be determined by the COUNTY and all decisions shall be final and binding. This would include, but not necessarily be limited to:

1. All design errors and/or omissions resulting in additional design work to correct the errors and/or omissions.
2. Preparation of design documents and detail drawings necessary for a field change due to design errors and/or omissions.
3. Revision of original tracings to the extent required for a field change due to design errors and/or omissions.

The ENGINEER shall promptly make necessary revisions or corrections resulting from the ENGINEER's errors, omissions or negligent acts without additional compensation. Acceptance of the work by the COUNTY will not relieve the ENGINEER of the responsibility for subsequent correction of any such errors or omissions or for clarification of any ambiguities.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Document and Information Exchange

Data, Plan Sheets, General Notes and/or Specifications provided to the COUNTY shall be furnished on 8GB USB flash drives. Each 8 GB flash drive shall have a file titled Table of Contents. The Table of Contents shall indicate the locations of files within the directory structure of the documentation.

General Notes and specifications shall be provided in MS Office 2007 format. Plan sheets shall be provided in Microstation DGN or GEOPAK GPK format. PDF copies of plan sheets shall also be provided.

Two copies of the documentation shall be provided to the COUNTY.

If required, the ENGINEER shall provide to the COUNTY, a CD that contains all the plan sheets for the project. The graphics tape shall be compatible with the COUNTY's computer system.

CD Tape Required (YES or NO): YES

Proposal Time

The time indicated in the proposal and the contract shall include time necessary for reviews, approval, etc.

Office Location

The ENGINEER will perform the services to be provided under this agreement out of their office or offices listed below:

Service	Office Location
PS&E	Mission Office
Schematic	Mission Office
Environmental Document	Mercedes Office

The work effort will be managed out of the Mercedes (City)

office located at 2100 West Expressway 83 (Address),

Mercedes (City), Texas (State).

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

APPENDIX A - PLAN SHEET SEQUENCE PROCEDURE

1. Title Sheet
   Detailed Index of Sheets

2. Typical Sections

3. General Notes and Specifications Data

4. Estimate and Quantity Sheets

5. Storm Water Pollution Prevention Plan (SW3P) Sheets

6. Traffic Control Plans
   a. Sequence of Construction Layouts
   b. Detour Plan/Profile/Typical Sections/Quantities

7. Roadway Layouts
   a. Roadway Plan/Profile Sheets
   b. Intersection Plan/Profile Sheets
   c. Intersection Layouts
   d. Alignment Layouts/Data
   e. Ramp Layouts/Profiles
   f. Connection Roads/U-turns Layouts/Profile

8. Roadway Details
   a. Concrete Pavement Details/Standards
   b. Concrete Pavement Terminal Anchorage Details/Standards
   c. Bridge Approach Details/Standards
   d. Bridge Terminal Anchorage Details/Standards
   e. Roadway/Median Barrier Details/Standards
   f. Curb Details
   g. Driveway Details/Typical Sections/Standards

9. Signing Layouts and Marking Layouts

10. Traffic Signal Layouts

11. Lighting Layouts

12. Illumination Detail Standards (HMID, HMIF, HMIP, RID)

13. Utility Layouts/Profiles

14. Drainage Area Maps and Hydraulic Data
    a. General Drainage Area Maps
    b. Stage-Discharge Curves
    c. Main Cross-Drainage Culvert/Bridge Hydraulic Data
    d. Drainage Area Maps/Culverts/Storm Sewer
    e. Hydraulic Data/Culverts/Inlets/Storm Sewer/Pumps

15. Detailed Drainage Plans
    a. Drainage Plan/Profile Sheets (Storm Sewer Plan/Profile Sheets)
    b. Channel Plan/Profiles/Typical Sections
    c. Box Culvert Plan/Profile
    d. Pipe Sewer/Culvert Cross Sections

APPENDIX A - PLAN SHEET SEQUENCE PROCEDURE (Continued)

16. Drainage Structural Details/Standards
    a. Inlet Details/Standards
    b. Manhole Details/Standards
    c. Junction Box Details/Standards
    d. Safety End Treatment Details/Standards
    e. Box Culvert Details/Standards
    f. Culvert Wingwall Details/Standards
    g. Excavation-Backfill Diaphrams
    h. Riprap Details/Standards
    i. Temporary Pollution and Erosion Control Details

17. Pumphouse Layouts

18. Pumphouse Details

19. Pumphouse Standard Details

20. Bridge Layouts/Profile/Typical Sections*

21. Bridge Details*
    a. Summary of Bridge Quantities
    b. Abutments
    c. Interior Bents
    d. Spans
    e. Special details for the specific bridge

22. Bridge Standard Details*

23. Bridge Railing Standards

24. Retaining Wall Layouts/Profiles**

25. Retaining Wall Details**

26. Retaining Wall Standard Details**

27. Guard Fence/Standards and Signal Pole Standards

28. Signal/Electrical Details/Standards and Signal Pole Standards

29. Signing/Markers/Striping Details/Standards

30. Barricade/Construction/Beacon Standards

31. Miscellaneous Standards
    a. Chain Link Fence Standards
    b. Bridge End Detail/Standards
    c. Roadway Clearance Details/Standards
    e. Attenuator Standards

NOTE: Variations of these plan sheet sequence guidelines may be permitted if approved in writing by the County.

APPENDIX B - PLAN PREPARATION PROCEDURES

1. Title Sheet
   The ENGINEER shall be responsible for completing the title sheet as required and formatted by the STATE and as discussed in Part V of the Highway Design, Operations and Procedures Manual. Refer to Section K - Plans, 1 - Title Sheets, page 5-24, for the procedure to be used regarding all plans prepared by the ENGINEER.

2. Project Layout
   The project layout shall clearly depict the entire project as it is proposed and will usually be drawn at a scale of 1 inch=100 feet or 1 inch=200 feet, depending on the size of the project.

3. Typical Sections
   See Part IV of the Highway Design, Operations and Procedures Manual.

4. Sequence of Work Sheets (Traffic Control Plan)
   Clarity and completeness should be the rule to follow in preparing these sheets, with particular attention given to location of construction signs and barricades, lane widths, protection of drop offs, etc. For a reference guide use the Texas Department of Transportation, Texas Manual on Uniform Traffic Control Devices. Usual scale of 1 inch=100 feet and/or 1 inch=50 feet for special locations. A narrative sequence shall be included in the special provisions for the project. Staging of structural elements shall be considered. Provisions for drainage shall be considered, included and indicated during all stages of construction operations.

5. Removal Item Sheets
   These sheets indicate removal of existing facilities necessary to the proposed construction. (1 inch=40 feet) (use same scale as plan/profile sheets).

6. Summary Sheets
   Summary Sheets are required to indicate type, quantity and/or location of work for individual items of the proposed project.

7. Alignment Layout Sheets
   These sheets indicate the horizontal alignment with curve data and coordinates usually tabulated thereon. On some projects, depending on size, this information may be included on the plan profile sheets. Usual scale (1 inch=100 feet) or (1 inch=40 feet).

8. Plan Profile Sheet
   Clarity and completeness should be the rule to follow in preparation of these sheets. Usual scale (1 inch=40 feet or 1 inch=50 feet) or (1 inch=20 feet), depending on project complexity.

9. Drainage Area Maps
   Usual scale (1 inch=100 feet) and/or (1 inch=200 feet) supplemented by large scale area maps as necessary.

10. Drainage Plan Profile Sheets
    These sheets may be required on some projects to clearly depict location of inlets, storm sewer lines, and profile of storm sewer lines and laterals. Usual scale (1 inch=40 feet or 1 inch=50 feet) or (1 inch=20 feet). Storm sewer design does include redesign of storm sewers imposed by utility constraints developing after initial reviews by the STATE and consequential redesign and adjustments.

11. Runoff, Inlet, Storm Sewer and Culvert Sheets
    Use standard sheets.

APPENDIX B - PLAN PREPARATION PROCEDURES (Continued)

12. Culvert Cross Sections and Details
District standard reproducible sheets can be furnished (one each) to the ENGINEER for modification of special designs.

13. Manhole and Inlet Details
District standard reproducible sheets can be furnished (one each) to the ENGINEER.

14. Miscellaneous Detail
Curb, Sidewalk, Driveways, etc.

15. Intersection Details

16. Marking Layouts and/or Details
Layouts of the entire project with markings depicted thereon. Usual scale 1:500 (1 inch=40 feet or 1 inch=50 feet). On some projects typical details might suffice.

17. Structural Details
Bridge layout sheets shall have the same horizontal and vertical scale. Usually (1 inch = 10 feet) (1 inch = 20 feet). Sections of existing and proposed structures usually have a scale of (1 inch = 5 feet). Elements of the bridge (abutments, bents, slabs, etc.) shall be detailed to a (1/2 inch = 1 foot) or (1/4 inch equals 1 foot) architect scale to provide clear legible drawings when reduced. Letters shall be a minimum size of 4 millimeters (5/32 inch) height for hand lettering and 140 for lettering by computer-aided design and drafting (CADD).

18. Overhead Sign Bridge Layouts
A maximum of four structures may be shown on each layout sheet. The reference to the appropriate overhead sign bridge (OSB) standard and the following requirements shall be shown on the layout:
(1) Drilled shaft size and length
(2) Soil strength used for design {indicate basis and boring(s) used}
(3) Design height
(4) Tower height
(5) Leg spacings and
(6) Design wind speed.
The wind speed design map need not be included in the project plans. Designation of tower member size and anchor bolt size shall not be shown. For OSBs which require special design, the design shall be in accordance with the AASHTO sign specifications (see Item 22 of References on page 49) and to the same loading requirements as for normal standard structures. Structures (special or standard) which will have changeable message signs shall be analyzed by the ENGINEER.

APPENDIX C - GENERAL PLAN CHECKLIST

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	Title Sheet
___	___	Project Layout
___	___	Sequence of Work
___	___	Detour Layouts & Profiles
___	___	Construction Pavement Markings
___	___	Signing & Barricades
___	___	Construction Sign & Beacons
___	___	Typical Sections
___	___	Shaping & Finishing Sections
___	___	Slopes Adjacent to Shoulders
___	___	Estimate & Quantities
___	___	General Notes & Specification Data
___	___	Grading Summary
___	___	Miscellaneous Summaries (See following "SUMMARIES" heading)
___	___	Horizontal Curve Data & Alignment Layouts
___	___	Drainage Summaries
___	___	Structure Summaries
___	___	Erosion Control Summary & Details
___	___	Plan/Profile Sheets
___	___	Erosion Control Summary & Details
___	___	Pavement Contours
___	___	Superelevation Transition (If Required)
___	___	Grading Contours
___	___	Guard Fence Layouts
___	___	Storm Water Pollution Prevention Plans (SW3P)
___	___	Drainage Area Maps
___	___	Hydraulic Data
___	___	Drainage Sheets
___	___	Bridge Hydrology Sheets
___	___	Inlet & Manhole Details
___	___	Utility Support Details
___	___	Culvert Cross Sections & Details
___	___	Special Culvert Designs
___	___	Special Drainage Details
___	___	Chain Link Fence Locations
___	___	Ramp Details Sheet
___	___	Removal Item Sheet - Including detours
		(Shown in detour summary, No payment for removal; subsidiary to construction detours)
___	___	Pavement Details
___	___	Pavement Standard Modification for Concrete Shoulder
___	___	Concrete Pavement Continuously Reinforced (CPCR)
___	___	Concrete Pavement Contraction Design (CPCD)
___	___	Concrete Pavement Details - Jointed Reinforced (Steel Bars) (CPJR)
___	___	Bridge Approach Slab Details
___	___	Vehicle Attenuator Details
___	___	Miscellaneous Details
___	___	Wheelchair Ramps
___	___	Pavement Marking Details
___	___	Modified Standards
___	___	List of Standards
___	___	Permanent Signing Plans & Quantities

APPENDIX C - GENERAL PLAN CHECKLIST *(continued)*

Services Provided By: ENGINEER	CITY/COUNTY	
___	___	Permanent Lighting Plans, Quantities & Standards
___	___	Bridge Layout(s)
___	___	Bridge Details
___	___	Retaining Wall Layout(s)
___	___	Retaining Wall Details
___	___	Pumphouse Details
___	___	Underdrain Details (Retaining Walls)
___	___	Culvert Standards
___	___	Soil Profile
___	___	Temporary Traffic Signals
___	___	Design Cross Sections
___	___	Estimate
___	___	List of Standard Specification, Special Provisions & Special Specifications
___	___	Detour Special Provisions (If Required)
___	___	Construction Time Estimate
___	___	Critical Path Method (CPM)
___	___	Unit Price Documentation

Miscellaneous

___	___	Conduit Requirements
___	___	Traffic signal Requirements

Summaries **(ALL BELOW YES FOR ENGINEER AND NO FOR COUNTY UNLESS NOTED OTHERWISE)**

___	___	Salvaging and Placing Topsoil
___	___	Prepare ROW
___	___	Remove Old Structures
___	___	Scarify Existing Pavement
___	___	Remove Old Concrete Curb of Curb and Gutter (C&G)
___	___	Remove Old Concrete Pavement
___	___	Remove Old Concrete Riprap
___	___	Remove Metal Beam Guard Fence
___	___	Galvanized steel Beam Guard Fence (12Ga) (GSBGF)
___	___	Temporary Guard Fence (TEMPGF)
___	___	Summary of Concrete Flumes
___	___	Curbs
___	___	Adjust Manholes & Inlets
___	___	Underdrains
___	___	Base and Pavement
___	___	Large Structure
___	___	Concrete Riprap (RR8 & RR9)
___	___	Temporary Portable Concrete Barrier (PCBR)
___	___	Concrete Traffic Barrier
___	___	Vehicle Attenuator
___	___	Guard Rail Energy Absorbing Terminal (Great System)
___	___	Pavement Markings & Blast Cleaning (Thermoplastic)
___	___	Retaining Walls
___	___	Large Structure Summaries
___	___	Small Structure Summaries

APPENDIX C - GENERAL PLAN CHECKLIST *(continued)*

Services Provided By: ENGINEER	CITY/COUNTY	**Summaries**	**(ALL BELOW YES FOR ENGINEER AND NO FOR COUNTY UNLESS NOTED OTHERWISE)**
___	___		Earthwork (Roadway & Channel) & Channel Details
___	___		Culverts
___	___		Detours
___	___		Seeding or Mulch Sod - Quantity Only
___	___		Inlet & Manholes
___	___		Sidewalks
___	___		Construction Pavement Markings
___	___		Driveways
___	___		Concrete Median
___	___		Storm Sewers
___	___		Head Walls & Safety End Treatments
___	___		Curb Openings
___	___		Manholes
___	___		Chain Link Fence, Remove & Replace Chain Link Fence
___	___		Remove & Relay Reinforced Concrete Pipe (RCP) or Pipe Sewer

Client: Hidalgo County Precinct 1

PROJECT DEVELOPMENT SCHEDULE
MILE 6W
(FROM MILE 11 TO SH 107)

EXHIBIT C

TASK AND DESCRIPTION	FIRM	2018							2019												2020												2021												2022
		JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN - DEC
W.A. No. 1: EA, Pub Inv, Schematic																																												
Public Involvement																																												
Develop Alternatives & Matrix	L&G																																											
Advertise & Conduct Public Meeting	L&G																																											
Select TPA	L&G																																											
Schematic																																												
Design Survey	L&G																																											
Update Schematic	L&G																																											
Hydrologic Map	L&G																																											
TxDOT Review & Revisions	TxDOT																																											
TxDOT Updated Schematic Approval	TxDOT																																											
Environmental Document																																												
Field Visits, Submit Technical Reports, etc…	L&G																																											
Submit Final Draft Document	L&G																																											
Environmental Decision	TxDOT																																											
W.A. No. 2: ROW Map & Acquisition (Section 1)																																												
ROW Map																																												
Prepare ROW Map	L&G																																											
TXDOT Review & Revisions	TxDOT																																											
TxDOT ROW Map Approval	TxDOT																																											
ROW Acquisition (55 Parcels)																																												
ROW Release (Dependent on Availability of Funds)	TxDOT																																												
Project Administration	L&G																																												
Coordination with County & TxDOT	L&G																																												
Title Commitments	L&G																																												
Appraisal Reports	L&G																																												
Appraisal Review Reports	L&G																																												
Appraisal Update Reports	L&G																																												
Approved Values by TxDOT	TxDOT																																											
Acquisition Negotiation Offers	L&G																																												
Title Curative Process	L&G																																												
Title Commitment Updates	L&G																																												
Payments for Parcels	L&G																																												
L&G Condemnation Support Process	L&G																																												
Eminent Domain Proceedings by County	County																																												
Title Insurance Policies	L&G																																												
Consumation of Outstanding Cases	L&G																																												
W.A. No. 3: PS&E & Constr. Oversight(Section 1)																																												
PS&E																																												
Compensable Utility Oversight	L&G																																												
Outfall Coordination with HCDD #1	L&G																																												
30% PS&E Completion	L&G																																												
60% PS&E Completion	L&G																																												
90% PS&E Completion	L&G																																												
95% PS&E Completion	L&G																																												
100% Mylars	L&G																																												
TxDOT (Austin) Plan Set Approval	L&G																																												
Construction																																												
Let Project (Est. Earliest Date: Sept 2021)	County																																												
Construction Duration	County																																												EST 18 MONTHS CONSTRUCTION
Open To Traffic	County																																												

L&G FUNCTION
ENVIRONMENTAL ASSESSMENT WORK
TXDOT FUNCTION
HIDALGO COUNTY FUNCTION

8:58 AM7/18/2018

Client: Hidalgo County Precinct 1

PROJECT DEVELOPMENT SCHEDULE
MILE 6W
(FROM MILE 11 to SH 107)

EXHIBIT C

TASK AND DESCRIPTION	FIRM	2020												2021												2022												2023
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN - DEC
W.A. No. 4: ROW Map & Acquisition (Section 2)																																						
ROW Map																																						
Prepare ROW Map	L&G																																					
TXDOT Review & Revisions	TxDOT																																					
TxDOT ROW Map Approval	TxDOT																																					
ROW Acquisition (109 Parcels)																																						
ROW Release (Dependent on Availability of Funds)	TxDOT																																					
Project Administration	L&G																																					
Coordination with County & TxDOT	L&G																																					
Title Commitments	L&G																																					
Appraisal Reports	L&G																																					
Appraisal Review Reports	L&G																																					
Appraisal Update Reports	L&G																																					
Approved Values by TxDOT	TxDOT																																					
Acquisition Negotiation Offers	L&G																																					
Title Curative Process	L&G																																					
Title Commitment Updates	L&G																																					
Payments for Parcels	L&G																																					
L&G Condemnation Support Process	L&G																																					
Eminent Domain Proceedings by County	County																																					
Title Insurance Policies	L&G																																					
Consumation of Outstanding Cases	L&G																																					
W.A. No. 5: PS&E & Constr Oversight(Section 2)																																						
PS&E																																						
Compensable Utility Oversight	L&G																																					
Outfall Coordination with HCDD #1	L&G																																					
30% PS&E Completion	L&G																																					
60% PS&E Completion	L&G																																					
90% PS&E Completion	L&G																																					
95% PS&E Completion	L&G																																					
100% Mylars	L&G																																					
TxDOT (Austin) Plan Set Approval	L&G																																					
Construction																																						
Let Project (Est. Earliest Date: Sept 2022)	County																																					
Construction Duration	County																									EST 18 MONTHS CONSTRUCTION												
Open To Traffic	County																																					

8:58 AM7/18/2018

EXHIBIT "D"
CONTRACT RATES

L&G Consulting Engineers, Inc.

Labor/Staff Classification	Audited Overhead Rate FY 2016 Hourly Base Rate	Contract Rate FY 18
Senior Project Manager	$ 74.00	$ 215.34
Engineer - Senior Engineer	$ 62.00	$ 180.42
Geotechnical Engineer	$ 60.00	$ 174.60
Senior Environmental Scientist / Specialist	$ 59.00	$ 171.69
Engineer - Project Engineer	$ 48.00	$ 139.68
Right-of-Way Administrator	$ 68.00	$ 197.88
Senior Project Inspector	$ 31.00	$ 90.21
Senior Engineer Tech	$ 40.00	$ 116.40
Project Inspector	$ 28.00	$ 81.48
Engineering Lab Manager	$ 40.00	$ 116.40
Right-of-Way Negotiator	$ 43.00	$ 125.13
Record Keeper	$ 30.00	$ 87.30
Engineering Tech / GIS	$ 27.00	$ 78.57
Environmental Planner/Specialist	$ 29.00	$ 84.39
Admin/Clerical	$ 20.00	$ 58.20
Soil & Aggregate Technician	$ 20.00	$ 58.20
Concrete Technician	$ 20.00	$ 58.20
Asphalt Technician	$ 20.00	$ 58.20

Negotiated Overhead Rate: 159.67% Negotiated Profit Rate: 12.00% Multiplier: 2.91	Contract Rates include labor, overhead and profit. All rates are negotiated rates and are not subject to change or adjustment.

Other Direct Expenses:	Cost:
Lodging	$85/night
Meals	$36/day
Mileage	$0.54/mile
Car Rental	$75.00/day
8 1/2" X 11" copies (B&W)	$.50/ea
11" X 17" copies (B&W)	$.75/ea
11" X 17" Mylar	$2.00/ea
Overnight Mail - Letter Size	$15.00/Each
Overnight Mail - Oversized Box	$38.00/Each
Air Travel	At Cost

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L&G Consulting Engineers, Inc.

CONTRACT RATES

GEOTECHNICAL & CONSTRUCTION MATERIALS TESTING SERVICES

Direct Expenses

Geotechnical Field Services	**2018**
Mobilization (Drill Rig and Crew)	$468.56/Day
Stand-By Time	$206.01/Hr
Texas Cone Penetration Test (Tex-132)	$5.89/Ea.
Soil Boring / Solid Stem	$32.97/Lf
Soil Boring / Hollow Stem	$32.97/Lf
Soil Boring / Mud Rotary	$32.97/Lf
Support Truck	$1.75/Mi.
Piezometer / Monitoring Well	**By Quote**

Soil Testing	**2018**
Moisture Content Determination - ASTM D2216/Tex-103-E	$11.20/Ea.
Determination of Liquid Limit of Soils - Tex-104-E	$56.38/Ea.
Determination of Plastic Limit of Soils - Tex-105-E	$56.62/Ea.
Atterberg Limits of Soils - ASTM D 4318/Tex-106-E	$84.51/Ea.
Bar Linear Shrinkage of Soils - Tex-107-E	$70.51/Ea.
Particle Size Analysis of Soils (Gradation) - ASTM D 422/Tex-110-E	$101.59/Ea.
Material Finer #200 Sieve - ASTM D 1140/Tex-111-E	$70.51/Ea.
Lime Series Testing (PI Relation) - Tex-112-E	$507.07/Ea.
Lime Series Testing (pH Relation) - Tex-121-E (Part III)	$549.97/Ea.
Moisture-Density Relationship (TxDOT) - Tex-113-E /Tex-114-E	$225.54/Ea.
Standard Proctor - ASTM D 698	$218.35/Ea.
Standard Proctor Soil-Cement - ASTM D 558	$257.50/Ea.
Modified Proctor - ASTM D 1557	$225.45/Ea.
Field Density Test (Nuclear) - ASTM D 6938/Tex-115-E	$25.37/Ea.
Compressive Strength Soil-Cement Cyl. – ASTM D 1633 (Method A)	$87.55/Ea.
Determination of Soil pH - Tex-128-E	$91.66/Ea.
Soil-Lime Testing - Tex-121-E (Part I)	$169.15/Ea.
Resistivity of Soils - Tex-129-E	$102.54/Ea.
Sulfate Content of Soils - Tex-145-E	$91.66/Ea.
Texas Wet Ball Mill (Material Quality) - Tex-116-E	$246.72/Ea.
Triaxial Compression (Dist. Soil & Base) - Tex-117-E	$371.32/Ea.
Unconfined Compression-Soil - ASTM D 2166	$52.99/Ea.
Uniaxial Compression-Rock - ASTM D 7012	$56.52/Ea.
Consolidation Test - ASTM D 2435	$553.27/Ea.
Organic Content – ASTM D 2974 (Method C)	$87.55/Ea.
Dispersive Charateristics of Soil (Double Hydrometer) – ASTM D4221	$154.50/Ea.
Dispersive Charateristics of Soil (Crumb Test) – ASTM D6572	$56.55/Ea.
Classification Of Dispersive Clay (Pinhole Test) – ASTM D4647	$154.50/Ea.

Coarse & Fine Aggregate Quality Testing	**2018**
Sieve Analysis (Dry)(4 Sieves) - ASTM C 136/Tex-200-F	$63.37/Ea.
Sieve Analysis (Washed)(4 Sieve) - ASTM C 136/Tex-200-F	$76.67/Ea.
Sieve Analysis (Conc. Aggregate)(5 Sieve) - Tex-401-A	$90.18/Ea.
Sieve Analysis (Additional Sieves) - All Methods	$14.12/Ea.
Deleterious Material (Coarse Aggr.) - Tex-217-F (Part I)	$49.34/Ea.
Deleterious Material (Concrete Aggr.) - Tex-413-A	$49.34/Ea.
Decantation (Coarse Aggr.) - Tex-217-F (Part II)	$49.34/Ea.
Decantation Test (Fine Aggr. - Conc.) - ASTM C 117/Tex-406-A	$49.34/Ea.
Specific Gravity/Absorp. (Conc. Aggr) - ASTM C127/Tex-403-A	$77.44/Ea.
L.A. Abrasion - ASTM C131/ Tex-410-A	$598.93/Ea.
Soundness (5 Cycle Magnesium Sulfate) - ASTM C 88/Tex-411-A	$598.93/Ea.
SSD Unit Weight of Aggregates - ASTM C29/Tex-404-A	$70.51/Ea.
Percent Voids/Solids in Conc. Aggr. - Tex-405-A	$14.06/Ea.

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CONTRACT RATES

*(In Conjunction w/ SSD Unit Wt of Aggregates)	
Sand Equivalent - ASTM D 2419/Tex-203-F	$77.44/Ea.
Specific Gravity / Absorption (Fine Aggr.) - ASTM C 128/Tex -403-A	$84.52/Ea.
Organic Impurities in Fine Aggregate -ASTM C 87/Tex -408-A	$49.34/Ea.
Fineness Modulus of Fine Aggregate - Tex-402-A	$16.92/Ea.
Flat & Elongated Particles (Coarse Aggr.) - Tex-280-F	$63.65/Ea.
Coarse Aggr. Crushed Face (Coarse Aggr.) - Tex-460-A (Part I)	$84.87/Ea.
Acid Insoluble of Fine Aggregate - Tex-612-J	$91.66/Ea.

Pavement Testing (Mix & Roadway) / Asphalt Quality	**2018**
Sieve Analysis (Paving Mix Gradation) - Tex-236-F/Tex-200-F	$95.48/Ea.
Asphalt Content - Tex-236-F	$95.48/Ea.
Voids in Mineral Aggr. (VMA) - Tex-207-F	$116.70/Ea.
Boil Test (Effect of Water on Paving Mix) - Tex-530-C/Tex-531-C	$91.66/Ea.
Indirect Tensile Strength Test - Tex-226-F	$636.54/Ea.
Moisture Content (Paving Mix) - Tex-212-F (Part II)	$15.91/Ea.
Lab Molded Density - Tex-207-F	$84.87/Ea.
Hamburg Wheel Tracker - Tex-242-F	$954.81/Ea.
Field Coring – ACP Thickness - ASTM D 3549	$70.51/Ea.
Pavement Thickness Det. (Full Depth) - ASTM D 3549	$93.83/Ea.
Density of Cores (4 or 6 inch) (Set of 2) - Tex-207-F	$77.49/Ea.
In-Place Air Voids - Tex-207-F	$26.52/Ea.
Maximum Theoretical SPG (Rice Gravity) - Tex-227-F	$95.48/Ea.
Extraction/Sieve Analysis/Asphalt Content - Tex-210-F/Tex-200-F	$246.63/Ea.
Asphalt Rolling Pattern (Nuclear Method) - Tex-207-F (Part IV)	$42.29/Ea.
Segregation Profile - Tex-207-F (Part V)	$318.27/Ea.
Joint Density - Tex-207-F (Part VII)	$318.27/Ea.
Tack Coat Adhesion - Tex-243-F	$106.09/Ea.
Thermal Profile - Tex-244-F	$185.66/Ea.
Ride Quality - Tex-1001-S	**By Quote**
Pavement Investigation (All Inclusive – QA Verification Field Sample) ~ Includes Core Exist. Asphalt for Thick. Perform Caliche Base Thick., Sieve Analysis & P.I., Stabilized Subgrade Thickness & P.I	$528.41/Ea.

Concrete/Masonry Field & Laboratory Testing	**2018**
Temperature Test (Fresh Mix Conc.) – ASTM C 1064/Tex-422-A	No Charge
Slump Test - ASTM C 143/Tex-415-A	No Charge
Air Content (Pressure Method) - ASTM C 231/Tex-416-A	$25.32/Ea.
Air Content (Volumetric) - ASTM C 173	$28.18/Ea.
Casting of Concrete Cylinders - ASTM C 31/Tex-447-A	No Charge
Cylindrical Specimen Prep./Hold/Cure - ASTM C 192/ Tex-447-A	$12.73/Ea.
Compressive Strength of Cyl. Specimen - ASTM C 39/Tex-418-A	$16.89/Ea.
Casting of Grout Prisms - ASTM C 1019	No Charge
Grout Prism Prep./Cure/Comp. Strength - ASTM C 39	$35.26/Ea.
Casting of Mortar Cubes - ASTM C 780	No Charge
Mortar Cube Prep./Cure/Comp. Strength - ASTM C 109	$34.45/Ea.
Masonry Unit Prep. /Comp. Str. (Set of 3) - ASTM C 140	$246.56/Ea.
Masonry Unit SPG/Abs./Unit Wt. (Set of 3) - ASTM C 140	$246.56/Ea.
***(In Conjunction w/ Field Inspection)**	

Miscellaneous Testing	**2018**
Drilled Shaft Slurry Density - Tex-130-E (Part II)	$26.52/Ea.
Drilled Shaft Slurry Sand Content - Tex-130-E (Part III)	$21.22/Ea.
Drilled Shaft Slurry Viscosity - Tex-130-E (Part IV)	$26.53/Ea.

Engineering Review, Evaluation, Management & Administration	**2018**
Test Report	$25.03/Ea.

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L&G Consulting Engineers, Inc.

CONTRACT RATES

The specific hourly rate within each classification listed under Labor/Staff Classification depends on the experience, training, and qualifications of the personnel. A two (2) hour minimum billing at the applicable rate will be assessed per visit to project site.

Services provided on Saturday, Sunday and all work in excess of "normal" work hours will be invoiced at an overtime rate 1.5 times the applicable rate for the work performed. The cost of services is based upon the assumption that services will be provided during "normal" working hours. Normal working hours are between 7:00 a.m. and 6:00 p.m., Monday through Friday.

All other project specific, third-party costs will be charged at cost plus 10 percent.

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EXHIBIT "D-1"

MILE 6 : FROM MILE 11 TO SH 107

ESTIMATED PROJECT COSTS

ROADWAY PROJECT:	**MILE 6 (from Mile 11 to SH 107)**					
LIMITS: .....(SECTION 1).....	from Mile 11 to Mile 13 1/2					
LIMITS: .....(SECTION 2).....	from Mile 13 1/2 to SH 107					
EXISTING ROADWAY SECTION:	2 - Lane Rural					
EXISTING ROW WIDTH:	65' to 80' Varies					
PROPOSED ROADWAY SECTION:	4-Lane Divided Roadway					
PROPOSED ROW WIDTH: SECTION 1 & 2.....	104-ft					
ESTIMATED COST SECTION 1 (82' URBAN ROADWAY)	**$11,250,000.00**					
EST CONST COST OUTFALLS ..(CLEAN 3 EXISTING OUTFALLS (1320 +2640+1320)	$1,051.85		OUTFALL(S) LENGTH (MILES)	1.5		
EST CONST COST OUTFALLS ..(Outfall No. 4 New Location 2640-lf)	$586,666.67					
EST CONST COST IRRIG STR...(1-8X8 Conc Irrigation Structure w/bypass)	$120,000.00					
SUB-TOTAL - SECTION 1	**$11,957,718.52**					
ESTIMATED COST SECTION 2 (82' URBAN ROADWAY)	**$13,500,000.00**					
EST CONST COST OUTFALLS ..(CLEAN 5 EXISTING (1320 +1320+2640+2640+1320)	$1,785.19		OUTFALL(S) LENGTH (MILES)	1.75		
EST CONST COST IRRIG STR...(2-8X8 Conc Irrigation Structure w/bypass)	$0.00					
SUB-TOTAL - SECTION 2	**$13,501,785.19**					
LENGTH FOR 4-LANE ROADWAY ...(SECTION 1).....	2.5 Miles					
LENGTH FOR 4-LANE ROADWAY ...(SECTION 2).....	3.0 Miles					

ESTIMATED PROJECT COSTS	*ESTIMATED % LOCAL COST*	*ESTIMATED % COMPLETE WORK TO DATE*	*TOTAL ESTIMATED PROJECT COST*	*ESTIMATED COST TO COMPLETE PROJECT*	*HCMPO FUNDING*	*FUNDING YEAR*
(SECTION I & II) (PROP 68' RURAL ROADWAY - PHASE I						
PHASE I - EA, PUBLIC INVOLVEMENT & SCHEMATIC						
Determ. of Local Costs vs State Cost/Feas. Study and Agrmt./ AFA w/ TxDOT/LPA coord. Etc	100%	100%	$ -	$ -		
Environmental Document with TxDOT	100%	100%	$ -	$ -		
Public Involvement for the project with stakeholders and 1 Public Meeting	100%	100%	$ -	$ -		
Archeological and Historical Research	100%	100%	$ -	$ -		
Engineering Technical Support at Public Mtgs with Layouts etc	100%	100%	$ -	$ -		
Schematic for Roadway & siphons	100%	100%	$ -	$ -		
Traffic Signal Warrants (6 Locations)	100%	100%	$ -	$ -		
Hydrological Map for Outfall Drain Ditches outfalls & capacities	100%	100%	$ -	$ -		
Office Surveys for Schem. (Prel. Owner Ident. and Comp. Property Rights) RDWY & Outfalls	100%	100%	$ -	$ -		
Update Schem. based on comments as provide by TxDOT/FHWA and EA update w/ FHWA	100%	100%	$ -	$ -		
Engineering Technical Support to address Public Hearing with Layouts etc	100%	100%	$ -	$ -		
Either address the Public or hold 1 Public Hearing	100%	100%	$ -	$ -		
SUB-TOTAL (PAID TO TEDSI)			$ -	$ -		
WORK AUTHORIZATION NO.1						
(SECTION I & II) (PROP 82' F-F ROADWAY)						
PHASE I - EA, PUBLIC INVOLVEMENT & SCHEMATIC						
Determ. of Local Costs vs State Cost/Feas. Study and Agrmt./ AFA w/ TxDOT/LPA coord. Etc	100%	0%	$ 30,000.00	$ 30,000.00		
Re-Evaluation of Environmental Document with TxDOT **(new intersections and (9) outfalls**	100%	0%	$ 86,400.00	$ 86,400.00		
Public Involvement for the project with stakeholders (affected Owners) and NO Public Meeting	100%	0%	$ 43,200.00	$ 43,200.00		
Archeological and Historical Research	100%	0%	$ 37,500.00	$ 37,500.00		
Engineering Technical Support for limited public Involment	100%	0%	$ 36,000.00	$ 36,000.00		
Schematic for Roadway	100%	0%	$ 180,000.00	$ 180,000.00		
Schematic for (9) Outfalls	100%	0%	$ 180,000.00	$ 180,000.00		
Traffic Count Projections for 20-yrs for schematics	100%	0%	$ 40,000.00	$ 40,000.00		
Field Surveys for Design and Construction of Roadway and 9 Outfalls	100%	0%	$ 455,000.00	$ 455,000.00		
Sub-Surface Utility Engineering (SUE) 25 pot holes/mile (Roadway and Outfalls)	100%	0%	$ 218,750.00	$ 218,750.00		
Traffic Signal Re-Warrant at SH 107 and 9 Multiway Stop Control Warrant Studies	100%	0%	$ 74,000.00	$ 74,000.00		
Hydrological Map for Outfall Drain Ditches outfalls & capacities	100%	0%	$ 90,000.00	$ 90,000.00		
Office Surveys for Schem. (Prel. Owner Ident. and Comp. Property Rights) RDWY & Outfalls	100%	0%	$ 90,000.00	$ 90,000.00		
Update Schem. based on comments as provide by TxDOT/FHWA and EA update w/ FHWA	100%	0%	$ 45,000.00	$ 45,000.00		
Engineering Technical Support to address Public Hearing with Layouts etc	100%	0%	$ -	$ -		
Either address the Public or hold 1 Public Hearing	100%	0%	$ -	$ -		
SUB-TOTAL (PAID TO TEDSI)			**$ 1,605,850.00**	**$ 1,605,850.00**		
WORK AUTHORIZATION NO.2						
Phase II - ROW MAP and Acquisition, (SECTION 1)						
Complete ROW Map Roadway (Estimated 55 Parcels)	100%	0%	$ 231,000.00	$ 231,000.00		
Complete ROW Map (4) Outfalls (Estimated 20 Parcels)	100%	0%	$ 84,000.00	$ 84,000.00		
Right-of-Way Costs - Acq. Services - est. 55 Parcels RDWY AND 20 OUTFALL	100%	0%	$ 1,110,000.00	$ 1,110,000.00		
Est. County Attorney Costs for Condemnation ($15,000 / Parcel based on 20% Total of Parcels)	100%	0%	$ 225,000.00	$ 225,000.00		
Est. Compensable Utility Mngmt for Acq. of Property Rights and Compensation for Utility Adjust(s)	100%	0%	$ 168,000.00	$ 168,000.00		
Est. Roadway Right-of-Way Costs (Estimated 9.84 Ac. @ $3.5/sq ft)	20%	0%	$ 1,509,354.00	$ 301,870.80		
Est. OUTFALL Right-of-Way Costs (Estimated 27.3 Ac. @ $12,000/AC))	20%	0%	$ 327,272.73	$ 65,454.55		
COMPENSABLE UTILITY COSTS	20%	0%	$ 600,000.00	$ 120,000.00		
Right-of-Way State Division Review and Oversight (1.2% OF ROW COSTS)	100%	0%	$ 29,239.52	$ 29,239.52		
PHASE III SUB-TOTAL (SECTION 1)			**$ 4,283,866.25**	**$ 2,334,564.87**		
WORK AUTHORIZATION NO. 3						
Phase II - PS&E & Construction Oversight (SECTION 1)						
PS&E Development Roadway (8% Engineering Fee)	100%	0%	$ 956,617.48	$ 956,617.48		
PS&E Development for 4-OUTFALL (s) (one on 1/2 mile new location) (1.5 Miles)	100%	0%	$ 240,000.00	$ 240,000.00		
Permanent Multiway control signs and Signals and Temporary Signal Designs	100%	0%	$ 30,000.00	$ 30,000.00		
PS&E Development for Irrigation Structures ,Siphon and Irrigation Bypass	100%	0%	$ 180,000.00	$ 180,000.00		
Geotechnical and Pavement Design for TxDOT	100%	0%	$ 90,000.00	$ 90,000.00		
Engineering Fee to Create 1 set of Plans and Submit through TxDOT	100%	0%	$ 90,000.00	$ 90,000.00		
Permitted Utilities Coordination to adjust	100%	0%	$ 115,200.00	$ 115,200.00		
Eng Consultant Construction Management (24 Months)	100%	0%	$ 201,600.00	$ 201,600.00		
ROADWAY CONSTRUCTION COST	3.4%	0%	$ 11,957,718.52	$ 406,562.43		
TxDOT /LPA Construction Inspection (11%)	3.4%	0%	$ 1,315,349.04	$ 44,721.87		
Est Direct State Costs for TXDOT Review and Oversight (Est. 15% of (PS&E + EA Document Cost)	100%	0%	$ 192,452.62	$ 192,452.62		
PHASE II SUB-TOTAL (SECTION 1)			**$ 15,368,937.66**	**$ 2,547,154.40**		
WORK AUTHORIZATION NO. 4						
Phase III - ROW map and Acquisition (SECTION 2)						
Complete ROW Map (Estimated 109 Parcels)	100%	0%	$ 457,800.00	$ 457,800.00		
Complete ROW Map (5) Outfalls (Estimated 25 Parcels)	100%	0%	$ 105,000.00	$ 105,000.00		
Right-of-Way Costs - Acq. Services - est. 109 RDWY & 25 OUTFALL Parcels	100%	0%	$ 1,983,200.00	$ 1,983,200.00		
Est. County Attorney Costs for Condemnation ($15,000 / Parcel based on 20% Total of Parcels)	100%	0%	$ 402,000.00	$ 402,000.00		
Est. Compensable Utility Mngmt for Acq. of Property Rights and Compensate for Utility Adjust(s)	100%	0%	$ 243,000.00	$ 243,000.00		
Est. Roadway Right-of-Way Costs (Estimated 13.92 Ac. @ $3.5/sq ft)	20%	0%	$ 2,134,440.00	$ 426,888.00		
Est. OUTFALL Right-of-Way Costs (Estimated 31.82 Ac. @ $12,000/AC))	20%	0%	$ 381,818.18	$ 76,363.64	$ 5,000,000.00	FY 2022
COMPENSABLE UTILITY COSTS	20%	0%	$ 300,000.00	$ 60,000.00		
Right-of-Way State Division Review and Oversight (1.2% OF ROW COSTS)	100%	0%	$ 33,795.10	$ 33,795.10		
PHASE II SUB-TOTAL (SECTION 2)			**$ 6,041,053.28**	**$ 3,788,046.73**		
WORK AUTHORIZATION NO. 5						
Phase II - PS&E & Construction Oversight (SECTION 2)						
PS&E Development Roadway (8% Engineering Fee)	100%	0%	$ 1,080,142.81	$ 1,080,142.81		
PS&E Development for(5) OUTFALL (1.75 miles)	100%	0%	$ 300,000.00	$ 300,000.00		
Permanent Multiway control signs and Signals and Temporary Signal Designs	100%	0%	$ 30,000.00	$ 30,000.00		
PS&E Development for Irrigation Structures	100%	0%	$ 180,000.00	$ 180,000.00		
Geotechnical and Pavement Design for TxDOT	100%	0%	$ 90,000.00	$ 90,000.00		
Engineering Fee to Create 1 set of Plans and Submit through TxDOT	100%	0%	$ 66,000.00	$ 66,000.00		
Permitted Utilities Coordination to adjust	100%	0%	$ 144,000.00	$ 144,000.00		
Eng Consultant Construction Management (24 Months)	100%	0%	$ 252,000.00	$ 252,000.00		
ROADWAY CONSTRUCTION COST	1%	0%	$ 13,501,785.19	$ 135,017.85	$ 33,701,489.00	FY 2031 - 2035
TxDOT /LPA Construction Inspection (11%)	1%	0%	$ 1,485,196.37	$ 14,851.96	$ 911,000.00	FY 2031 - 2035
Est Direct State Costs for TXDOT Review and Oversight (Est. 15% of (PS&E)Cost)	100%	0%	$ 207,021.42	$ 207,021.42		
PHASE III SUB-TOTAL (SECTION 2)			**$ 17,336,145.79**	**$ 2,499,034.05**		
ESTIMATED TOTAL			**$ 44,635,852.98**	**$ 12,774,650.05**		

WORK AUTHORIZATION NO. 1 (PHASE I) (SECTION I & II)	**FY 2018**	**$ 1,605,850.00**	**NOT ISSUED**
WORK AUTHORIZATION NO. 2 (PHASE II) (SECTION I)	**FY 2018**	**$ 1,593,000.00**	**NOT ISSUED**
LPA COSTS NOT INCLUDED IN WORK AUTH. NO. 2:	FY 2018	$ 741,564.87	
WORK AUTHORIZATION NO. 3 (PHASE III) (SECTION I)	**FY 2019**	**$ 1,903,417.48**	**NOT ISSUED**
LPA COSTS NOT INCLUDED IN WORK AUTH. NO. 3:	FY 2020	$ 643,736.92	
WORK AUTHORIZATION NO. 4 (PHASE II) (SECTION II)	**FY 2020**	**$ 2,789,000.00**	**NOT ISSUED**
LPA COSTS NOT INCLUDED IN WORK AUTH. NO. 4:	FY 2021	$ 999,046.73	
WORK AUTHORIZATION NO. 5 (PHASE III) (SECTION II)	**FY 2021**	**$ 2,142,142.81**	**NOT ISSUED**
LPA COSTS NOT INCLUDED IN WORK AUTH. NO. 5:	FY 2022	$ 356,891.24	

TOTAL ESTIMATED LPA COST:	**$ 12,774,650.05**	28.6%
COMBINED TOTAL ESTIMATED PROJECT COST FOR SECTIONS I & II	**$ 44,635,852.98**	
LPA COSTS NOT INCLUDED IN WORK AUTHORIZATION(S):	**$ 2,741,239.76**	

Updated by Jacinto Garza 5-4-2018

EXHIBIT "E"

Sample Work Authorization

HIDALGO COUNTY

Professional Engineering Services

Contract # C-_____

Work Authorization Form

WORK AUTHORIZATION NO. ____

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article I. of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**," and, **L & G Consulting Engineers, Inc.** *d/b/a* **L & G Engineering**, professional engineers of Mercedes, Texas, hereinafter called "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Engineer** to provide _____.

The scope of services to be provided by the **Owner** is identified in ***EXHIBIT "A" – Scope of Services to be provided by the Owner*** attached hereto.

The scope of services to be provided by the **Engineer** is identified in ***EXHIBIT "B" – Scope of Services to be provided by the Engineer*** attached hereto.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **$**_____. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as ***EXHIBIT "D-1" Project Fee Schedule and Estimated Manhour Breakdown.***

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with **Article 6** of the Agreement.

PART 4. FUNDING

This Work Authorization No.1 shall be funded through funding source:

Account No. _____

Requisition Number _____ **(MUST BE INCLUDED AFTER CC APPROVAL)**

EXHIBIT "E"

Sample Work Authorization

PART 5. PERIOD OF SERVICE

This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and terminate upon completion of scopes of the work authorization.

PART 6. RESPONSIBILITIES AND OBLIGATIONS

This Authorization does not waive the parties' responsibilities and obligations provided under the **Agreement**.

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by **Hidalgo County _____,** Commissioner _____ as to content and detail of this **Work Authorization No. 1**.

HIDALGO COUNTY
COMMISSIONER PRECINCT NO. __

BY:_____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below.

THE ENGINEER:
L&G ENGINEERING

_____
By: Jacinto Garza, P.E.
President

THE OWNER:
HIDALGO COUNTY

_____
By: Ramon Garcia,
County Judge

ATTEST:

_____
By: Arturo Guajardo, Jr., County Clerk

LIST OF EXHIBITS

Location Map
Exhibit A – Services to be provided by Owner
Exhibit B – Services to be provided by Engineer
Exhibit C – Work Schedule
Exhibit D–1 – Project Fee Schedule and Estimated Manhour Breakdown

EXHIBIT "F"

Supplemental Agreement Form

THE STATE OF TEXAS §
§
COUNTY OF HIDALGO §

SUPPLEMENTAL AGREEMENT NO. _____

TO AGREEMENT FOR PROFESSIONAL SERVICES

This **SUPPLEMENTAL AGREEMENT** is made pursuant to the terms and conditions of Article 8 of the Agreement made by and between **HIDALGO COUNTY**, acting herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**", and _____, Professional Engineers of, _____, Texas, hereinafter called "**Engineer**".
WITNESSETH

WHEREAS, the **Owner** and the **Engineer** executed the **Agreement** on the ____ day of _____ 2018 concerning engineering for _____ (hereinafter referred to as the "**Project**"); and,

WHEREAS, Article ____ of the **Agreement**, (article title), establishes _____; and,

WHEREAS, it has become necessary to amend the contract to

_____

_____

A. AGREEMENT

NOW THEREFORE, premises considered, the **Owner** and the **Engineer** agree that said **Agreement** is amended as follows:

I. Article _____ of the **Agreement,** (article title), is revised to

_____

_____

_____

_____

All other provisions are unchanged and remain in full force and effect.

EXHIBIT "F"

Supplemental Agreement Form

IN WITNESS WHEREOF, the Engineer and the Owner have caused this Supplemental Agreement to the Agreement for Professional Services to be executed as of the _____ day of _____, 2018.

THE ENGINEER:
ENGINEER

BY: _____

THE OWNER:
HIDALGO COUNTY

BY: _____
Ramon Garcia, County Judge

LIST OF ATTACHMENTS
(as required)

EXHIBIT “G”

Certificate of Insurance

L&GCO-1 OP ID: CS

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 07/17/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER 956-682-2841
Cameron Investment Company Inc
DBA Shepard Walton King Ins Gr
121 W. Pecan
McAllen, TX 78501
Cynthia Cabaza, CIC

CONTACT NAME: Jannet Castaneda
PHONE (A/C, No, Ext): 956-682-2841 FAX (A/C, No): 956-630-4015
E-MAIL ADDRESS: jcastaneda@swkins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : United Fire & Casualty Co.	13021
INSURER B : Texas Mutual Insurance Co.	22945
INSURER C : Admiral Insurance Co.	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED L&G Consulting Engineers Inc
dba L&G Engineering
2100 W Expressway 83
Mercedes, TX 78570

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$ 1,000,000
	CLAIMS-MADE X OCCUR			85321487	07/19/2018	07/19/2019	DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 5,000
							PERSONAL & ADV INJURY	$ 1,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ 2,000,000
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ 2,000,000
	OTHER:						Emp Ben.	$ 1,000,000
A	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
	X ANY AUTO			85321487	07/19/2018	07/19/2019	BODILY INJURY (Per person)	$
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
A	X UMBRELLA LIAB X OCCUR			85321487	07/19/2018	07/19/2019	EACH OCCURRENCE	$ 2,000,000
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ 2,000,000
	DED X RETENTION $ 0							$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N			0001309560	07/19/2018	07/19/2019	PER STATUTE OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) N / A						E.L. EACH ACCIDENT	$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Professional Liab			EO000046153-01	07/19/2018	07/19/2019	Limit	2,000,000
							Deduct	50,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Additional Insured per written contract per form CG70870717 Primary & Non Contributory per form CG20010413 & IL71051014; Waiver of Transfer Rights per form CG24040509; Auto: Additional Insured & Waiver of Subrogation per form CA71090117; Primary & Non Contributory per form CA73340915; Worker Comp: Waiver of Subrogation Form WC420304B.

CERTIFICATE HOLDER HIDALC2

Hidalgo County
2802 S Business Hwy 281
Edinburg, TX 78542

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Shepard Walton King Insurance Group

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2018-385588

Date Filed:
07/27/2018

Date Acknowledged:

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.
L&G Consulting Engineers, Inc.
Mercedes , TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.
Hidalgo County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.
C-18-195-07-31
Mile 6 (from Mile 11 to SH 107) Agreement and Work Auth. No. 1 for Professional Engineering Services

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Sandoval , Armando	Mercedes, TX United States		X
Garza , Jacinto	Mercedes , TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is Jacinto Garza, and my date of birth is Oct 23, 1961.

My address is 2100 W Expwy 83, Mercedes, Tx, 78570, USA
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in Hidalgo County, State of Texas, on the 27th day of July, 20 18.
(month) (year)

Signature of authorized agent of contracting business entity
(Declarant)

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY
CERTIFICATION OF FILING

Certificate Number:
2018-385588

Date Filed:
07/27/2018

Date Acknowledged:
07/27/2018

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

L&G Consulting Engineers, Inc.
Mercedes , TX United States

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

Hidalgo County

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

C-18-195-07-31
Mile 6 (from Mile 11 to SH 107) Agreement and Work Auth. No. 1 for Professional Engineering Services

4 Name of Interested Party	City, State, Country (place of business)	Nature of interest (check applicable)	
		Controlling	Intermediary
Sandoval , Armando	Mercedes, TX United States		X
Garza , Jacinto	Mercedes , TX United States	X	

5 Check only if there is NO Interested Party. ☐

6 UNSWORN DECLARATION

My name is _____, and my date of birth is _____.

My address is _____, _____, _____, _____, _____.
(street) (city) (state) (zip code) (country)

I declare under penalty of perjury that the foregoing is true and correct.

Executed in _____County, State of _____, on the _____day of _____, 20_____.
(month) (year)

_____
Signature of authorized agent of contracting business entity
(Declarant)

HIDALGO COUNTY
Professional Engineering Services
Contract # C-18-195-07-31
Work Authorization Form

WORK AUTHORIZATION NO. 1

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Article 1 of the Agreement made by and between **HIDALGO COUNTY**, action herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**," and, **L&G Consulting Engineers, Inc.** *d/b/a* **L&G Engineering**, professional engineers of Mercedes, Texas hereinafter called "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the **Engineer** to provide Engineering Services required for the preparation of the Environmental Assessment, Public Involvement, Schematic and Hydrologic Design for the Mile 6 project from Mile 11 to SH 107.

The scope of services to be provided by the **Owner** is identified in ***EXHIBIT "A" – Scope of Services to be provided by the Owner*** attached hereto.

The scope of services to be provided by the **Engineer** is identified in ***EXHIBIT "B" – Scope of Services to be provided by the Engineer*** attached hereto.

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **$1,605,850.00**. This amount is based upon the costs outlined in the Estimated **Cost Proposal** attached hereto as ***EXHIBIT "D-1" – Estimated Man-hour Breakdown.***

PART 3. PAYMENT

Compensation and payment to the Engineer for the services established under this Work Authorization shall be made in accordance with **Article 6** of the Agreement.

PART 4. FUNDING

This Work Authorization No. 1 shall be funded through funding source:
Account No. _____
Requisition Number _____ **(MUST BE INCLUDED AFTER CC APPROVAL)**

PART 5. PERIOD OF SERVICE

This Work Authorization shall become effective on the date of final acceptance of the parties hereto, and shall serve as a Notice to Proceed as per Article 3, Period of Service on the Agreement. This Work Authorization shall terminate upon completion of scopes of the work authorization, as identified on ***EXHIBIT "C" – Work Schedule.***

PART 6. RESPONSIBILITIES AND OBLIGATIONS

This Authorization does not waive the parties' responsibilities and obligations provided under the **Agreement**.

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Precinct No. 1, Commissioner David Fuentes as to the content and detail of this Work Authorization No. 1.

HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 1

BY: _____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below.

THE ENGINEER:
L&G ENGINEERING

_____
By: Jacinto Garza, P.E.
President

THE OWNER:
HIDALGO COUNTY

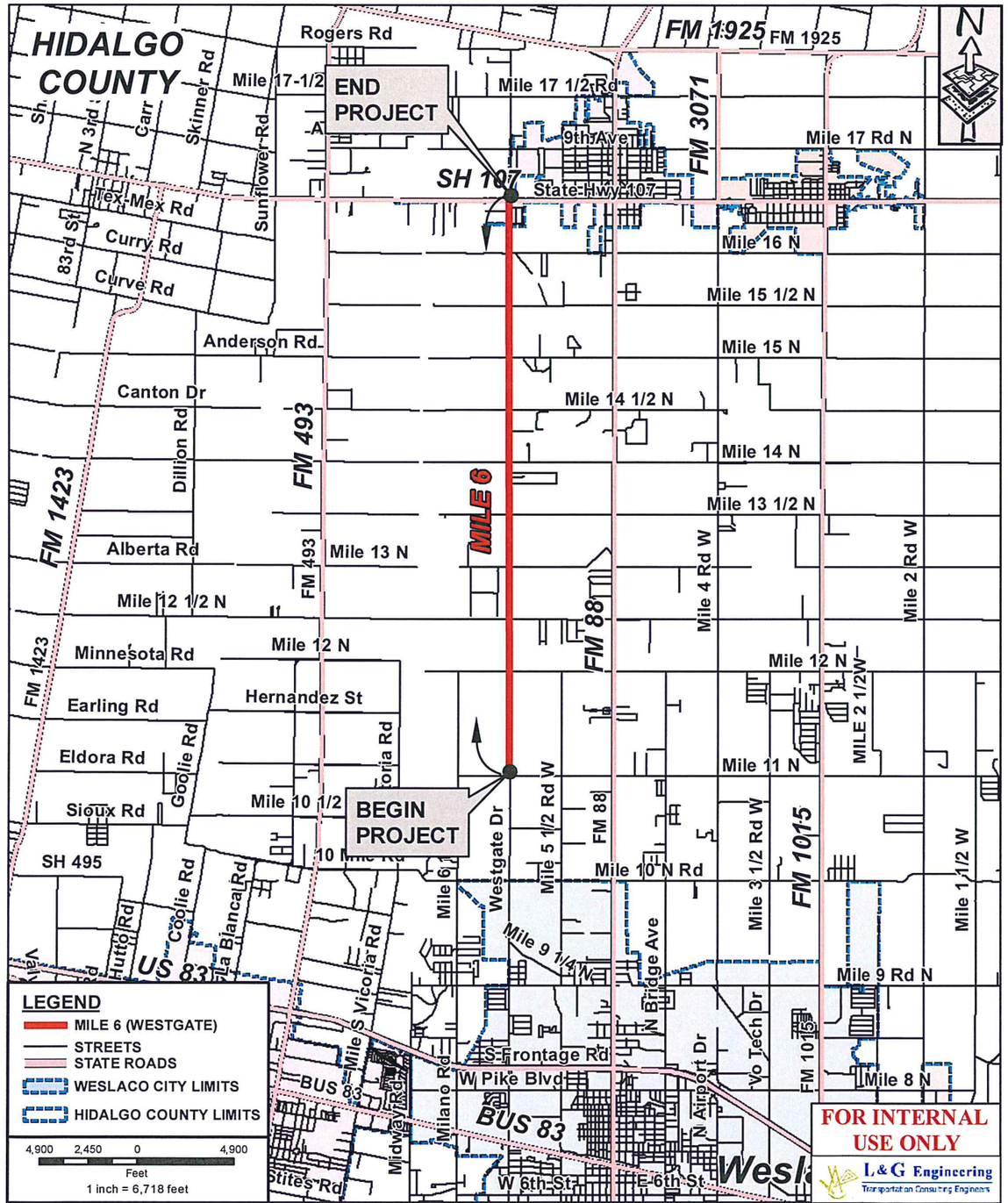
_____
By: Ramon Garcia,
County Judge

ATTEST:

_____
By: Arturo Guajardo, Jr., County Clerk

LIST OF EXHIBITS

Location Map
Exhibit A – Services to be provided by Owner
Exhibit B – Services to be provided by Engineer
Exhibit C – Work Schedule
Exhibit D-1 – Estimated Man-hour Breakdown



MILE 6 (WESTGATE DRIVE) LOCATION MAP

FROM MILE 11 TO SH 107

APPROX. TOTAL PROJECT LENGTH 5.5 MILES

WESLACO

THE COUNTY OF HIDALGO TEXAS

EXHIBIT "A"

Services to be provided by the County

1. The County will issue work authorization to initiate all required services and designate the authorized representative of the coordination of each work authorization.

2. The County will provide copies of all subdivision plats of record and/or in the subdivision process.

3. The County will provide the Engineer with on-going guidance, timely reviews, and decisions necessary to complete services required by the work authorization in order to permit the Engineer to maintain an agreed upon project schedule.

4. The County will process all acceptable requests for payment in a timely manner.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 1-PROJECT DESCRIPTION

The services designated herein as "Services provided by the ENGINEER" shall include the performance of all engineering services for the following described facility:

COUNTY/CITY:	HIDALGO COUNTY
CONTROL:	0921-02-XXX
PROJECT/DESCRIPTION:	Environmental Assessment, Public Involvement, Schematic and Hydrologic Design
LENGTH:	5.5 MILES
HIGHWAY:	MILE 6W
LIMITS:	FROM Mile 11 TO SH 107

PROJECT CLASSIFICATION

(Place an "X" in only one Project Classification)

___ Surface Treatment
___ Overlay
___ Rehabilitation Existing Road (Scarify & Reshape)
___ Convert Non-Freeway to Freeway
___ Widen Freeway
_X_ Widen Non-Freeway
___ New Location Toll Freeway
___ New Location Non-Freeway
___ Interchange (New or Reconstruct)
___ Bridge Widening or Rehabilitation
___ Bridge Replacement
___ Upgrade to Standards - Freeway
___ Upgrade to Standards - Non-Freeway
___ Miscellaneous Studies (Use Function Code 110 for All Tasks)

ENGINEER shall mean L&G Engineering.

STATE shall mean Texas Department of Transportation.

LPA (Local Public Agency) shall mean the COUNTY OF HIDALGO.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 2 – FEASIBILITY STUDIES
(Function Code 102)

Services Provided By: ENGINEER	LPA	
YES	NO	Preliminary Design Values *The Engineer will work with the Owner to establish basic design concepts, project controls and general scope of Projects.*
YES	NO	Preliminary Route Locations on Uncontrolled Mapping *The Engineer will evaluate various alternatives (route locations, alignment shifts, geometry) for the Project.*
YES	NO	Uncontrolled Mapping (w/Contours & GIS Info) *The Engineer will investigate the existing routes and coordinate with the Owner on establishing the best-fit alignments and mapping proposed geometry for Projects. Preliminary Location Exhibit will be developed.*
NO	NO	Preliminary Traffic Evaluations & Trends *The Engineer will investigate existing traffic models and trends for the proposed Projects and adjacent roadways tying into the proposed Projects.*
YES	NO	Preliminary Hydrologic Map *The Engineer will develop a Hydrologic Map for the Projects. Hydrologic Maps will be based on LIDAR and GIS information.*
YES	NO	Preliminary ROW Requirements *The Engineer will research and identify affected property owners on the Projects utilizing the latest appraisal district file information from Hidalgo County Appraisal District and information from Carson Maps.*
YES	NO	Preliminary Cost Estimates *The Engineer will calculate preliminary construction cost estimates for the location and geometry of the Projects.*
YES	NO	Preliminary Environmental Analysis (for fatal flaws) *The Engineer will perform Preliminary Environmental Constraint Mapping to determine if any fatal flaws exist along the proposed alignment.*
YES	NO	Project Fact Sheet with Est. Local Cost vs. Total Project Cost *The Engineer will produce a Project Fact Sheet providing summaries of all pertinent items in this scope of services (as required) and providing estimated local costs vs. total project costs for the Projects.*
YES	NO	Meetings, Coordination & Support for Project Development *The Engineer shall provide coordination services and shall assist in meetings and workshops with TxDOT, Hidalgo County, Hidalgo County Drainage District No. 1 and Hidalgo County Irrigation Districts, and all other affected parties. The Engineer shall serve as representative for the Owner in coordination items. The Engineer shall coordinate with the Owner's staff on all Project related items.*

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 3 - ROUTE AND DESIGN STUDIES
(Function Code 110)

Services Provided By: ENGINEER	LPA		
YES	NO	1.	Route Location Studies
N/A	N/A	2.	Level of Service Analysis
NO	NO	3.	Traffic Evaluations and Projections
YES	NO	4.	Develop Roadway Design Criteria
YES	NO	5.	Preliminary Cost Estimates
YES	NO	6.	Design Schematic (See Section 7, page 7-1 for schematic layout requirements)
YES	NO	7.	Preliminary Right-of-Way Requirements
NO	NO	8.	Design Concept Conference
		9.	Soil Core Hole Drilling
N/A	N/A		a. Pavement (See Section 7, pages 7-2 thru 7-3 for requirements)
N/A	N/A		b. Retaining Walls (See Section 10, page 10-1 for requirements)
N/A	N/A		c. Miscellaneous Structures (See Section 10, page 10-3 for requirements)
N/A	N/A		d. Bridges (See Section 11, page 11-2 thru 11-3 for requirements)

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 4 - ADDITIONAL SOCIAL, ECONOMIC AND ENVIRONMENTAL STUDIES AND PUBLIC INVOLVEMENT

(Function Code 120)

Services Provided By: ENGINEER	LPA	
		1. Environmental Reports
		All Environmental Reports shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations, Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
		a. Environmental Assessments
N/A	N/A	(1) An Environmental Assessment shall be prepared, anticipating a Categorical Exclusion.
YES	N/A	(2) An Environmental Assessment shall be prepared in accordance with 23 USC 327 and the 2014 TxDOT-FHWA Memorandum of Understanding, anticipating a Finding of No Significant Impact.
N/A	N/A	(3) An Environmental Assessment shall be prepared, anticipating the need for a Draft Environmental Impact Statement.
N/A	N/A	(4) A Consultation Reevaluation Memorandum and a Documented Reevaluation Checklist, shall be prepared in accordance with 23 CFR 771.129, anticipating approval.
		b. Environmental Impact Statement
N/A	N/A	(1) A Draft Environmental Impact Statement shall be prepared. After appropriate interagency and public reviews within time limits prescribed by the Code of Federal Regulations, Title 23, Part 771 and 43 Texas Administrative Code 2.40-2.51, a Final Environmental Impact Statement shall be prepared.
N/A	N/A	(2) A Section 4(f) Statement (Department of Transportation Act) shall be provided by the ENGINEER. The format and content of the statement is found in FHWA Technical Advisory T6640.8A.
		2. Public Involvement
		All public involvement procedures shall be in accordance with 43 Texas Administrative Code (TAC) 2.40-2.51, Code of Federal Regulations Title 23, Part 771 and Highway Design Operations and Procedures Manual, Part II-B.
YES	N/A	a. A public meeting shall be scheduled, coordinated and conducted.
YES	N/A	b. Technical assistance for one public meeting, preparation of, and maintenance of contact lists, minutes of meeting, exhibit preparation, and other tasks outlined by the LPA, shall be provided.
YES	NO	c. A meeting with affected property owners shall be scheduled, coordinated & conducted, as necessary.
YES	NO	d. A public hearing shall be held or an opportunity for a public hearing shall be afforded upon approval of the administratively complete document. All notices and mail outs shall be prepared and other tasks as outlined by the LPA shall be provided
YES	N/A	d. A Notice of Availability (NOA) shall be published by the LPA upon approval of the environmental decision.
		3. Technical Reports
		All technical reports shall be prepared in accordance with TxDOT's environmental rules and guidelines.
YES	NO	a. Air Quality Analysis: An air quality analysis shall be prepared in accordance with the STATE'S Air Quality Guidelines. The air quality analysis shall be provided as a Technical Report and a summary of the air quality results included in the administratively complete document for the project.
YES	NO	b. Biological Technical Report: A biological form and technical report shall be prepared in accordance with the STATE'S Biological Guidelines. The report shall include water resources, and threatened and endangered species.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	LPA	
YES	N/A	c. Cultural Resources: Historical and archeological studies shall be completed in accordance with the STATE'S guidelines.
YES	N/A	(1) Historic Structure Studies: A records search, project coordination request, and reconnaissance survey shall be performed, and documentation prepared regarding identification efforts, National Register eligibility and potential impacts to historic properties in accordance with the state's historic structure requirements.
YES	N/A	(2) Archeological Studies: File searches, project coordination request, an archeological reconnaissance, and an archeological survey shall be conducted to determine if known archeological sites are present or have been designated State Archeological Landmarks; and to identify the need (if any) to perform additional archeological investigations.
YES	N/A	d. Community Impact Analysis: A community impact analysis shall be prepared in accordance with the STATE'S Community Impact Guidelines.
YES	N/A	e. Hazardous Materials: The consultant shall perform an Initial Site Assessment (ISA) for hazardous materials impact in accordance with the American Society for Testing and Materials (ASTM) 1528.93 (Transaction Screen Process) and a Hazardous Materials Technical Report, as needed.
YES	N/A	f. Indirect and Cumulative Impacts Analysis: An indirect and cumulative impacts analysis shall be prepared in accordance with the STATE's guidelines.
YES	N/A	g. Noise Analysis: A noise analysis shall be prepared, including predicted noise levels and the consideration and evaluation of noise mitigation, in accordance with the STATE'S Noise Guidelines. The noise analysis shall be provided as a Technical Report and a summary of the noise analysis results shall be included in the administratively complete document.
YES	N/A	h. Water Resources: A Water Resources technical report shall be prepared in accordance with the STATE's water guidelines.
		4. **Environmental Scoping**
YES	N/A	The ENGINEER shall initiate the environmental scoping process and complete an environmental scoping document/risk assessment in coordination with TxDOT.
YES	N/A	5. **General Guidelines for Preparation of Environmental Documents**
		a. All technical reports shall be submitted electronically to TxDOT through their FTP site.
		b. The administratively complete document shall be prepared in accordance with the content and format of FHWA Technical Advisory T6640.8A and the TxDOT Administrative Code 43 TAC §2.44 and shall be submitted to TxDOT electronically through their FTP site.
		c. Upon completion and approval of the technical reports and checklists, the ENGINEER shall provide one (1) hard copy to the Client. All copies to TxDOT shall be in digital format. Exhibits in the environmental document shall be color copies and text shall be black and white.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 6 - ADDITIONAL FIELD SURVEYING AND PHOTOGRAMMETRY
(Function Code 150)

Services Provided By:
SURVEYOR LPA

DESIGN AND CONSTRUCTION SURVEYS:

PURPOSE:

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

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

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, cross-sections or data to create cross-sections and Digital Terrain Models (DTM), horizontal and vertical location of utilities and improvements, detailing of bridges and other structures, review of right-of-way maps, establishing control points, etc. All survey work needs to use the TxDOT Pharr District Geodetic Control Network.

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.

1. Design Surveying

YES N/A

a. Primary Project Control – 3 to 5 miles spacing
Precision shall be 1 part in 20,000 or better, unless otherwise directed by the District Engineer.
(1) Establish horizontal control points
(2) Establish vertical control points
NOTE: ALL BEARING AND DISTANCE SHALL BE BASED ON THE STATE PLANE COORDINATE SYSTEM NAD 1983, SOUTH ZONE. ALL DISTANCES AND COORDINATES SHALL BE SURFACE AND MAY BE CONVERTED TO GRID BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.999960

YES N/A

b. Secondary Project Control – Surveyor shall recover and/or reset H&V Control Points as provided by the Engineer and create Survey Control Data Sheets for inclusion in the Construction Project Plans signed and sealed by an R.P.L.S.
(1) No traverse should exceed 25 angle points. Planimetrics shall be 20 ft Lt & Rt from the proposed ROW as per the schematic provided by the Engineer.
(2) The unadjusted angular error should not exceed 2 seconds per angle, plus 14 seconds.
(3) The unadjusted ratio of precision should be one part in 10,000 or better. (The ratio of precision is the total length of the traverse divided by the total error.)
(4) The unadjusted vertical error should not exceed 0.03 foot per mile of traverse.
(5) Project control base lines

N/A N/A

(6) Photogrammetric ground control
(a) Establish horizontal control
(b) Establish vertical control points
(c) Place and maintain control point targets

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: SURVEYOR	LPA	
YES	N/A	c. Other Design Surveying

(1) **The limit of the Design surveys shall be 500-ft before and after the limits of the project as identified by the Project Engineer on the schematic. Establish horizontal and vertical control.** Set H&V Control at 1000-ft intervals along the project proposed right-of-way. Provide x, y, z for each H&V Control. Provide an H&V Control along each outfall identified on the Hydrologic Map. The H&V Control shall be #5 I.R. 2-ft in depth set in concrete. **The surveyor shall provide an H&V Control Book (a Sample shall be provided by the Engineer to the Surveyor).** The Surveyor will provide a 3-pt reference sketch with ties to the BMs for inclusion the existing H&V Control Book. Establish benchmark circuit throughout the project with a tolerance of 0.03'/ft per mile error vertically.

(2) Complete topographic and cross section survey, data processing, and CADD mapping (2D & 3D) for the limits of the project.

(3) Locate all visible utilities, data processing and CADD mapping (2D & 3D) including irrigation lines. Follow sample provided by the Engineer.

(4) Field locate cross culverts, driveway culverts, inverts, irrigation lines, within the project limits, data processing and CADD mapping (2D & 3D).

(5) Right of Entry, Right of Way Research, and Appraisal District Records is the responsibility of the Surveyor.

(6) The Surveyor shall stake the proposed centerline on the existing fields as approved by Engineer before construction for the purpose of utility adjustments and project location.

(7) Profile and cross section intersecting streets for ties into project (1000-ft. beyond the proposed ROW per schematic and 20-ft wider than the existing ROW of intersecting street). Reference missing voids as per CD provided by the Engineer.

(8) Cross section irrigation crossings for a distance of 20-ft beyond the proposed ROW at 100-ft intervals in a DTM file. Provide a complete description of irrigation appurtenances as identified by the engineer sample layout "EXHIBIT E". The SURVEYOR will meet with the ENGINEER before he ties down any irrigation lines. Jointly the SURVEYOR and the ENGINEER will identify from records such as the Irrigation District Maps and the A&M Data of existing irrigation lines that will need to be tied down. The SURVEYOR will follow the sample given to him by the ENGINEER and tie the structures horizontally and vertically and include in the field books to be submitted.

(9) Tie Horizontally and Vertically the existing storm drain system that lies within the existing proposed ROW including the elevation of the outfall of said recovered existing storm drain systems.

(10) Tie to existing underground and overhead utilities (location, elevation and direction)

Horizontally – The surveyor shall call the 1-800 number for the utilities to be marked on the ground as well as any city water and sewer lines. He shall tie all visible utility crossings with name, address and Phone #'s of utility companies. The engineer will coordinate with the utility companies and jointly the Surveyor and the Engineer will identify which utilities were missed and need to be tied down.

Vertically – The engineer shall identify all utilities that are potential conflicts and that need to be tied vertically. The engineer will advise the surveyor in writing of the needed vertical ties and the surveyor will tie the lines vertically once the surveyor has coordinated the exposure and provide the information to the engineer.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: SURVEYOR	LPA	
YES	N/A	(11) Cross section and profile all nine (9) outfall channels identified on the Hydrologic Map for the distances shown to be cleaned and widened at 100-ft intervals. Profile all outfall channels for approximately 1320 ft. to determine slope of outfall. The SURVEYOR will provide a complete 2D/3D File including utilities of the outfalls identified.
		(12) Driveways and Turnouts (a) Inventory commercial entrances, public roads and side streets separately. (b) Obtain centerline station. (Width at ROW, PAV'T and existing radius. (c) Inventory by type (dirt, caliche, gravel or paved). If paved, indicate condition in terms of no patches, has patches or has potholes. (d) Obtain width at R.O.W. line. (e) Obtain elevations at both edges of the driveway or turnout in line with the side drain.
YES	NO	(13) ROW staking (Existing and Proposed @ 1,000 ft. stations PC's PT's and Angle points as per ROW Map)
NO	NO	(14) Soil core hole staking at bridge class structures.
NO	NO	(15) Determine changes in topography from voids and outdated maps due to development, erosion, etc.
YES	NO	(16) Profiles of existing drainage facilities.
NO	NO	(17) Measurement of hydraulic opening under existing bridges.
YES	NO	(18) Obtain elevations of manholes and valves of utilities
YES	NO	(19) Provide temporary signs, traffic control, flags, safety equipment, etc.
YES	NO	(20) Ties to existing bridges railroad rail elevations or culverts that may conflict with new construction.
NO	NO	(21) Bridge widening top of deck and/or top of cap elevations at the Profile Grade Line (PGL) and the edges of slab at bent locations.
YES	NO	(22) Inventory signs, mailboxes, and driveways
NO	NO	(23) Locate wetlands.
YES	NO	(24) Locate existing right-of-ways.

d. Construction Surveys:

In performing construction surveys, the following will be requested by the ENGINEER on an as needed basis, but need not be limited to:

N/A	N/A	(1) Stake existing and/or proposed right-of-ways.
N/A	N/A	(2) Stake existing and/or proposed baseline/centerline.
N/A	N/A	(3) Stake proposed bridge structures.
N/A	N/A	(4) Stake proposed drainage structures, such as manholes, culverts, etc.
N/A	N/A	(5) Set grade stakes.
N/A	N/A	(6) Recover and check existing control points.
N/A	N/A	(7) Establish additional control points.
N/A	N/A	(8) Check elevations and locations of structures.
N/A	N/A	(9) Determine and resolve conflicts associated with survey data.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: SURVEYOR	LPA	
N/A	N/A	**2. Photogrammetric Products** a. Uncontrolled Photography (1) Contact Prints (2) Mosaics (3) Digital ortho plots b. Mapping (1) Planimetric Maps (2) Contour Maps (3) Cross Sections (4) Profiles (5) Digital Terrain Models (DTM)
		3. UTILITY SUBSURFACE INVESTIGATION: Utility Quality Levels are in cumulative order (least to greatest) as follows
YES	N/A	3.1. Quality Level C - Existing Records: Utilities are plotted from review of available existing records that will be generated by the Engineer on the schematic and provided to the surveyor for his further creation of a Utility Map which will be turned in as a deliverable as part of this work order.
YES	N/A	3.2. Quality Level B - Surface Visible Feature Survey: The Surveyor shall gather the field tied Utility Information and compare it to the existing records (if any) as provided by the Engineer and correlate with surveyed surface-visible features. The surveyor shall create a Utility Layout Map or plan layout 2D, showing the limits of the proposed project and limits of the work area required for this work authorization; including highway stations, limits within existing or proposed right of way. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations. The Layout Map will include all utilities that have been field tied – 2D Horizontal Utilities. This Layout will be provided to the Engineer and a meeting held with Engineer to identify which utilities will need to be tied down vertically. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable to the Engineer. This information will be provided in the latest version of Micro Station or Geopak used by the State. The electronic file will be delivered on C.D. or DVD. A hard copy is required and must be signed, sealed, and dated by the Surveyor. Note: Determine and inform the Engineer of the approximate utility depths at critical locations. This depth indication is understood by the Engineer to be approximate only and is not intended to be used for preparing the construction plans.
YES	N/A	3.3. Subsurface Utility Locate (Test Hole) Service (Quality Level A). **THE SURVEYOR SHALL ESTIMATE LOCATING VERICALLY 25 UTILITES PER MILE OR AS IDENTIFIED BY THE ENGINEER.** Locate shall mean to obtain precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B and C. The Surveyor shall:

3.3.1 Review the requested test hole locations that have been identified by the Engineer and Coordinate with utility owner inspectors as may be required by law or utility owner policy.

Services Provided By:
SURVEYOR LPA

3. *Utility Subsurface (continued)*

3.3.2 Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
- Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
- Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
- Elevation of existing grade over utility at test hole location.
- Horizontal location referenced to project coordinate datum.
- Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
- Utility facility material(s).
- Utility facility condition.
- Coating/Wrapping information and condition.
- Unusual circumstances or field conditions.

3.3.3 Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features. Water excavation can only be utilized with written approval from the appropriate State District Office.

3.3.4 Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The Engineer shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.

3.3.5 Provide complete restoration of work site and landscape to equal or better condition than before excavation.

3.3.6 Plot utility location position information on the Utility Layout sheet and identify the vertical elevation and sealed by the responsible Surveyor. This information will be provided in the latest version of Micro Station or Geopak format used by the State. The electronic file will be delivered on C.D or DVD.

4. DELIVERABLES:

The deliverables to be specified in individual work authorizations for design surveys and construction surveys may be any combination of the following:

YES N/A 4.1. Digital Terrain Models (DTM) in Microstation V8i (Select Series 4) format.

YES N/A 4.2. Final H&V Field Book Binder with all pertinent information obtained in the field for Design Surveys. Maps, plans, or sketches prepared by the SURVEYOR showing the results of field surveys.

YES N/A 4.3. Computer printouts or other tabulations summarizing the results of field surveys.

YES N/A 4.4. Digital files or media acceptable by the ENGINEER containing field survey data.

YES N/A 4.5. 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.

YES N/A 4.6. Field survey notes, as electronic and/or hard copies.

YES N/A 4.7. A H&V Control Book identifying the basis of the Primary and Secondary Control and an 8 ½ inch by 11 inch survey control data sheet for each construction control point which shall 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. Survey control data sheets shall be signed and sealed by the supervising Registered Professional Land Surveyor.

Services Provided By: SURVEYOR	LPA	
		4. *Deliverables (continued)*
YES	N/A	4.8. Final mylar set of 11 inch by 17 inch Survey Control data sheets sign and seal by the RPLS per TxDOT guidelines.
YES	N/A	4.9. A digital and/or hard copy of all computer printouts of horizontal and vertical conventional traverses, GPS analysis and results, data including property descriptions with field notes and plats, right-of-way maps, and survey control data sheets to include in the H&V Field Book Binder.
YES	N/A	4.10. Survey reports in a format requested by the ENGINEER.
YES	N/A	4.11. Items indicated under the Automation Requirements Section 6.

5. GENERAL REQUIREMENTS:

5.1. Design surveys and construction surveys shall be performed under the supervision of a Registered Professional Land Surveyor currently registered with the Texas Board of Professional Land Surveying.

5.2. Horizontal ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the STATE.

5.3. Reference may be made to standards of accuracy for horizontal control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

5.4. Vertical ground control used for design surveys and construction surveys, furnished to the SURVEYOR by the ENGINEER or based on acceptable methods conducted by the SURVEYOR, shall meet the standards of accuracy required by the ENGINEER.

5.5. Reference may be made to standards of accuracy for vertical control traverses, as described in the FGCS Standards and Specifications for Geodetic Control Networks, latest edition, the TxDOT Survey Manual, latest edition, the TxDOT GPS Manual of Practice, latest edition, or the TSPS Manual of Practice for Land Surveying in the State of Texas, as may be applicable.

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

- Side shots or short traverses shall begin and end on horizontal and vertical ground control as described above.
- Standards, procedures, and equipment used shall 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.
- Standards, procedures, and equipment used shall be such that vertical locations relative to the control may be reported within the following limits:
- 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.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services
Provided By:
SURVEYOR LPA

5. AUTOMATION REQUIREMENTS:

6.1 Planimetric design files (DGN) shall be fully compatible with the State's *Micro Station V8* graphics program without further modification or conversion.

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

6.3 Digital Terrain Models (DTM) shall be fully compatible with the STATE's GEOPAK system without further modification or conversion. All DTM files shall be fully edited and rectified to provide a complete digital terrain model with all necessary break lines.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

ADDITIONAL RESPONSIBILITIES

A. TRAFFIC CONTROL:

The SURVEYOR shall control traffic in and near surveying operations adequately to comply with provisions of the latest edition of the TxDOT Manual on Uniform Traffic Control Devices – Part VI and the latest edition of the Occupational Safety Manual both of which can be found on the TxDOT 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 TxDOT Manual on Uniform Traffic Control Devices – Part VI shall be prepared by the SURVEYOR and approved by the ENGINEER 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 ENGINEER for inspection upon request.

B. INVOICING:

Payment requests shall include a SURVEYOR's invoice. With each payment request, the SURVEYOR shall submit a project status report which will, 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.

C. EASEMENTS, LETTERS OF PERMISSION, ETC.

The SURVEYOR shall be responsible for delineating easements. The SURVEYOR will be responsible for securing the necessary legal instruments and obtaining all Right-of-Entries (ROEs).

D. MEETINGS:

The ENGINEER shall setup the necessary meetings with the SURVEYOR in order to assure all field information is provided on-time and products are delivered in accordance with TxDOT's specifications. SURVEYOR must attend all meetings involving data provided if requested by ENGINEER.

E. PROJECT MANAGER/SURVEYOR COMMUNICATION:

The SURVEYOR shall designate one Texas Registered Professional Land Surveyor (RPLS) to be responsible throughout the project for project surveying coordination and all communications, including billing, with the ENGINEER.

F. OFFICE LOCATION:

The SURVEYOR will perform the services to be provided under this agreement out of a local office and have a crew available to perform requested tasks within 24 hours of request. The coordinating SURVEYOR's Project Manager (RPLS) shall be accessible at all times and working from the local office.

SECTION 7 - ADDITIONAL ROADWAY DESIGN CONTROLS

(Function Code 160)

Services Provided By: ENGINEER	LPA	
		1. Geometric Design
YES	N/A	a. Horizontal and Vertical Alignment ~~(Preliminary based on office surveys)~~
YES	N/A	b. Schematic Layout
		(1) The location of interchanges, main lanes, grade separations, frontage roads and ramps.
		(2) Develop vertical and horizontal alignment of main lanes, ramps and cross roads at proposed interchanges or grade separations. Frontage road alignment data need not be shown on the schematic; however, it should be developed in sufficient detail to determine ROW needs. The degree of horizontal curves and vertical curve data, including "K" values, shall also be shown for ease of checking.
		(3) For freeways, show the location and text of the proposed main lane guide signs. Lane lines and/or arrows indicating the number of lanes shall also be shown.
		(4) A complete explanation of the sequence and methods of stage construction, if proposed, including the initial and ultimate proposed treatment of crossovers and ramps.
		(5) The tentative ROW limits.
		(a) Provide a roadway Design System (RDS) or (GEOPAK) computer tape of the preliminary earthwork to verify ROW requirements.
		(b) Provide a graphics file containing the approved schematic.
		(6) The geometric (pavement cross slopes, lane and shoulder widths, slope rates for fills and cuts) of the typical sections of proposed highway main lanes, ramps, frontage roads, and cross roads.
		(7) The current and projected traffic volumes as provided by the TxDOT (20 year traffic projection, unless otherwise determined by the District Engineer).
		(8) The control of access lines if Interstate or designated under House Bill 179.
		(9) Direction of traffic flow on all roadways.
		(10) Location and width of median openings for highway without access control.
		(11) The geometric of speed change (acceleration, deceleration, climbing) lanes.
YES	N/A	2. General Guidelines for Project Development
		a. Prior to preparing detailed plans for a proposed project, a preliminary schematic layout shall be prepared which indicates the general geometric features and location requirements peculiar to the project. An uncontrolled aerial mosaic will be provided for this use. Four copies of the schematic layout shall be submitted through the district to the Design Division for approval and subsequent coordination with the Federal Highway Administration (FHWA) where applicable. The layout shall be submitted for two-lane arterial highway projects on new locations and for all multi-lane highway projects. **No geometric design is to be performed until the COUNTY has given the engineer written approval of the preliminary schematic layout.**
		b. All geometric design shall be in conformance with the State's Design Division, Operations and Procedures Manual, except where variances are permitted in writing by the STATE.
		c. The schematic layout shall include basic information which is necessary for the proper review and evaluation including the items listed above in the checklist for schematic layout.
		d. Handling of traffic during construction shall be a consideration in the development of preliminary designs.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	LPA	
YES	N/A	2. General Guidelines for Project Development *(continued)*
		e. Upon approval of the schematic layout by Design Division (FHWA on Federal-aid projects), it shall be the basis for an exhibit at any required public hearing prior to final development of the project. If there are any changes to the schematic after the Design Division and FHWA approval and before the public hearing, four copies of the revised schematic, as displayed at the hearing, shall be submitted either prior to or accompanying the public hearing data. If there are no changes in the schematic as displayed at the hearing, only photographs of the schematic and other displays shall be submitted with the public hearing data.
		f. For all freeway construction projects, these schematics shall show the location and text of the proposed main lane guide signs. A schematic layout shall be submitted through the district to the Traffic Operations Division, Traffic Safety Section for approval and subsequent coordination with the FHWA. All signing shall be in conformance with the Texas MUTCD.
		g. On complex projects, informal contact through the district with the Design Division and FHWA personnel is encouraged with regard to development of preliminary design prior to official schematic submission.
		h. The engineer shall furnish a project tape that is compatible with the STATE's computer system, a project listing, and a cross section plot showing the original design sections containing the earthwork input and original cross sections for the project. **Accuracy of the earthwork design is of utmost importance since it is the basis for contractor payments and construction staking.**
NO	N/A	3. Exhibit for Airway/Highway Clearance Permits
		4. Grading Design
YES	N/A	a. Refine the horizontal and vertical alignment of main lanes, frontage roads, ramps, cross roads and direct connectors based upon the approved schematic layout. Determine vertical clearances at grade separations and overpasses, taking into account the appropriate super elevation rate.
YES	N/A	b. Typical Sections
NO	N/A	c. Design Cross Sections
NO	N/A	d. Determine Cut and Fill Quantities
N/A	N/A	e. Slope Stability Analysis
N/A	N/A	f. Embankment Foundation Stability Analysis
N/A	N/A	g. Embankment Settlement Analysis
		5. Pavement Design
NO	NO	a. Prior to initiating detailed plan preparations for a project, a preliminary investigation shall be made to determine the approximate section and pavement type to be used for the pavement structure. The Flexible Pavement Design Manual for flexible pavement, "Appendix F" of the Design Division, Operations and Procedures Manual, and the current AASHTO Guide for the Design of Pavement Structures, may be used for this purpose.
N/A	N/A	b. The typical section shall also reflect proposed geometric including pavement cross slopes, lane and shoulder widths, and slope rates whenever this data have not been previously shown on a schematic submission.
		c. Embankment and Subgrade
		(1) Soil Core Holes (Show cost estimate with Function Code 110)
N/A	N/A	(a) Along center line
N/A	N/A	(b) Along center line of each roadway

The location and minimum number of soil core holes required for this project are as follows: (To be determined when schematic is being completed)

Services Provided By: ENGINEER	LPA	
		5. Pavement Design *(continued)*
N/A	N/A	c. Embankment and Subgrade *(continued)* (2) Identify, interpret and summarize geologic features that affect engineering design (PI, Sulfate content, % of lime)
YES	N/A	d. Traffic Data for Pavement Design.
YES	N/A	e. Basic Design Criteria
NO	NO	f. Life Cycle Cost Analysis(es)
YES	N/A	g. Cost Data
N/A	N/A	h. Pavement Material Properties
N/A	N/A	i. Rehabilitation Investigations
NO	NO	(1) Core Hole Survey (Show cost estimate with Function Code 110) (a) Determine type and depth of existing material, pavement, etc. The Engineer will determine whether to salvage ACP and FLEXBASE as well as their properties and provide this information to TxDOT.

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

SECTION 9 - SIGNING, MARKINGS AND SIGNALIZATION
(Function Code 162)

Services Provided By: ENGINEER	CITY/COUNTY		
NO	N/A	1.	Signing and Markings Layout
		a.	Requirements (Separate Layout)
			(1) Roadway layout
			(2) Center line with station numbering
			(3) ROW lines
			(4) Culverts and other structures that present a hazard to traffic
			(5) Location of utilities, if not shown on plan and profile
			(6) Existing signs to remain, to be removed, to be relocated
			(7) Proposed signs (illustrated and numbered)
			(8) Existing overhead sign bridges to remain, to be revised, removed or relocated
			(9) Proposed overhead sign bridges indicating location by plan layout (electrical details need not be shown on this layout)
			(10) Proposed markings (illustrated and quantified) which include pavement markings, object markings and delineation
			(12) Quantities of existing pavement markings to be removed
			(13) Proposed delineators and object markers
		b.	For projects involving freeway to freeway or other types of directional interchanges, projects including left-hand ramps or connections, the following information must be provided:
			(1) The location of interchanges, main lanes, grade separations, frontage roads and ramps
			(2) complete explanation of the sequence and methods of stage construction, where applicable, which would include the initial and ultimate proposed treatment of crossovers and ramps
			(3) The number of lanes in each section of proposed highway and the location of changes in numbers of lanes
			(4) The projected traffic volumes as provided by the STATE (20 year traffic projection, unless otherwise determined by the District Engineer)
			(5) Tentative ROW limits
			(6) Direction of traffic flow on all roadways
			(7) Main lane, ramp, frontage road, and necessary cross road profiles at proposed interchanges or grade separations
NO	N/A	2.	Summary of Small Signs Tabulation
NO	N/A	3.	Summary of Large Signs Tabulation including all Guide Signs
NO	N/A	4.	Sign Detail Sheets
		a.	All signs except route markers
		b.	Design details for large guide signs
		c.	Dimensions of letters, shields, borders, corner radii etc.
		d.	Designation of shields attached to guide signs
		e.	Designation of arrow used on exit direction signs

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		5. Traffic Signals
		a. Development of Justification (Warrant) Data
YES	N/A	(1) Location Map Relationship of proposed installation to other traffic signals, highways, business areas and traffic generators
YES	N/A	(2) Photographs as appropriate
YES	N/A	(3) Accident data as appropriate
		(4) Vehicle volumes
YES	N/A	(a) Existing
YES	N/A	(b) Estimated
YES	N/A	(c) Projected
NO	N/A	(d) Pedestrian
NO	N/A	(5) Traffic Survey - Count Analysis
YES	N/A	(6) Recommendation based on above data
NO	N/A	b. Layout
		(1) Title Sheet (when applicable)
		(a) Describe the location
		(b) Type of installation
		(c) Area map with project limits for each location
		(d) Index of sheets
		(e) Space for official signatures
		(2) Estimate and quantity sheet (when applicable)
		(a) List of all bid items
		(b) Bid item quantities
		(c) Specification item number
		(d) Paid item description and unit of measure
		(3) Basis of estimate sheet (list of materials)
		(4) General notes and specification data sheet
		(5) Condition diagram
		(a) Highway and intersection design features
		(b) Roadside development
		(c) Traffic control including illumination
		(6) Plan sheet(s)
		(a) Existing traffic control that will remain (signs and markings)
		(b) Existing utilities
		(c) Proposed highway improvements
		(d) Proposed installation
		(e) Proposed additional traffic controls
		(f) When applicable, proposed conduit for Railroad interconnect with standard details for runs under tracks.
		(g) Proposed illumination attached to signal poles.
		(7) Notes for plan layout
		(8) Elevation sheet(s) (span wire design)
		(9) Phase sequence diagram(s)
		(a) Signal locations
		(b) Signal indications
		(c) Phase diagram
		(d) Signal sequence table
		(e) Flashing operation (normal and emergency)
		(f) Preemption operation (when applicable)
		(g) Interval timing, cycle length and offset
		(h)

EXHIBIT "B"
SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Services Provided By: ENGINEER	CITY/COUNTY	
		5. Traffic Signals *(continued)*
NO	N/A	b. Layout *(continued)*
		(10) Construction detail sheets(s)
		(a) Poles (TxDOT standard sheets)
		(b) Detectors
		(c) Pull Box and conduit layout
		(d) Controller Foundation standard sheet
		(11) Marking details (when applicable)
		(12) Barricade and warning sign standard sheet and any special details for work zone traffic control for special conditions
		(13) Aerial or underground interconnect details (when applicable)
		c. General Requirements
		(1) Contact local utility company
NO	N/A	(a) Confirm power source
NO	N/A	(b) Discuss route of aerial or underground interconnect cable (when applicable)
NO	N/A	(c) Adjustment of overhead utility lines
NO	N/A	(2) Prepare governing specifications and special provisions list
NO	N/A	(3) Prepare project estimate
NO	N/A	d. Summary of Quantities

Client: Hidalgo County Precinct 1

PROJECT DEVELOPMENT SCHEDULE
MILE 6
(FROM MILE 11 TO SH 107)

EXHIBIT C

TASK AND DESCRIPTION	FIRM	2018							2019											
		JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
W.A. No. 1: EA, Pub Inv, Schematic																				
Public Involvement																				
Develop Alternatives & Matrix	L&G																			
Advertise & Conduct Public Meeting	L&G																			
Select TPA	L&G																			
Schematic																				
Design Survey	L&G																			
Update Schematic	L&G																			
Hydrologic Map	L&G																			
TxDOT Review & Revisions	TxDOT																			
TxDOT Updated Schematic Approval	TxDOT																			
Environmental Document																				
Field Visits, Submit Technical Reports, etc…	L&G																			
Submit Final Draft Document	L&G																			
Environmental Decision	TxDOT																			

L&G FUNCTION
ENVIRONMENTAL ASSESSMENT WORK
TXDOT FUNCTION

3:17 PM7/17/2018

EXHIBIT D-1
ESTIMATED MAN-HOUR BREAKDOWN

MILE 6 PROJECT ~ from Mile 11 to SH 107

		Senior Project Manager	Senior Engineer	Senior Environmental Scientist /Specialist	Project Engineer	Right-of-Way Administrator	Senior Engineer Tech	CADD Operator/GIS Analyst	Environmental Planner / Specialist	Admin / Clerical	TOTAL HOURS	Sub-Contract Amounts / ROW COST	TOTAL LINE ITEM COST
	CONTRACT RATE	215.34	180.42	171.69	139.68	197.88	116.40	78.57	84.39	58.20			
	WORK AUTHORIZATION NO. 1 - WITH HIDALGO COUNTY												
	PHASE I - EA, PUBLIC INVOLVEMENT & SCHEMATIC DESIGN												
1	Determ. of Local cost vs State Cost / Feas. Study and Agreements/AFA with TxDOT/LPA Coord	40	62		62					26.464	190.464		$ 30,000.00
2	Re-Evaluation of Environmental Document with TxDOT (new intersections and 9 outfalls)			270				202	280	9.336	761.336		$ 86,400.00
3	Public Involvement for the project with stakeholders. (No Public Meeting)	24	24	80	30	24	22	16	80	7.868	307.868		$ 43,200.00
4	*SUB* - Archeological and Historical Research *(See Exhibit D-1, Page 2 and 3 of 6)*											$ 27,333.60	$ -
5	Manage and Assist Sub-Consultant with Archeological and Historical Research			42				10	24	2.481	78.481		$ 10,166.43
6	Engineering Technical Support for Limited Public Involvement	10	10		34		232			4.957	290.957		$ 36,000.02
7	Schematic for Roadway	40	72		594			958		2.684	1666.684		$ 180,000.03
8	Schematic for nine (9) outfalls	40	72		594			958		2.684	1666.684		$ 180,000.03
9	Traffic Count Projections for 20-yrs for schematics *(SUB- See Exhibit D-1, Page 4 of 6)*	8	16		80				28	2.440	134.440	$ 21,711.28	$ 18,288.77
10	Field Surveys for Design and Constr of ROADWAY/9 outfalls *(SUB - See Exhibit D-1, Page 5 of 6)*	48	48		400		692	692		2.617	1882.617	$ 245,060.00	$ 209,940.03
11	Sub-Surface Utility Engineering (SUE) 25 pot holes / mile (Rdwy and Outfalls) *(SUB - See Exhibit D-1, Page 5 of 6)*	80	88		682		682			7.892	1539.892	$ 10,540.00	$ 208,210.03
12	Traffic Signal Re-Warrant at SH 107 9 Multiway Stop Control Warrant Studies *(SUB - See Exhibit D-1, Page 6 of 6)*				36		26			3.198	65.198	$ 65,759.00	$ 8,241.00
13	Hydrological Map for Outfall Drain Ditches (outfalls and capacities)	24	95		290			345.994			754.994		$ 90,000.01
14	Office Surveys for Schem (Prel. Owner Ident and Comp. Property Rights) RDWY & Outfalls	24	32		255	180	60			14.392	565.392		$ 90,000.01
15	Update Schem. based on comments as provided by TxDOT / FHWA & EA update w/FHWA	16	24		100		160		50	7.096	357.096		$ 45,000.01
	SUB-TOTAL	**354**	**543**	**392**	**3157**	**204**	**1874**	**3181.994**	**462**	**94.109**	**10262.103**	**$ 370,403.88**	**$ 1,235,446.37**

Sub-Total Manhours Fee with Subconsultant Fee:	$ 1,605,850.25

*** TOTAL PROJECT FEE:**	**$ 1,605,850.00**

COST BREAKDOWN										
Mile 6: Mile 11 to Mile 13.5 (2.5 Miles) - Combined										
LABOR	**PCR**	**Permit App/ Research Design**	**Fieldwork**	**Draft and Final Reports**	**Curation**	**Admin and Project Mgmt**	**Total**	**Unit**	**Unit Price**	**Cost**
Principal	0	0	0	0	0	2	2	hr	$ 216.00	$ 432.00
Archeologist V/ Jr. Principal Investigator	0	0	0	0	0	2	2	hr	$ 101.00	$ 202.00
Archeologist IV	0	0	0	0	0	0	0	hr	$ 91.00	$ -
Archeologist III	0	4	24	6	4	0	38	hr	$ 79.00	$ 3,002.00
Archeologist II	1	4	24	4	0	0	33	hr	$ 73.00	$ 2,409.00
Archeologist I	0	0	0	0	8	0	8	hr	$ 62.00	$ 496.00
Historical Architect/ Senior Historian IV	0	0	0	2	0	2	4	hr	$ 147.00	$ 588.00
Architectural Historian III	0	0	0	24	0	0	24	hr	$ 104.00	$ 2,496.00
Historian II	0	0	0	0	0	0	0	hr	$ 82.00	$ -
GIS Specialist	0	1	0	10	1	0	12	hr	$ 91.00	$ 1,092.00
Administrative/ Document Production Supervisor	0	0	0	0	0	4	4	hr	$ 88.00	$ 352.00
Editor	0	0	0	6	0	0	6	hr	$ 68.00	$ 408.00
TOTAL LABOR										$11,477.00
EXPENSES	**PCR**	**Permit App/ Research Design**	**Fieldwork**	**Draft and Final Reports**	**Curation**	**Admin and Project Mgmt**	**Total**	**Unit**	**Unit Price**	**Cost**
Copies, b/w	0	10	50	450	100	20	630	each	$ 0.10	$ 63.00
Copies, color	0	10	10	350	100	20	490	each	$ 1.00	$ 490.00
Mileage	0	0	600	0	0	0	600	mile	$ 0.56	$ 336.00
Lodging (NTE)	0	0	4	0	0	0	4	night	$ 88.00	$ 352.00
Taxes, lodging (15%)	0	0	4	0	0	0	4	night	$ 13.20	$ 52.80
Meals	0	0	6	0	0	0	6	day	$ 51.00	$ 306.00
Curation					0.25		0.25	drawer	$2,360.00	$ 590.00
TOTAL EXPENSES										$ 2,189.80
TOTAL										**$13,666.80**

COST BREAKDOWN									
Mile 6: Mile 13.5 to SH 107 (3.0 Miles) - Combined									
LABOR	**Permit App/ Research Design**	**Fieldwork**	**Draft and Final Reports**	**Curation**	**Admin and Project Mgmt**	**Total**	**Unit**	**Unit Price**	**Cost**
Principal	0	0	0	0	2	2	hr	$ 216.00	$ 432.00
Archeologist V/ Jr. Principal Investigator	0	0	0	0	2	2	hr	$ 101.00	$ 202.00
Archeologist IV	0	0	0	0	0	0	hr	$ 91.00	$ -
Archeologist III	4	24	6	4	0	38	hr	$ 79.00	$ 3,002.00
Archeologist II	4	24	4	0	0	33	hr	$ 73.00	$ 2,409.00
Archeologist I	0	0	0	8	0	8	hr	$ 62.00	$ 496.00
Historical Architect/ Senior Historian IV	0	0	2	0	2	4	hr	$ 147.00	$ 588.00
Architectural Historian III	0	0	24	0	0	24	hr	$ 104.00	$ 2,496.00
Historian II	0	0	0	0	0	0	hr	$ 82.00	$ -
GIS Specialist	1	0	10	1	0	12	hr	$ 91.00	$ 1,092.00
Administrative/ Document Production Supervisor	0	0	0	0	4	4	hr	$ 88.00	$ 352.00
Editor	0	0	6	0	0	6	hr	$ 68.00	$ 408.00
TOTAL LABOR									$11,477.00
EXPENSES	**Permit App/ Research Design**	**Fieldwork**	**Draft and Final Reports**	**Curation**	**Admin and Project Mgmt**	**Total**	**Unit**	**Unit Price**	**Cost**
Copies, b/w	10	50	450	100	20	630	each	$ 0.10	$ 63.00
Copies, color	10	10	350	100	20	490	each	$ 1.00	$ 490.00
Mileage	0	600	0	0	0	600	mile	$ 0.56	$ 336.00
Lodging (NTE)	0	4	0	0	0	4	night	$ 88.00	$ 352.00
Taxes, lodging (15%)	0	4	0	0	0	4	night	$ 13.20	$ 52.80
Meals	0	6	0	0	0	6	day	$ 51.00	$ 306.00
Curation				0.25		0.25	drawer	$2,360.00	$ 590.00
TOTAL EXPENSES									$ 2,189.80
TOTAL									**$13,666.80**

C&M Associates, Inc.

L&G Enegineering

Traffic Projection for: **Mile 6, Weslaco, TX**

Sub-consultant: C&M ASSOCIATES, INC.

Schedule Duration: Four Weeks after NTP

DESCRIPTION	Project Manager	Project Engineer III	Document Controler	Total Labor Hrs.	Remarks	Task Cost
Task 1. Review of existing information	8	16		24		$ 3,877.84
Task 2. TDM model runs	16	32		48		$ 7,755.68
Task 3. Prepare forecasts	8	16		24		$ 3,877.84
Task 4. Documentation	8	16	4	28		$ 4,199.92
Subtotal	40	80	4	124		$ 19,711.28
HOURS TOTAL	40	80	4	124		
LABOR RATE PER HOUR	$252.69	$116.02	$80.52			
TOTAL DIRECT LABOR COSTS	$ 10,107.60	$ 9,281.60	$ 322.08	$ 19,711.28		
PERCENT LABOR UTILIZATION FOR TOTAL PROJECT (BASED ON FEE)	51.28%	47.09%	1.63%	100.00%	CHECK	
PERCENT LABOR UTILIZATION FOR TOTAL PROJECT (BASED ON MANHOURS	32.26%	64.52%	3.23%	100.00%	$ 19,711.28	
TOTAL DIRECT LABOR COST						$ 19,711.28
Traffic count (7 day, classification)						$ 2,000.00
TOTAL DIRECT EXPENSES*						$ 2,000.00
GRAND TOTAL						$ 21,711.28

* Direct expense will be charged based actual cost

Traffic Projection for: **Mile 6, Weslaco, TX**

Schedule

Task Description	Timeline			
	Wk1	Wk2	Wk3	Wk4
Task 1. Review of existing information				
Task 2. TDM model runs				
Task 3. Prepare forecasts				
Task 4. Documentation				

QUINTANILLA, HEADLEY AND ASSOCIATES, INC.

Consulting Engineers ★ Land Surveyors

Alfonso Quintanilla, P.E., R.P.L.S.
Engineering Firm Registration No. F-1513
Surveying Firm Registration No. 100411-00
Municipal & County Projects ★ Subdivisions ★ Surveys
124 E. Stubbs, Edinburg, Texas 78539
Phone 956/381-6480 Fax 956/381-0527
Email: office@qhaengineering.com
www.qhaengineering.com

Mile 6 - From 0.3 Mi. N. of Mile 11 to SH 107

Project	Field Survey (RDWY)	Field Survey (OUTFALLS)	Sub-Surface Utility Engineering (S.U.E.)	Total Cost (FUNC 150)
Mile 6	$158,100.00	$86,960.00	$10,540.00	**$255,600.00**

EXHIBIT D-1

"FEE SCHEDULE" - WARRANT STUDIES'

Along Mile 6 West Road: From north of Mile 11 North Road to SH 107

Ergonomic Transportation Solutions, Inc.

WARRANT STUDIES				MANHOURS				
				Project Manager	Traffic Engineer	CADD/ Designer	Administrative Assistant	Total
TASK								
	1	Collect Data and Conduct Field Investigations			24	24		48
	2	Assess Collected Data			12	12		24
	3	Accident Analysis			60			60
	4	Collision Diagram			10	40		50
	5	Intersection Exhibits			10	40		50
	6	Signal Warrant Analysis		10	160	20		190
	7	Photo Album				20		20
	8	Recommendations		10	10			20
	9	Traffic Signal Warrant Study Report		10	80	40	20	150
		Subtotal		**30**	**366**	**196**	**20**	**612**

Total Sheets/Labor Hours		**30**	**366**	**196**	**20**	**612**
Contract Rates		$ 68.00	$ 34.00	$ 23.00	$ 19.00	
Direct Salary Cost		$ 2,040.00	$ 12,444.00	$ 4,508.00	$ 380.00	$ 19,372.00
Overhead Multiplier	165.260%	$ 3,371.30	$ 20,564.95	$ 7,449.92	$ 627.99	$ 32,014.17
Fixed Fee	12.50%	$ 676.41	$ 4,126.12	$ 1,494.74	$ 126.00	$ 6,423.27
Total Labor Costs		**$ 6,087.72**	**$ 37,135.07**	**$ 13,452.66**	**$ 1,133.99**	**$ 57,809.44**

Ergonomic Transportation Solutions, Inc. Expenses

EXPENSES

Printing Reproduction	$	-
Travel	$	950.00
Delivery	$	-
Collect 12 hr Turning Movement Counts (Outsourced)	$	7,000.00
Total Expenses	**$**	**7,950.00**

ETSI Total Cost **$ 65,759.44**

Zimbra **yvette.salinas@co.hidalgo.tx.us**

RE: Mile 6 (M11-SH107) agreement

From : Steve Crain <scrain@atlashall.com> Thu, Jul 26, 2018 04:18 PM
Subject : RE: Mile 6 (M11-SH107) agreement
To : 'yvette salinas' <yvette.salinas@co.hidalgo.tx.us>

The agreement is ok.

From: yvette salinas <yvette.salinas@co.hidalgo.tx.us>
Sent: Thursday, July 26, 2018 3:30 PM
To: Steve Crain <scrain@atlashall.com>
Subject: Mile 6 (M11-SH107) agreement

Good Afternoon Steve,

Please review attached agreement.

Thanks,
Yvette Salinas
Contract Specialist III
Hidalgo County Purchasing Department
956-318-2626 ext 4874

L&G Engineering
Transportation Consultants

July 19, 2018

The Honorable David Fuentes
Commissioner, Hidalgo County Pct. No. 1
Attn: David Suarez
1902 Joe Stephens
Weslaco, Texas 78596

RE: Mile 6 Project
Limits: from Mile 11 to SH 107

Dear Commissioner Fuentes:

As per selection by the Hidalgo County Commissioner's Court, on July 17, 2018, to have L&G Engineering perform the professional engineering services for the subject project, attached for your review and approval are two signed original Contract and Work Authorization No. 1 for the Mile 6 Project. The following is the funding breakdown for L&G Engineering and our Sub-Consultants proposed fees associated with this Work Authorization.

• L&G Engineering (*PRIME*)	$	1,235,446.12
• Quintanilla Headley & Associates (*SUB-CONSULTANT*)	$	255,600.00
• AmaTerra Environmental *(SUB-CONSULTANT)*.....	$	27,333.60
• Ergonomic Transportation Solutions, Inc. (SUB-CONSULTANT).....	$	65,759.00
• C&M Associates (SUB-CONSULTANT).....	$	21,711.28
TOTAL	**$**	**1, 605,850.00**

Attached you will find the following:

1.) Two partially executed originals of the Contract with the following attachments:
- Exhibit A "Services to be provided by the Owner"
- Exhibit B "Services to be provided by the Engineer"
- Exhibit C "Work Schedule"
- Exhibit D "Contract Rates"
- Exhibit E " Work Authorization Form – SAMPLE"
- Exhibit F " Supplemental Agreement Form – SAMPLE"
- Exhibit G " Certificate of Insurance (Hidalgo County)

2.) Two partially executed originals of Work Authorizations No. 1 with the following attachments:
- Exhibit A "Services to be provided by the Owner"
- Exhibit B "Services to be provided by the Engineer"
- Exhibit C "Work Schedule"
- Exhibit D-1 "Fee Schedule"

Should you have any questions regarding this submittal, do not hesitate to call me at (956) 565-9813.

Sincerely,

Carlos Peralez, P.E.
Project Manager

Attachments

2100 W. Expressway 83 • Mercedes, TX 78570 • Office (956) 565-9813 • Fax (956) 565-9018
900 S. Stewart Rd., Ste. 10 • Mission, TX 78572 • Office (956) 585-1909 • Fax (956) 585-1927

L&G Engineering
Transportation Consultants

July 19, 2018

Hon. David Fuentes
Attn: Jorge Pena – Executive Assistant
Hidalgo County Precinct No. 1
1902 Joe Stephens
Weslaco, Texas 78596

RE: Subcontracting Notice for Mile 6 Road Project
Limits: from Mile 11 to SH 107

Dear Commissioner Fuentes:

We would like to inform you of the subcontractor that we will be using on the Mile 6 Road Project ~ Agreement for Professional Services. Please coordinate with your Purchasing Department for Commissioner's Court approval of this notification. This subcontractor will be providing Surveying Services for the above referenced project.

Subcontractor:

Traffic Signals:
Mr. Harry Simeonidis, P.E.
Ergonomic Transportation Solutions, Inc.
11500 Northwest Freeway, Suite 491
Houston, Texas 77092
Phone (713) 956-9601

Environmental:
AmaTerra Environmental
4009 Banister Lane, Suite 300
Austin, Texas 78707
Phone: (512) 329-0031

Traffic Projection:
Shahram "Sam" Bohluli, Ph.D., P.E.
C&M Associates
Tollway Towers North, Suite 870
15770 North Dallas Parkway
Dallas, Texas 75248
Phone: (214) 245-5300

Surveying:
Alfonso Quintanilla, P.E.
Quintanilla, Headley & Associates, Inc.
124 E. Stubbs
Edinburg, Texas 78539
Phone: (956) 381-6480

Should you have any questions, please feel free to give me a call at 956-585-1909.

Sincerely,

for Carlos Peralez, P.E.
Project Manager

cc: Hidalgo County Auditor's Office