10

AGENDA ITEM REQUEST FORM

Hays County Commissioners Court
Tuesdays at 9:00 AM

Request forms are due in Microsoft Word Format via email by 2:00 p.m. on Wednesday.

AGENDA ITEM

Discussion and possible action to authorize the County Judge to execute a Professional Services Agreement with HDR for professional Design, Engineering and Construction Phase services related to the Buda Truck Bypass Project in Hays County.

ITEM TYPE	MEETING DATE	AMOUNT REQUIRED
ACTION-ROADS	June 4, 2013	

LINE ITEM NUMBER

AUDITOR USE ONLY

AUDITOR COMMENTS:

PURCHASING GUIDELINES FOLLOWED: N/A **AUDITOR REVIEW:** N/A

REQUESTED BY	SPONSOR	CO-SPONSOR
Michael J. Weaver	JONES	N/A

SUMMARY

FILED: 06 04 13
HAYS COUNTY COMMISSIONERS' COURT
Resolution # 29045 VOL V PG 165

Contract No. Buda Truck Bypass
HDR

Checklist

Prior to Initiation of Work

- ❑ Signed and Executed Agreement
- ❑ Scope of Services – Appendix A
  - ○ Exhibit A – Services to be provided by County
  - ○ Exhibit B – Services to be provided by Engineer
  - ○ Exhibit C – Work Schedule
  - ○ Exhibit D – Fee Schedule
- ❑ Production Schedule – Exhibit IV
- ❑ Hourly Rates of Engineer – Exhibit II
- ❑ Work Authorization - Attachment A to Exhibit I
  - ○ Supplemental Work Authorization for Additional Work (if applicable)
- ❑ Data to be provided to Engineer by County
  - ○ Plans
  - ○ Maps
  - ○ Studies
  - ○ Reports
  - ○ Field Notes
  - ○ Statistics
  - ○ Computations
  - ○ Other:_____
- ❑ Contractors Qualification Statement – Appendix B
- ❑ Insurance
  - ○ Worker's Compensation
  - ○ Commercial General Liability Insurance
  - ○ Automobile Liability Insurance
  - ○ Professional Liability Errors and Omissions Insurance
  - ○ Self Insurance Documentation
  - ○ Insurance Certificates for Subcontractors and/or Sub-consultants
  - ○ Approval of Insurance by County

pre-qualified

RFP process & Interview

Course of Work

- ❑ Original Engineering Work Product submittal
- ❑ "Completed" Engineering Work Product
- ❑ "Accepted" Engineering Work Product
- ❑ Modifications and/or Changes for Approval of Engineering Work Product
- ❑ "Approved" Engineering Work Product
- ❑ Revisions to Work Product
- ❑ Seal of Endorsement on all Engineering Work Product
- ❑ Data necessary for applications or documentation for permits and/or grants to be provided by Engineer to County

Contract No. _____

Notices (as applicable)

- ❑ Notice of Suspension
- ❑ Notice of Reinstatement
- ❑ Notice of Termination
- ❑ Notice of Staffing Changes
- ❑ Written Report of Accident

Documentation for Payment

- ❑ Internal Revenue Form W-9 — on file
- ❑ Invoice for Services Rendered
  - o Supporting Documentation
  - o Report of Completion Percentage
- ❑ Invoice for Reimbursables
  - o Proof of prior payment by Engineer of Reimbursables

Contract No. _____

PROFESSIONAL SERVICES AGREEMENT

TABLE OF CONTENTS

Contract No. _____

TABLE OF CONTENTS (cont'd)

PROFESSIONAL SERVICES AGREEMENT

STATE OF TEXAS §
§
HAYS COUNTY §

This Agreement is made and entered into this day by and between Hays County, Texas, a political subdivision of the State of Texas, (***the "County"***) and HDR Engineering, Inc. (***the "Engineer"***).

WHEREAS, ***County*** proposes to construct the Buda Truck Bypass;

WHEREAS, ***County*** desires to obtain professional services for the development of a NEPA compliant environmental document, design schematic, ROW determination, ROW mapping and PS&E plan development for the Buda Truck Bypass from just west of IH 35 to FM 1626 (***the "Project"***); related to the ***County's*** partnership program with the Texas Department of Transportation.

WHEREAS, ***Engineer*** has the professional ability and expertise to fulfill the requirements of the ***Project***, and to counsel ***County*** in the selection and analysis of cost-effective alternatives.

NOW, THEREFORE, ***County*** and ***Engineer*** agree to the performance of the professional services by ***Engineer*** and the payment for these services by ***County*** as set forth herein.

Section I
Employment of the Engineer

County agrees to employ ***Engineer*** and ***Engineer*** agrees to perform professional engineering services for the ***Project*** as stated in the Sections to follow. As a condition to employment, it is specifically agreed that any disputes arising hereunder shall be submitted to the agent as designated in the Scope of Services in Appendix A, or as otherwise designated by the Hays County Commissioners Court (***individually or collectively the "County Designee"***). The ***County Designee*** shall have complete authority for the purpose of resolving technical matters. In all other cases, the decision of the Hays County Commissioners Court shall be final and binding, subject to any civil remedies otherwise deemed appropriate by the parties hereto.

Section II
Basic Services of the Engineer

A. In consideration of the compensation herein provided, ***Engineer*** shall perform professional engineering services for the ***Project***, which are acceptable to the ***County Designee***, based on standard engineering practices and the scope of work described on the Exhibits attached to this Agreement. ***Engineer*** shall also serve as ***County's*** professional engineer in those phases of the ***Project*** to which this Agreement applies and will consult with and give advice to ***County*** during the performance of ***Engineer's*** services.

B. ***Engineer*** shall not commence work until ***Engineer*** has been thoroughly briefed on the scope of the ***Project*** and has been notified in writing by the ***County Designee*** to proceed, as evidenced by a Work Authorization substantially in the form of Attachment A to Exhibit I.

C. ***County*** shall provide ***Engineer*** with all existing plans, maps, studies, reports, field notes, statistics, computations, and other data in its possession relative to existing facilities and to this particular ***Project*** at no cost to ***Engineer***; however, any and all such information shall remain the property of ***County*** and shall be returned, if the ***County Designee*** so instructs ***Engineer***. Notwithstanding the above, the ***Engineer***, to the extent such information was used to perform its services hereunder, may keep one such copy for its business records.

D. ***Engineer*** shall perform the following Basic Scope of Services:

1. The basic Scope of Services shall generally consist of all elements of work, materials and equipment required for the development of the ***Project***, including any Public Hearings, satisfactory to the ***County Designee*** and the County's Commissioners Court, in accordance with the requirements, policies, and general practices of Hays County.

2. The latest version of the following documents shall be used in the development of the ***Project***:

    a. AASHTO "A Policy on Geometric Design of Highways and Streets", 5th Edition.
    b. AASHTO LRFD Bridge Design Specifications, 6th Edition.
    c. TxDOT Construction Contract Administration Manual.
    d. TxDOT Roadway Design Manual.
    e. TxDOT LRFD Bridge Design Manual.
    f. TxDOT Historic Bridge Manual.
    g. TxDOT Bridge Railing Manual.
    h. TxDOT Environmental Manual.
    i. TxDOT Freeway Signing Handbook.
    j. TxDOT Geotechnical Manual.
    k. TxDOT Hydraulic Design Manual.
    l. TxDOT Pavement Marking Handbook.
    m. TxDOT Project Development Manual.
    n. TxDOT PS&E Preparation Manual.
    o. TxDOT Real Estate Acquisition Guide for Local Public Agencies.
    p. TxDOT ROW Appraisal and Review Manual.
    q. TxDOT ROW Utility Manual.
    r. TxDOT Signs and Markings Manual.
    s. TxDOT Traffic Signals Manual.
    t. TxDOT 2006 Texas Manual of Uniform Traffic Control Devices for Streets and Highways, Revision 1, including the 2008 Standard Highway Sign Designs for Texas (SHSD), Revision 1.

c. Texas Department of Transportation's Standard Specifications for
u. National Cooperative Highway Research Program (NCHRP), Report 350, "Recommended Procedures for the Safety Performance Evaluation of Highway Features", 1993.
v. BNSF / UPRR Railroad Grade Separation Projects Guidelines.
d. National Environmental Policy Act (NEPA)
e. Texas Accessibility Standards (TAS) of the Architectural Barriers Act, Article 9102, Texas Civil Statutes, Effective April 4, 1994
f. Americans with Disabilities Act (ADA) Regulations.
g. U.S. Army Corps Regulations.
i. Uniform Building Code. Note: Hays County will use the 1997 Uniform Building Code (May 1, 1997) as a guide for design.
j. National Electrical Code (most current version).

3. As part of the Scope of Services, ***Engineer*** shall submit its work products to ***County*** for review at regular intervals.

4. The detailed Scope of Services for the ***Project*** is set forth herein as Appendix A to this Agreement, and is expressly incorporated and made a part hereof.

Section III
Fee schedule

A. For and in consideration of the performance by ***Engineer*** of the work described in the Scope of Services, ***County*** shall pay and ***Engineer*** shall receive the fee set forth in Exhibit I. The fee is based upon the hourly rates set forth in Exhibit II. Exhibits I and II are attached hereto and made a part hereof. Invoices shall be submitted by ***Engineer*** on a monthly basis and are due upon presentation of all items required hereunder, and shall be considered past due if not paid within thirty (30) calendar days of the due date.

B. For the performance of services not specifically described in the Scope of Services ***Engineer*** shall receive the additional services compensation described in Exhibit III, which is attached hereto and made a part hereof. In the event of any dispute over the classification of ***Engineer's*** services as basic or additional services under this agreement, the decision of the ***County Designee*** shall be final and binding on ***Engineer***. However, ***Engineer*** shall reserve its right to dispute such decision in an appropriate tribunal.

Section IV
Period of Service

A. ***Engineer*** shall perform the professional services described in Appendix A, the Scope of Services, in accordance with the ***Engineer's*** Schedule attached hereto as Exhibit IV and made a part hereof.

B. This Agreement shall become effective upon the date approved by ***County*** and will remain in full force and effect for the period required for the design, construction contract award and construction of the ***Project***, including warranty periods and any extensions of time, unless terminated earlier as provided for herein. ***Engineer*** shall complete all design work as described in the Scope of Services within 1,090 calendar days from receipt by ***Engineer*** of ***County's*** written Work Authorization and in accordance with the ***Engineer's*** timeline included in the Scope of Services.

C. Neither ***Engineer*** nor ***County*** shall be responsible for delays caused by "Acts of God", non-county governmental processes, national emergency, or any other causes beyond ***Engineer's*** or ***County's*** reasonable control. Upon the discovery of such an event, ***Engineer*** shall notify ***County***, and attend a special meeting with the ***County Designee*** to propose a program for a solution to the problem, and, if necessary, to establish an estimated period of time of suspension or extension of the work. A written request for an extension of time, when properly documented and justified by the circumstances, will be granted by the ***County Designee***.

D. ***County*** may suspend the work at any time for any reason without terminating this Agreement by giving written Notice of Suspension and the work may be reinstated and this Agreement resumed in full force and effect within sixty (60) days of receipt by ***Engineer*** of written Notice of Reinstatement from ***County***. ***Engineer***, upon receipt of a Notice of Suspension shall follow the procedures described in the attached Exhibit V, which is attached hereto and made a part hereof. In the event such suspension of the ***Project*** or the ***Engineer's*** services hereunder extends for a period of ninety (90) days or more, consecutive or in the aggregate, ***Engineer*** may terminate this Agreement in writing and such termination shall be treated as a Notice of Termination as provided herein.

E. Either party may terminate this Agreement for the substantial failure of the other party to perform in accordance with the terms of this Agreement (the substantiality of such failure to be based on standard engineering practices and the scope of work described on the Exhibits attached to this Agreement), through no material fault of the terminating party, after a reasonable amount of time has been given for the party to cure its substantial failure and ***County*** may terminate this Agreement for reasons other than substantial failure by ***Engineer*** to perform by delivering a written Notice of Termination which shall take effect on the tenth day following receipt. If mutually agreed upon, the obligation to provide services under this Agreement may be terminated without cause upon thirty (30) days written notice. ***Engineer*** shall follow the procedures specified in Exhibit V upon

issuance or receipt of such notice. In the event of termination of this Agreement because of the substantial failure of ***Engineer*** to perform, ***County*** may prosecute the work to completion by contract or otherwise and, in such a case, ***Engineer*** shall be liable for any additional costs incurred by ***County***.

F. ***Engineer*** specifically acknowledges that ***County*** will sustain damages for each day beyond the required dates of completion of the Preliminary and Design Phases as defined in the Scope of Services that the work has not been accepted and approved. Because of the impracticality and extreme difficulty of fixing and ascertaining ***County's*** actual damages, ***Engineer*** agrees that one hundred and No/100 Dollars ($100.00) per day shall be retained by ***County*** from any amounts due ***Engineer*** for every day that ***Engineer*** does not meet the production requirements set forth in Exhibit IV. Damages shall be limited to an amount not-to-exceed ***Engineer's*** earned fee for services actually rendered to date as described in Exhibit I, Compensation for Professional Services, of this Agreement.

G. Periods of time (i) during which a Notice of Suspension is in effect, or (ii) during which a submitted and complete engineering work product is in technical review, as described in Section VI, or (iii) during which a delay directly related to matters described in section IV(C) above, shall not be taken into account in computing the amount of liquidated damages. In the event that an engineering work product received by ***County*** is found to be incomplete, as defined in SectionVI, Paragraph B, the period of time from the original submittal of the engineering work product to the receipt of subsequent submittal necessary to produce a completed submittal will be taken into account in computing the number of days and the amount of liquidated damages

H. All references to time in this Agreement shall be measured in calendar days unless otherwise specified.

Section V
Coordination with the County

A. The ***County Designee*** will act on behalf of ***County*** with respect to the work to be performed under this Agreement. The ***County Designee*** shall have complete authority to interpret and define ***County's*** policies and decisions with respect to ***Engineer's*** services. The ***County Designee*** may designate representatives to transmit instructions and receive information.

B. ***Engineer*** shall not commence work on any phase of the ***Project*** until a thorough briefing on the scope of the ***Project*** is received and a written Work Authorization is issued by the ***County Designee*** in substantially the form of Attachment A to Exhibit I.

C. ***Engineer*** shall furnish all available data and reasonable assistance necessary for the development of applications or supporting documentation for any permits, grants, or planning advances as applicable to the professional services to be rendered pursuant to this Agreement, provided that ***Engineer*** shall not be obligated to develop additional data, appear at hearings, or prepare extensive reports, unless compensated for such work under other provisions of this Agreement.

D. ***Engineer*** shall have the responsibility at all times under the terms of this Agreement to advise ***County*** whether in ***Engineer's*** judgment it is feasible to proceed with the recommendations given any constraints affecting the ***Project***.

E. ***Engineer*** shall cooperate and coordinate with ***County's*** staff, and other engineers and contractors as reasonable and necessary and as required by the ***County Designee***.

Section VI
Review of Work Product

A. ***Engineer's*** engineering work product will be reviewed by ***County*** under its applicable technical requirements and procedures.

B. Reports, plans, specifications, and supporting documents, (the "engineering work products"), shall be submitted by ***Engineer*** on or before the dates specified in the Production Schedule set forth in Exhibit IV. Upon receipt of the engineering work products, the submission shall be checked for completion. "Completion" shall be defined as: all of the required items (as defined by the scope of services described herein) have been included in the engineering work products in compliance with the requirements of this Agreement. . The completeness of any engineering work product submitted to ***County*** shall be determined by ***County*** within thirty (30) days of such submittal and ***County*** shall notify ***Engineer*** in writing within such 30-day period if such work product has been found to be incomplete.

C. If the submission is complete, ***County*** shall notify ***Engineer*** and ***County's*** technical review process will begin.

D. If the submission is incomplete, ***County*** shall notify ***Engineer***, who shall perform such professional services as are required to complete the work and resubmit it to ***County***. This process shall be repeated until a submission is complete.

E. ***County*** shall review the completed work for compliance with the scope of work. If necessary, the completed work shall be returned to ***Engineer***, who shall perform any required work in accordance with the scope of work and resubmit it to ***County***. This process shall be repeated until the work is accepted. "Acceptance" shall mean that in the ***County Designee's*** opinion substantial compliance with the requirements of this Agreement have been achieved.

F. After acceptance, ***Engineer*** shall perform any required modifications, changes, alterations, corrections, redesigns, and additional work necessary to receive final approval by the ***County Designee***. "Approval" in this sense shall mean formal recognition that the work has been fully carried out.

G. After approval of final engineering work products, ***Engineer*** shall without additional compensation perform any work required as a result of ***Engineer's*** development of the products which is found to be in error or omission due to ***Engineer's*** negligence. However, any work required or occasioned for the convenience of ***County*** after approval of a final product shall be paid for as Additional Services.

H. In the event of any dispute over the classification of ***Engineer's*** work products as complete, accepted, or approved under this Agreement, the decision of the ***County Designee*** shall be final and binding on ***Engineer,*** subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

Section VII
Revision to Work Product

Engineer shall make without expense to ***County*** such revisions to the work product as may be required to correct negligent errors or omissions so the work product meets the needs of ***County***, but after the approval of the work product any revisions, additions, or other modifications made at ***County's*** request which involve extra services and expenses to ***Engineer*** shall entitle ***Engineer*** to additional compensation for such extra services and expenses, provided however, that ***Engineer*** agrees to perform any necessary corrections to the work products, which are found to be in negligent error or omission as a result of the ***Engineer's*** development of the work product, at any time, without additional compensation. If it is necessary due to such error or omission by ***Engineer*** to revise the plans in order to make the ***Project*** constructible, ***Engineer*** shall do so without additional compensation. In the event of any dispute over the classification of ***Engineer's*** services as Basic or Additional Services under this Agreement, the decision of the ***County Designee*** shall be final and binding on ***Engineer,*** subject to any civil remedy or determination otherwise available to the parties and deemed appropriate by the parties.

Section VIII
Engineer's Responsibility and Liability

A. ***Engineer*** covenants to undertake no task in which a professional license or certificate is required unless he or someone under his direction is appropriately licensed. In the event such licensed individual's license expires, is revoked, or is canceled, ***Engineer*** shall inform ***County*** of such event within five working days.

B. ***Engineer*** shall be responsible for conformance with applicable federal and state laws, county permitting requirements, and city ordinances currently in effect, except as otherwise directed by the ***County Designee*** regarding county permitting or similar requirements properly waivable by the ***County Designee***.

C. Acceptance and approval of the final plans by ***County*** shall not release ***Engineer*** of any responsibility or liability for the accuracy and competency of his designs, working drawings, specifications, or other documents or work performed under this Agreement. Neither acceptance nor approval by ***County*** shall be an assumption of responsibility or liability by ***County*** for any defect, error, or omission in the designs, working drawings, specifications, or other documents prepared by ***Engineer***.

D. ***Engineer*** shall indemnify, protect, and save harmless ***County***, its officials and employees and its agents and agents' employees from and against all claims, suits, actions, liability, loss, damage, reasonable attorney's fees, costs, and expenses (including, but not limited to expenses related to expert witnesses) of any kind whatsoever, to the extent arising from any negligent act, error or omission of ***Engineer*** or any of its subcontractors in connection with the performance of services under this Agreement; provided, however, ***Engineer*** shall not be responsible for the negligence of any other party, other than its subcontractors.

E. ***Engineer's*** opinions of probable ***Project*** cost or construction cost represent ***Engineer's*** professional judgment as a design professional familiar with the construction industry, but ***Engineer*** does not guarantee that proposals, bids, or the construction cost, itself, will not vary from ***Engineer's*** opinions of probable cost.

F. ***Engineer*** shall perform all services and responsibilities required of ***Engineer*** under this Agreement using at least that standard of care which a reasonably prudent engineer in Texas, who is licensed by the State Board of Engineers, or the State Board of Registered Professional Surveyors, as applicable, would use in similar circumstances.

G. ***Engineer*** represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for performance of the services required under this Agreement and that ***Engineer*** shall furnish and maintain, at its own expense, adequate and sufficient personnel and equipment, in the reasonable opinion of ***County***, to perform the services when and as required and without delays. It is understood that ***County*** will approve assignment and release of all key ***Engineer*** and professional personnel.

H. All employees of ***Engineer*** shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of ***Engineer***, who in the opinion of ***County*** is incompetent or whose conduct becomes detrimental to the work or coordination with ***County***, shall upon ***County's*** and/or ***County Designee's*** request be immediately removed from association with the ***Project***.

I. If the procurement of adequate qualified personnel by Engineer would result in taxable professional services being charged to Engineer (e.g. Surveying), then the charges for such services shall be paid by County directly so that County may assert tax exemption under Section 151.309 of the Texas Tax Code, or other applicable law. Any such direct payment by County is hereby granted, by the Hays County Commissioners Court, a discretionary exemption from the competitive requirements set out in Section 232.023 of the Texas Local Government Code.

J. ***Engineer*** shall furnish all equipment, transportation, supplies, and materials required for its operations under this Agreement.

K. ***Engineer*** shall place his Texas Professional Engineer's seal of endorsement on all documents and engineering data furnished to ***County***, as required by law.

L. ***Engineer*** is an independent contractor under this Agreement. Neither he nor any officer, agent nor employee of ***Engineer*** shall be classified as an employee of ***County***.

Section IX
Ownership of Documents

A. Any and all documents, including the original drawings, estimates, computer tapes, graphic files, tracings, calculations, analyses, reports, specifications, field notes, and data prepared by ***Engineer*** with the exception of those standard details and specifications regularly used by ***Engineer*** in its normal course of business are the property of ***County*** and upon completion of the work or termination of this Agreement and payment of all amount rightfully owed by ***County*** to ***Engineer*** herein or as otherwise instructed by ***County*** and/or ***County Designee,*** shall be delivered to ***County*** in an organized fashion with ***Engineer*** retaining a copy.

B. Any reuse by ***Engineer*** of any such documents described in subsection A above, without the specific written consent of ***County*** shall be at ***Engineer's*** sole risk and without liability or legal exposure to ***County***. Should ***Engineer*** be terminated, ***Engineer*** shall not be liable for ***County's*** use of partially completed designs, plans, or specifications on this ***Project*** or any other project, except to the extent such documents were deemed complete or otherwise "Accepted" or "Approved" as provided herein or represent completed work sealed by ***Engineer***, or Surveyor, as applicable, as specified by professional standards.

C. ***Engineer*** will not be responsible for any use or any modifications to the plans and documents described in subsection A performed by any entity for any purpose other than the purpose where such documents were designed, without the specific written consent of ***Engineer***. Any modification as described in this paragraph shall be made in accordance with all applicable professional standards.

Section X
Maintenance of and Right of Access to Records

A. ***Engineer*** agrees to maintain appropriate accounting records for time based and reimbursable costs, expenses, and payrolls of employees working on the ***Project***, together with documentation of evaluations and study results for a period of three (3) years after final payment for completed services and all other pending matters concerning this Agreement have been closed.

B. ***Engineer*** further agrees that ***County*** or its duly authorized representatives shall, until the expiration of three (3) years after final payment under this Agreement, have access to and the right to examine and photocopy any and all books, documents, papers and records of ***Engineer***, which are directly pertinent to the services to be performed under this Agreement for time based or reimbursable expenses for the purposes of making audits, examinations, excerpts, and transcriptions. ***Engineer*** agrees that ***County*** shall have access during normal working hours to all necessary ***Engineer*** facilities and shall be provided adequate and appropriate work space in order to conduct audits in compliance with the provisions of this section. ***County*** shall give ***Engineer*** reasonable advance notice of intended audits.

C. ***Engineer*** further agrees to include in all its sub-consultant agreements hereunder a provision to the effect that the sub-consultant agrees that ***County*** shall, until the expiration of three (3) years after final payment under the subcontract, have access to and the right to examine and photocopy any directly pertinent books, documents, papers and records of such sub-consultant, involving transactions to the subcontract, and further, that ***County*** shall have access during normal working hours to all sub-consultant facilities, and shall be provided adequate and appropriate work space, in order to conduct audits in compliance with the provisions of this section together with subsection (D) hereof. ***County*** shall give sub-consultant reasonable advance notice of intended audits.

D. ***Engineer*** and sub-consultant agree to photocopy such documents as may be requested by ***County***. ***County*** agrees to reimburse ***Engineer*** for the cost of copies at the rate published in the Texas Administrative Code in effect as of the time copying is performed.

Section XI
Miscellaneous

A. ***Severability.*** Any clause, sentence, provision, paragraph, or article of this Agreement held by a court of competent jurisdiction to be invalid, illegal, or ineffective shall not impair, invalidate, or nullify the remainder of this Agreement, but the effect thereof shall be limited to the clause, sentence, provision, paragraph or article so held to be invalid, illegal, or ineffective.

B. ***Venue.*** It is contemplated that this Agreement shall be performed in Hays County, Texas, and the venue and jurisdiction of any suit, right, or cause of action arising out of or in connection with this Agreement shall lie exclusively in Hays County, Texas. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas.

C. ***Equal Opportunity in Employment. Engineer*** agrees, during the performance of the services under this Agreement, to comply with the equal opportunity in employment provisions cited in Exhibit VI, which is attached hereto and made a part hereof.

D. ***Certificate of Engineer. Engineer*** certifies that neither ***Engineer*** nor any members of ***Engineer's*** firm has:

(1) Employed or retained for a commission, percentage, brokerage, contingency fee, or other consideration, any firm or person (other than a bonafide employee working solely for ***Engineer***) to solicit or secure the work provided by the Agreement.

(2) Agreed, as an expressed or implied condition for obtaining this contract, to employ or retain the services of any firm or person other than in connection with carrying out the work to be performed under this Agreement.

(3) Paid or agreed to pay to any firm, organization, or person (other than bonafide employees working solely for ***Engineer***) any fee, contribution, donation, or consideration of any kind for, or in connection with, procuring or carrying out the work provided under this Agreement.

(4) ***Engineer*** further agrees that this certification may be furnished to any local, state or federal governmental agencies in connection with this Agreement and for those portions of the ***Project*** involving participation of agency grant funds and is subject to all applicable state and federal, criminal and civil laws.

E. ***Notice.*** Any notice to be given hereunder shall be in writing and may be affected by personal delivery in writing or by registered or certified mail, return receipt requested, or by reputable courier addressed to the proper party, at the following address:

ENGINEER: HDR Engineering, Inc._
4401 West Gate Blvd., Suite 400
Austin, TX 78745

OK
MY 5/24/2013

COUNTY: Hays County Judge
111 E. San Antonio Street
Suite 300
San Marcos, Texas 78666
Attn: Judge Bert Cobb, M.D. (or successor)

with copy to: Hays County District Attorney – Civil Division Chief
111 E. San Antonio, Suite 204
San Marcos, Texas 78666
Attn: Mark Kennedy (or successor)

and to: Precinct 2 Commissioner Mark Jones
PO Box 1180
5458 FM 2770
Kyle, TX 78640

Mike Weaver
Prime Strategies, Inc.
1508 S. Lamar Blvd.
Austin, TX 78745

F. ***Insurance Requirements. Engineer*** agrees during the performance of the services under this Agreement to comply with the INSURANCE REQUIREMENTS provisions described in Exhibit VII, which is attached hereto and made a part hereof.

G. ***Property Taxes.*** Notwithstanding anything to the contrary herein, to the extent ***County*** becomes aware that ***Engineer*** is delinquent in the payment of property taxes related to property located in Hays County at the time of invoicing, ***Engineer*** hereby assigns any payments to be made for services rendered hereunder to the Hays County Tax Assessor-

Collector for the payment of said delinquent taxes. Notwithstanding the above, ***County*** shall not have an affirmative duty to determine if ***Engineer*** is delinquent in the payment of property taxes.

H. ***Successors and Assigns.*** This Agreement shall be binding upon and inure to the benefit of ***County*** and ***Engineer*** and their respective successors, executors, administrators, and assigns. Neither ***County*** nor ***Engineer*** may assign, sublet, or transfer his interest in or obligations under this Agreement without the written consent of the other party hereto.

I. ***Bidding Exemption.*** This Agreement is exempted from the bidding requirements of the County Purchasing Act pursuant to Section 262.024(a)(4) of the Local Government Code as this is a contract for professional services.

J. ***Taxpayer Identification.*** ***Engineer*** shall provide to ***County Designee*** upon submittal of ***Engineer's*** initial invoice requesting payment Internal Revenue Form W-9 Request for Taxpayer Identification Number and Certification that is completed in compliance with the Internal Revenue Code, its rules and regulations.

K. ***Compliance with Laws.*** ***Engineer*** shall comply with all federal, state, and local laws, statutes, ordinances, rules and regulations, and the orders and decrees of any courts or administrative bodies or tribunals in any matter affecting the performance of this Agreement, and in full force and effect at the time ***Engineer*** performs its services including, without limitation, Worker's Compensation laws, minimum and maximum salary and wage statutes and regulations, licensing laws and regulations. When required, the ***Engineer*** shall furnish the ***County*** with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

L. ***Reports of Accidents.*** Within 24 hours after ***Engineer*** becomes aware of the occurrence of any accident or other event which results in, or might result in, injury to the person or property of any third person (other than an employee of the ***Engineer***), whether or not it results from or involves any action or failure to act by the Engineer or any employee or agent of the Engineer and which arises in any manner from the performance of this Agreement, the Engineer shall send a written report of such accident or other event to the County, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the County a copy of any summons, subpoena, notice, or other documents served upon the Engineer, its agents, employees, or representatives, or received by it or them, in connection with any matter before any court arising in any manner from the Engineer's performance of work under this Agreement.

M. ***Entire Agreement.*** This Agreement represents the entire and integrated Agreement between ***County*** and ***Engineer*** and supersedes all prior negotiations, representations, or agreements, either oral or written. This Agreement may be amended only by written instrument signed by both ***County*** and ***Engineer***. NO OFFICIAL, EMPLOYEE, AGENT, OR REPRESENTATIVE OF THE COUNTY HAS ANY AUTHORITY, EITHER EXPRESS OR IMPLIED, TO AMEND THIS CONTRACT, EXCEPT PURSUANT TO SUCH EXPRESS AUTHORITY AS MAY BE GRANTED BY THE COUNTY COMMISSIONERS COURT.

N. ***Captions Not a Part Hereof.*** The captions or subtitles of the several sections and divisions of this Agreement constitute no part of the content hereof, but are only labels to assist in locating and reading the provisions hereof.

O. ***Incorporation of Exhibits and Attachments.*** All of the Exhibits and Attachments, and Appendices referred to in the Agreement are incorporated by reference as if set forth verbatim herein.

P. ***Entity Status.*** By my signature below, I certify that ***Engineer*** is a corporation, duly authorized to transact and do business in the State of Texas.

Q. ***Acknowledgement.*** As a duly authorized representative of ***Engineer***, I acknowledge by my signature below that I have read and understand the above paragraphs and that ***Engineer*** has the obligation to ensure compliance with its provisions by itself and its employees, agents, and representatives.

R. ***Definition of Engineer.*** The term "Engineer" as used herein is defined as including Registered Professional Surveyors, as applicable to the work to be performed under this Agreement, and any reference to professional standards in regards to a Registered Professional Surveyor shall relate to those standards promulgated by the State Board of Registered Professional Surveyors.

Contract No. _____

EXECUTED this _____ day of June, 2013

THE ENGINEER:
HDR Engineering, Inc.
:

BY: _____

Printed Name: Kelly Kaatz, P.E.

Title: Sr. Vice President

THE COUNTY:
Hays County

BY: _____

Printed Name: Bert Cobb

Title: Hays County Judge

Reviewed as to Form By: _____
County Attorney

Funds Verified By: _____
County Auditor

OK
MK 5/24/2013

EXHIBIT I

COMPENSATION FOR PROFESSIONAL SERVICES

ACTUAL COST OF SERVICES METHOD

[Note: A separate Compensation Agreement will be attached for Compensation on a Work-Order Basis]

SECTION 1 - BASIS FOR COMPENSATION

1.1 The not-to-be-exceeded fee for the performance of the Scope of Services described in the Agreement shall be the sum of $1,900,000.00.

1.2 The basis of compensation for the services of principals and employees engaged in the performance of the work shall be the hourly rates set forth in attached Exhibit II.

1.3 ***Engineer*** shall be reimbursed for actual non-labor and subcontract expenses incurred in the performance of the services under this Agreement at the Engineer's invoice cost.

SECTION 2 - NOT-TO-BE-EXCEEDED FEE

2.1 ***Engineer*** and ***County*** acknowledge the fact that the not-to-be-exceeded fee is the total estimated costs of services to be rendered under this Agreement. This not-to-be-exceeded fee is based upon the labor and non-labor costs set forth in Exhibit II to this Agreement and described above, estimated to be required in the performance of the various phases of work provided for under this Agreement. Should the actual costs of the services rendered under this Agreement be less than such estimated cost, then ***Engineer*** shall receive compensation for only those services actually rendered.

SECTION 3 – WORK AUTHORIZATIONS

3.1 ***County*** will prepare and issue Work Authorizations, in the form identified and attached hereto as Attachment A to authorize the ***Engineer*** to perform one or more tasks. Each Work Authorization will include a description of the work to be performed, a description of the tasks and milestones, a work schedule for the tasks, and a fee amount agreed upon by the ***County*** and ***Engineer***. The amount payable for a Work Authorization shall be supported by the estimated cost of each work task as described in the Work Authorization. The Work Authorization will not waive the ***Engineer's*** responsibilities and obligations established in this Agreement. The executed Work Authorizations shall become part of this Agreement.

3.2 Work included in a Work Authorization shall not begin until ***County*** and ***Engineer*** have signed the Work Authorization. All work must be completed on or before the completion date specified in the Work Authorization. The ***Engineer*** shall promptly notify the ***County*** of any event which will affect completion of the Work Authorization, although such notification shall not relieve the ***Engineer*** from costs or liabilities resulting from

delays in completion of the Work Authorization. Any changes in the Work Authorization shall be enacted by a written Supplemental Work Authorization before additional work may be performed or additional costs incurred. Any Supplemental Work Authorization must be executed by both parties within the period specified in the Work Authorization. The ***Engineer*** shall not perform any proposed work or incur any additional costs prior to the execution, by both parties, of a Supplemental Work Authorization.

SECTION 4 - ADDITIONAL SERVICES

4.1 For additional services, compensation shall be negotiated in accordance with Exhibit III.

4.2 ***Engineer*** shall be compensated for extra services not included in the Scope of Services described in the Agreement on the basis specified in Exhibit III; however, ***Engineer*** shall not be compensated for work made necessary by ***Engineer's*** negligent errors or omissions.

4.3 The maximum amount payable under this Agreement without modification (the "***Compensation Cap***") is $1,900,000.00, provided that any amounts paid or payable shall be solely pursuant to a validly issued Work Authorization or any Supplemental Work Authorization related thereto. In no event may the aggregate amount of compensation authorized under Work Authorizations and Supplemental Work Authorizations exceed the ***Compensation Cap***.

SECTION 5 – REQUIRED SUPPORTING DOCUMENTATION

5.1 Upon submittal of the initial invoice for service, ***Engineer*** shall provide ***the Hays County Auditor*** with an Internal Revenue Form W-9, Request for Taxpayer Identification Number and Certification that is complete in compliance with the Internal Revenue Code, its rules and regulations.

5.2 All invoices submitted to ***the Hays County Auditor*** will be accompanied by an original, complete packet of supporting documentation. Invoices should detail hours worked by staff person, with a description of the work performed by individuals. Invoices should also contain a representation of the percentage of completion relative to that segment of the ***Project***.

5.3 For additional services performed pursuant to Section III B of this Agreement, a separate invoice or itemization of this work will be presented with the same requirements for supporting documentation as in Section 5.2 of this Exhibit.

5.4 Invoices requesting reimbursement for expenditures related to the project (reimbursables) must be accompanied by copies of the provider's invoice which was previously paid by ***Engineer.***

ATTACHMENT A

WORK AUTHORIZATION NO. 1

This Work Authorization is made pursuant to the terms and conditions of the Agreement entered into by and between Hays County, Texas, a political subdivision of the State of Texas, (***the "County"***) and HDR Engineering, Inc. (***the "Engineer"***).

Part1. The ***Engineer*** will provide the necessary engineering services described in Exhibit "B" for development of a NEPA compliant environmental document, design schematic, ROW determination, ROW mapping and PS&E plan development for the Buda Truck Bypass from just west of IH 35 to FM 1626

Part 2. The maximum amount payable for services under this Work Authorization without modification is $1,900,000.00.

Part 3. Payment to the ***Engineer*** for the services established under this Work Authorization shall be made in accordance with the Agreement.

Part 4. This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate on May 31, 2016, unless extended by a Supplemental Work Authorization.

Part 5. This Work Authorization does not waive the parties' responsibilities and obligations provided under the Agreement.

Contract No. _____

ATTACHMENT A (con't.)

Part 6. This Work Authorization is hereby accepted and acknowledged below.

ENGINEER:
HDR Engineering, Inc.

By: _____
Signature

Kelly Kaatz, P.E.
Printed Name

Sr. Vice President
Title

5/16/13
Date

COUNTY:
Hays County, Texas

By: _____
Signature

Bert Cobb
Printed Name

County Judge
Title

6-4-13
Date

LIST OF EXHIBITS

Exhibit A - Services to be provided by County

Exhibit B - Services to be provided by Engineer

Exhibit C - Work Schedule

Exhibit D - Fee Schedule

OK
MM 5/24/2013

EXHIBIT II

HOURLY RATES
HDR ENGINEERING, INC.

Employee Classification	2013-2014 Rates*	2014-2015 Rates*
Project Manager	$223.00	$232.00
Environmental Manager	$195.00	$203.00
Senior Engineer	$178.00	$185.00
Sr. Environmental Scientist	$134.00	$139.50
Jr. Environmental Scientist	$104.00	$108.00
GIS Technician	$125.00	$130.00
Design Engineer	$148.50	$154.50
Engineer-in-Training	$113.00	$117.50
Utility Design Coordinator	$104.00	$108.00
CADD Technician	$95.00	$99.00
Bridge CAD Technician	$107.00	$111.50
Clerical / Steno	$83.00	$86.50

*The hourly rates shown are valid through May 31, 2016 dependent upon anticipated timeframe for work activities.

OK
MG 5/24/2013

REIMBURSABLE EXPENSES
HDR ENGINEERING, INC.

Consultant or Specialty Contractor (Outside Firm) ..... @ Cost

Courier ..... @ Cost

Mileage (Standard Car or Truck) ..... IRS Approved Rate

Other Misc. Expenses Related to the Project ..... @ Cost

In-House Reproduction:

- Copies (Up to 11" x 17") $0.15/Each
- Color Prints (Up to 11" x 17") $0.30/Each
- Color Prints (Larger than 11" x 17") ..... $0.50/Sq. Ft.
- Bond Prints (All Sizes) $2.00/Each
- Mylar Prints $2.00/Each

OK
MM 5/24/2013

EXHIBIT II (con't)

HOURLY RATES.
LOCKWOOD, ANDREWS & NEWNAM, INC.

Employee Classification	Billing Rate
Senior Project Manager	$225.00
Senior Hydraulics Engineer	$210.00
Project Engineer	$155.00
Design Engineer	$125.00
Graduate Engineer	$100.00
Senior Designer	$120.00
CADD Operator	$ 90.00
Clerical	$ 80.00

O/K
MM 5/24/2013

REIMBURSABLE EXPENSES

Courier ..... @ Cost

Mileage (Standard Car or Truck) ..... IRS Approved Rate

Other Misc. Expenses Related to the Project ..... @ Cost

In-House Reproduction:

- Copies (Up to 11" x 17") $0.15/Each
- Color Prints (Up to 11" x 17") $0.30/Each
- Color Prints (Larger than 11" x 17") ..... $0.50/Sq. Ft.
- Bond Prints (All Sizes) $2.00/Each
- Mylar Prints $2.00/Each

EXHIBIT II (con't)

HOURLY RATES.
SURVEYING AND AERIAL MAPPING, INC.

All surveying services are regulated under the Texas Board of Professional Land Surveying. The Board can be contacted at 12100 Park 35 Circle, Bldg A, Suite 156 Austin, Texas 78753.

SURVEY FIELD CREW SERVICES:

Two (2) Person Survey Field Crew	$130.00 per hour
Three (3) Person Survey Field Crew	$160.00 per hour
Additional Rodperson, Chainperson or Flagperson	$32.00 per hour
1 Person Crew with Receiver or Robotic Total Station	$105.00 per hour
Field Coordinator	$85.00 per hour
Laser Scanning Technician	$85.00 per hour

SURVEY OFFICE PERSONNEL SERVICES:

Principal	$170.00 per hour
Associate/Senior Project Manager	$145.00 per hour
Project Manager	$125.00 per hour
Staff Surveyor	$110.00 per hour
GPS/HDS Coordinator	$105.00 per hour
SIT	$90.00 per hour
Senior Technician	$90.00 per hour
Survey Technician	$80.00 per hour
Clerical Support	$60.00 per hour

ok
5/24/2013

GEOSPATIAL SERVICES:

Principal	$170.00 per hour
Senior Project Manager	$155.00 per hour
Project Manager	$140.00 per hour
Acquisition Manager	$125.00 per hour
Pilot	$125.00 per hour
Photogrammetrist / Project Lead	$105.00 per hour
Acquisition / Calibration / Aerial Triangulation Technician	$95.00 per hour
LiDAR / Photogrammetry Technician	$92.50 per hour

SUBSURFACE UTILITY ENGINEERING (SUE) SERVICES:

Principal	$170.00 per hour
Project Manager	$162.00 per hour
Engineer	$154.00 per hour
Surveyor	$145.00 per hour
Graduate Engineer	$124.00 per hour
Senior Utility Coordinator	$152.00 per hour
Utility Coordinator	$115.00 per hour
Engineering Technician	$90.00 per hour
Field Coordinator	$95.00 per hour

One (1) Designating Person..... $84.00 per hour
Two (2) Person Designating Crew.....$168.00 per hour
Two (2) Person Locating Crew with Vacuum Vehicle.....$265.00 per hour
Two (2) Person Survey Crew..... $130.00 per hour
1 Person Survey Crew with Receiver or Robotic Total Station...$105.00 per hour

REIMBURSABLE EXPENSES

Courier.....@ Cost

Mileage (Standard Car or Truck)..... IRS Approved Rate

In-House Reproduction:

- Copies (Up to 11" x 17") $0.15/Each
- Color Prints (Up to 11" x 17").....$0.30/Each
- Color Prints (Larger than 11" x 17") ..... $0.50/Sq. Ft.
- Bond Prints (All Sizes).....$2.00/Each

EQUIPMENT:

Aerial LiDAR System (Equipment Only).....$6,500.00 per day
Mobile Mapping System (Equipment Only).....$6,000.00 per day Mobile
Mapping Equipment Stand-by Fee (Equipment Only).....$3,000.00 per day HDS
Laser Scanner.....$850.00 per day
High Rail Equipped Vehicle.....$100.00 per day
Weather Station.....$75.00 per day
Oblique Camera System..... $250.00 per day
Video Camera System.....$50.00 per day
Aircraft..... $1,600.00 per hour
GPS Receiver (Unmanned)..... $25.00 per hour
Geospatial Work Station.....$ 15.00 per hour
Aerial Film Scanning.....$10.00 per frame
GPS Receiver .....$25.00 per hour
Laser Scanner.....$850.00 per day
ATV or Utility Vehicle.....$75.00 per day
Ground Penetrating Radar.....$1,625.00 per day
Flashing Arrow Board, warning signs w/stands and traffic cones.....$38.00 per day
GPS Receiver (Manned)..... $25.00 per hour
ATV or Utility Vehicle.....$75.00 per day
Specialized Traffic Control.....At Cost
Excavation/Designating Permit Fees.....At Cost
Agency As-Built Information (reproduction) Fees.....At Cost
Other SUE related Activities.....At Cost

SUE UTILITY DESIGNATING SERVICES UNIT PRICING:

This unit price is for a project consisting of a minimum of 20,000 LF of utilities to be designated and includes personnel and equipment for records research, designating, engineering, surveying, CADD, and limited traffic control.

Price per linear foot..... $1.34 per L.F.

SUE UTILITY LOCATE (TEST HOLE) SERVICES:

These unit prices include personnel and equipment for vacuum excavation, engineering, surveying, CAD, and limited traffic control. These prices reflect that a Quality Level B (QL-B) service has been provided by SAM, Inc. and that a minimum of 5 test holes are requested.

Price per Test Hole	0 feet to 3 feet deep	$930.00
	Over 3 feet to 6 feet deep	$1,175.00
	Over 6 feet to 13 feet deep	$2,080.00
	Over 13 feet to 20 feet deep	$2,995.00
	Over 20 feet per vertical foot	$265.00

The foregoing test hole prices reflect that the excavated material will be re-compacted within the test hole. If specialized backfill and/or specialized pavement replacement is specified for the test hole, this will be considered an additional cost and passed through to the Client at cost.

DK MM 5/24/2013

EXHIBIT II (con't)

HOURLY RATES.
GAP STRATEGIES

Employee Classification	Billing Rate
Senior Project Manager	$145.00
Senior Public Outreach Specialist	$ 85.00
Senior Communication Specialist	$ 85.00
Communication Specialist	$ 45.00
Clerical / Translator	$ 55.00

ok
5/23/2013

REIMBURSABLE EXPENSES

Courier ..... @ Cost

Mileage (Standard Car or Truck) ..... IRS Approved Rate

Other Misc. Expenses Related to the Project ..... @ Cost

In-House Reproduction:

- Copies (Up to 11" x 17") $0.15/Each
- Color Prints (Up to 11" x 17") $0.30/Each
- Color Prints (Larger than 11" x 17") ..... $0.50/Sq. Ft.
- Bond Prints (All Sizes) $2.00/Each

HOURLY RATES.
AMATERRA ENVIRONMENTAL, INC.

Employee Classification	Billing Rate
Principal	$206.00
Principle Investigator	$ 123.00
Senior Historical Architecture Spl.	$ 124.00
Historian III	$103.00
Historian I	$ 62.00
Arch III / Field Director	$ 69.00
Arch I / Field Tech	$ 51.00
GIS Technician	$ 74.00
Administrative	$ 80.00
Clerical	$ 30.00

OK 3/27/2013

REIMBURSABLE EXPENSES

Courier ..... @ Cost
Special Equipment Rental ..... @ Cost
Mileage (Standard Car or Truck) ..... IRS Approved Rate
Other Misc. Expenses Related to the Project ..... @ Cost
In-House Reproduction:

- Copies (Up to 11" x 17") $0.10/Each
- Color Prints (Up to 11" x 17") ..... up to $1.00/Each
- Color Prints (Larger than 11" x 17") ..... $0.50/Sq. Ft.
- Bond Prints (All Sizes) $2.00/Each

HOURLY RATES.
PAVETEX ENGINEERING AND TESTING, INC.

Employee Classification	Billing Rate
Project Engineer	$175.00
Field Technician	$ 50.00

REIMBURSABLE EXPENSES

Geotechnical Boring (Auger with Sampling) ..... $12.65 / LF
Geotechnical Boring (Rock Coring, Soft Rock) ..... $19.50 / LF
Pavement Coring (<6" Depth) ..... $150.00 / LF
Drill Rig Mobilization ..... $250.00 / EA
Air Compressor ..... $85.00 / Day
NX Core Box ..... $16.00 / EA
Atterberg Limit Test ..... $50.00 / EA
Soil Classification ..... $50.00 / EA
Existing Road Base Gradation ..... $85.00 / EA
Existing Base Wetball & Increase ..... $45.00 / EA
Rock Compressive Strength Determination ..... $100.00 / EA
Traffic Control ..... $1,500.00 / Day
Courier ..... @ Cost
Special Equipment Rental ..... @ Cost
Mileage (Standard Car or Truck) ..... IRS Approved Rate
Other Misc. Expenses Related to the Project ..... @ Cost
In-House Reproduction:

- Copies (Up to 11" x 17") $0.10/Each
- Color Prints (Up to 11" x 17") ..... up to $1.00/Each
- Color Prints (Larger than 11" x 17") ..... $0.50/Sq. Ft.
- Bond Prints (All Sizes) $2.00/Each

OK 5/23/2013

EXHIBIT III

COMPENSATION FOR ADDITIONAL PROFESSIONAL SERVICES

1. The fees described in Exhibits I and II to this Agreement shall provide compensation to ***Engineer*** for the work described in the Basic Scope of Services of the Agreement.

2. For the performance of work not described in the Basic Scope of Services of the Agreement, ***County*** shall pay and ***Engineer*** shall receive, under a negotiated contract modification, compensation based upon the method and rates set forth in Exhibits I and II to the Agreement.

3. The performance of any additional services must be authorized in writing in advance by the ***Hays County Commissioners Court***.

4. In the event of any dispute over the classification of ***Engineer's*** services as either basic or additional services, the decision of the ***Hays County Commissioners Court*** shall be final and binding.

EXHIBIT IV

PRODUCTION SCHEDULE

This Agreement shall become effective upon the date approved by ***County*** and will remain in full force and effect for the period required for the design of the ***Project***, including any extensions of time, unless terminated earlier as provided for herein. ***Engineer*** shall complete all design work as described in the Scope of Services within the timeline and/or schedule provided in the Scope of Services.

The number of days expiring from the date of submittal to ***County*** of a complete work product to the date the review is finished and comments returned to ***Engineer*** shall not be included within the days allowed for completion.

EXHIBIT V

PROCEDURES FOR TERMINATION OR SUSPENSION

Procedures for ***Engineer*** to follow upon receipt of Notice of Termination:

1. Upon receipt of a Notice of Termination and prior to the effective date of the termination, ***Engineer*** shall, unless the Notice otherwise directs, immediately begin to phase out and discontinue all services in connection with the performance of this Agreement and shall proceed to promptly cancel all existing orders and contracts insofar as such orders and contracts are chargeable to this Agreement. Within thirty (30) days after receipt of the Notice of Termination ***Engineer*** shall submit a statement, showing in detail the services performed under this Agreement prior to the effective date of termination.

2. Copies of all completed or partially completed designs, plans, and specifications prepared under this Agreement prior to the effective date of termination shall be delivered to ***County*** as a pre-condition to final payment.

3. Upon the above conditions being met, ***County*** shall pay ***Engineer*** for approved services actually performed under this Agreement, less previous payments.

4. Failure by ***Engineer*** to submit the required statement and to comply with the above stated conditions without good and reasonable cause shall constitute a waiver by ***Engineer*** of any and all rights or claims to collect the fee that ***Engineer*** may rightfully be entitled to for services performed under this Agreement.

Procedures for ***Engineer*** to follow upon receipt of Notice of Suspension:

1. Upon receipt of a Notice of Suspension and prior to the effective date of the suspension, ***Engineer*** shall, unless the Notice otherwise directs, immediately begin to phase-out and discontinue all services in connection with the performance of this Agreement and shall prepare a statement detailing the services performed under this Agreement prior to the effective date of suspension. Copies of all completed or partially completed designs, plans and specifications prepared under this Agreement prior to the effective date of suspension shall be prepared for possible delivery to ***County***, but shall be retained by ***Engineer*** unless requested by ***County***.

2. During the period of suspension, ***Engineer*** may submit the above-referenced statement to ***County*** for payment of the approved services actually performed under this Agreement, less previous payments.

Procedures for ***Engineer*** to follow upon exercise of right to terminate for substantial failure of ***County*** to perform:

1. In the event that ***Engineer*** exercises such right to terminate, within thirty (30) days after receipt by ***County*** of ***Engineer's*** Notice of Termination, ***Engineer*** shall submit a statement detailing the services performed under this Agreement prior to the effective date of termination.

2. Copies of all completed or partially completed reports, designs, plans, studies, specifications and other work product shall be delivered to ***County*** as a pre-condition to final payment. Upon the above conditions being met, ***County*** shall pay ***Engineer*** for approved services actually performed under this Agreement, less previous payments.

3. Failure by ***Engineer*** to submit the required statement and to comply with the above stated conditions without good and reasonable cause shall constitute a waiver by ***Engineer*** of any and all rights or claims to collect the fee that ***Engineer*** may rightfully be entitled to for services performed under this Agreement.

EXHIBIT VI

EQUAL OPPORTUNITY IN EMPLOYMENT

A. ***Engineer*** will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. ***Engineer*** will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; termination; rates of pay or other forms of compensation, and selection for training, including apprenticeship. ***Engineer*** agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this non-discrimination clause.

B. ***Engineer*** will, in all solicitations or advertisements for employees placed by or on behalf of ***Engineer***, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex or national origin.

C. ***Engineer*** will send to the labor union representative or workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided by the Contract Compliance Officer advising the said labor union or worker's representatives of ***Engineer's*** obligations under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

D. ***Engineer*** will comply with the Regulations of the Department of Transportation (49 CFR 21 and 23 CFR 710.405) and all provisions of Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 (41 CFR 60) and of the rules, regulations and relevant order of the Secretary of Labor.

E. ***Engineer*** will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations and orders of the Secretary of Labor, or pursuant thereto; and will permit access to his books, records, and accounts by the Department and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.

F. In the event of ***Engineer's*** non-compliance with the non-discrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and ***Engineer*** may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 (41 CFR 60) or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.

G. ***Engineer*** will include the provisions of paragraph (A.) through (F.) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 or Executive Order 11246 of September 24, 1965, as amended by Executive Order 11375 (41 CFR 60), so that such

provisions will be binding upon each subcontractor or vendor. ***Engineer*** will take such action with respect to any subcontractor purchase order as the Department may direct as a means of enforcing such provisions, including sanctions for non-compliance: provided, however, that in the event ***Engineer*** becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by ***County*** or Federal Agency, ***Engineer*** may request ***County*** and United States to enter into such litigation to protect the interest of the United States.

EXHIBIT VII

INSURANCE REQUIREMENTS

During the life of this Agreement, ***Engineer*** agrees to provide and maintain the following insurance:

A. Worker's Compensation in accordance with statutory requirements.

B. Commercial General Liability Insurance with a combined minimum Bodily Injury and Property Damage limits of $_1,000,000.00_ per occurrence and $_2,000,000.00_ in the aggregate, including coverage on same for independent subcontractor(s). HAYS COUNTY SHALL BE NAMED AS AN ADDITIONAL INSURED UNDER THIS COVERAGE.

C. Automobile Liability Insurance for all owned, non-owned, and hired vehicles with combined minimum limits for Bodily Injury and Property Damage limits of $_1,000,000.00_ per occurrence and $_1,000,000.00_ in the aggregate. ***Engineer*** shall require any subcontractor(s) to provide Automobile Liability Insurance in the same minimum amounts.

D. Professional Liability Errors and Omissions Insurance in the amount of $_1,000,000.00_.

E. In the event ***Engineer*** is self-insured in connection with any or all of the above-required insurance policies, ***Engineer*** shall submit proof of such self-insurance and all financial statements as reasonably required by the ***County*** in order to determine the acceptability of such self-insurance.

Engineer shall not commence any field work under this Agreement until he has obtained all required insurance and such insurance or self-insurance has been approved by ***County***. ***Engineer*** shall not allow any subcontractor(s) to commence work to be performed in connection with this Agreement until all required insurance has been obtained and approved. Approval of the insurance by ***County*** shall not relieve or decrease the liability of ***Engineer*** hereunder.

The required insurance must be written by a company approved to do business in the State or Texas with a financial standing of at least an A- rating, as reflected in Best's insurance ratings or by a similar rating system recognized within the insurance industry at the time the policy is issued. ***Engineer*** shall furnish ***County*** with a certification of coverage issued by the insurer. ***Engineer*** shall not cause any insurance to be canceled nor permit any insurance to lapse. ALL INSURANCE CERTIFICATES SHALL INCLUDE A CLAUSE TO THE EFFECT THAT THE POLICY SHALL NOT BE CANCELED OR REDUCED, RESTRICTED OR LIMITED UNTIL TEN (10) DAYS AFTER COUNTY HAS RECEIVED WRITTEN NOTICE AS EVIDENCED BY RETURN RECEIPT OF REGISTERED OR CERTIFIED LETTER.

It is the intention of the ***County*** and the ***Hays County Commissioners Court***, and agreed to and hereby acknowledged by the ***Engineer***, that no provision of this Professional Services Agreement shall be construed to require the ***County*** or ***any agent of Hays County*** to submit to mandatory arbitration or mediation in the settlement of any claim, cause of action or dispute, except as specifically required in direct connection with an insurance claim or threat of claim under an insurance policy required under this Exhibit which absolutely requires arbitration or mediation of such claim, or as otherwise required by law or a court of law with jurisdiction over the provisions of this Agreement.

APPENDIX A

SCOPE OF SERVICES

See Exhibit A to Attachment A –Services to be provided by the County.

See Exhibit B to Attachment A –Services to be provided by the Engineer.

See Exhibit C to Attachment A – Work Schedule

See Exhibit D to Attachment A – Fee Schedule

ATTACHMENT A

EXHIBIT A

SERVICES TO BE PROVIDED BY THE COUNTY

In addition to the services listed in the Agreement, the County will provide the following services.

- Furnish a Project Manager to coordinate all aspects of the Project.
- Furnish all reference documents, information and project data for the development of the Project.
- Print on County letterhead, sign and mail Right Of Entry (ROE) requests prepared the ENGINEER. The County will address issues regarding any and all refusal to grant ROE or communication with land owners who are hostile with respect to the completion of this scope of services.
- Provide and maintain stakeholder database.
- Provide additional coordination with adjacent property owners, as needed.
- Participate in meetings with key stakeholders, public meeting and public hearing.
- Lead the efforts on the Project's mailing list.
- Provide press outreach and coordination, social media and website hosting, preparation and updates for the project.
- Develop, design, produce and print Project newsletters, that communicate important information related to the Project stakeholders.
- Develop, design, produce and send Project E-blasts featuring certain project milestones, information and upcoming meeting notices. The target audience for these e-blasts are public officials, chamber of commerce, economic development personnel, businesses, and any constituents who may request notifications.
- Coordinate, lead and attend meetings with the City of Buda and provide meeting minutes to the ENGINEER.
- Prepare and submit the necessary documentation to place the Project on the Transportation Improvement Program (TIP).
- Obtain the necessary TxDOT Right of Way and PS&E CSJ numbers.
- Provide Right of Way acquisition services.
- Provide timely reviews and approvals of required documentation including, working documents, reports, and drawings.
- Assist in coordination with TxDOT to obtain timely reviews of Project submittals.
- Perform timely review and processing of monthly invoice submissions.

ATTACHMENT A

EXHIBIT B

SERVICES TO BE PROVIDED BY THE ENGINEER

GENERAL PROJECT OVERVIEW

The scope of services for this project includes the preparation of the NEPA compliant environmental document, preparation of a design schematic, right-of-way determination, right-of-way mapping, and preparation of Plans, Specifications and Estimate (PS&E) for the extension of the Buda Truck Bypass (Robert S. Light Blvd.) approximately 1.80-mi from RM 967 to FM 1626 as part of the Hay's County Partnership Program with the Texas Department of Transportation.

This includes the addition of dedicated left turn lanes from RM 967 and FM 2770 on to the Truck Bypass, traffic signal warrant studies and safety lighting at the RM 967, FM 2770 and FM 1626 intersections, utility coordination, survey, geotechnical studies, pavement design, hydrology and hydraulic design, signing, pavement marking, bridge design and UPRR coordination.

The design schematic will show the proposed ultimate section with two 12-ft lanes and 10-ft shoulders in each direction with a 48-ft (edge of travel way to edge of travel way) center grassy median. The environmental document will clear the full right-of-way width for the proposed ultimate section.

Plans, Specifications and Estimate (PS&E) will be prepared for the interim condition consisting of one side of the proposed ultimate section (two 12-ft lanes and 10-ft shoulders). Two separate design packages will be developed concurrently. The first package will be from the existing Robert S. Light intersection at RM 967 to FM 2770. The second design package will be from FM 2770 to FM 1626.

All plans will be developed in accordance with the TxDOT Austin District PS&E Development Guide and other pertinent TxDOT design manuals and guidelines.

The project will be developed in English units utilizing Microstation V8i and Geopak Software.

The design schematic will be submitted on 24" wide roll plots.

The PS&E plan sheets will be 11"x 17" sheets with final submittal on 11" x 17" mylar.

All interim and final deliverables will be placed on the HNTB Projectwise server for review by the GEC. At the close of the project, all final CAD files will be transferred to the server as well.

Scope of work assumes the project will be LET for construction by TxDOT and that TxDOT will provide construction management and inspection services. Should the County decide to LET the project a supplemental work authorization will be required for bid or construction phase services.

PROJECT MANAGEMENT (FC 164)

- **Project management.**
  - Prepare monthly project invoices with progress report. 36 months.
  - Prepare project schedule and update monthly. Submit with project invoices.
  - Project filing.
- **Subconsultant coordination.** The ENGINEER will conduct bi-weekly team meetings with project subconsultants (80 meetings at 1 hour per meeting).
- **County / GEC coordination.**
  - The ENGINEER will coordinate monthly progress meetings with County / GEC through schematic development and PS&E design (no more than 30 meetings at 2 hours per meeting).
  - **TxDOT coordination.** The ENGINEER will coordinate meetings with South Travis Area Office and Austin District during the development of the project (no more than 6 meetings at 2 hours per meeting).
- **Pass-Through Finance – FM 1626 coordination.** The ENGINEER will meet with the South segment design engineer in development of the FM 1626 tie-in (no more than 4 meetings at 2 hours per meeting).

DESIGN SCHEMATIC

ROUTE AND DESIGN STUDIES (FC 110)

- **Design Concept Conference.** The ENGINEER will prepare for and attend a design concept conference with TxDOT to determine key design features.
  - Set typical section.
  - Set design criteria (4R).
  - Prepare Design Summary Report (DSR) and Page 3 of Form 1002.
- **Conduct Alternatives Analysis.**
  - The ENGINEER will develop conceptual alternatives to evaluate (3 plus no-build).
  - The ENGINEER will determine evaluation criteria (traffic, engineering, etc.).
  - The ENGINEER determine reasonable alternative(s) (including the no-build)
- **Data Collection.**
  - The ENGINEER will determine data needs assessment (existing drainage reports, existing traffic data, known environmental impacts, etc.).
  - Project site visits (no more than 6).
- **Traffic analysis and modeling.**
  - The ENGINEER will coordination with County and TxDOT.
  - The ENGINEER will conduct field review of existing intersections and roadways.
  - The ENGINEER will collect AM (7- 9 am) and PM (4 – 6 pm) peak hour turning movements at RM 967 & Robert S. Light Blvd.
  - The ENGINEER will collect 24-hour bi-directional traffic counts including vehicle classifications.
    - Existing Robert S. Light Blvd east of RM 967.
    - RM 967. North and South of Robert S. Light Blvd.
    - FM 2770 near the vicinity of the proposed bypass location.
    - FM 1626 near the proposed tie-in of the proposed bypass.

- The ENGINEER will utilize available traffic projections (CAMPO 2035) and collected counts to develop existing 2013, forecasted no-build (2035), and forecasted-build (2035) traffic volume forecasts for all intersections. The forecasted-build traffic volumes will include traffic projections and distributions due to the proposed truck bypass construction.
- The ENGINEER will develop AM and PM peak Synchro models for the following scenarios:
  - Existing condition (year 2013)
  - No build condition (year 2035).
  - Alternative 1 condition (year 2035) – 2 lane roadway with shoulders
  - Alternative 2 condition (year 2035) – 4 lane roadway with shoulders.
- The ENGINEER will prepare draft technical memorandum summarizing results of the study. The results will compare measure of effectiveness such as intersection delay, intersection level of service, and network delay.
- The ENGINEER will coordination meeting with County & TxDOT to review study results and recommendations. One (1) meeting is assumed for budget purposes.
- The ENGINEER will prepare final technical memorandum addressing all previous comments for final submission.

ENVIRONMENTAL STUDIES (FC 120)

- **Coordination with TxDOT**. The ENGINEER will conduct meetings with TxDOT (8) and ongoing support / consultation through NEPA process.
- **Project Scope and Environmental Classification Letter**. The ENGINEER will complete a draft Project Scope for Environmental Review Document for the Environmental Assessment (EA). The completed draft will be submitted to Hays County and TxDOT (Austin District and ENV) for review and approval. Upon approval, the ENGINEER will draft an Environmental Classification Letter to be submitted to TxDOT (Austin District and ENV) for review and approval and upon approval, submitted to FHWA.
- **Purpose and Need Statement.** The ENGINEER will develop the project statement of purpose and need that will serve as the basis for the project.
- **Resource and Regulatory Agency Coordination.** The ENGINEER will coordinate with the appropriate agencies throughout the duration of the project in order to obtain input, clarification and guidance and to facilitate timely reviews and approvals.
- **Natural Resources.** The ENGINEER will identify and characterize vegetation types and provide vegetation and habitat descriptions. Engineer shall submit a request for information from the Texas Natural Diversity Database (TXNDD) from Texas Parks & Wildlife and review element occurrence records for state and federal species of concern. Document the federal and state threatened and endangered species for the proposed Project vicinity. Describe the suitability of habitat and potential impacts to these species as well as pertinent regulatory requirements.
  - Surveys for Golden-cheeked Warbler (GCW) and Black-capped Vireo (BCV) habitat will be conducted. If appropriate habitat is found, presence/absence surveys will be conducted as needed to determine if either species are utilizing the

area. Any needed surveys will be conducted during designated survey periods according to USFWS protocols by HDR biologists.

- Coordination with the USFWS for participation in the Hays County Regional Habitat Conservation Plan for impacts to the GCW and/or the BCV should the species be found within the project area.
  *Note: this scope assumes that any mitigation for impacts to either the GCW or the BCV will be covered through participation in the RHCP and a biological assessment/opinion or formal USFWS consultation will not be necessary.

- **Water Resources**. The ENGINEER will conduct a delineation and proposed jurisdictional determination of waters of the U.S., including wetlands, in accordance with the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual and the Great Plains Regional Supplemental within the proposed right-of-way. It is anticipated that the proposed project would require coverage under Nationwide Permit 14 for impacts to jurisdictional waters up to ½ acre. If a pre-construction notification for a nationwide permit is necessary (for impacts to jurisdictional waters between 1/10 and ½ acre), the Engineer would accomplish that under separate scope.
- **Cultural Resources.** The ENGINEER will conduct desktop level surveys, identify and map cultural resources constraints in support of the analysis of three alternatives for the the Project.
  - PCRs, Research Design and Antiquities Permit Application. Once a preferred alternative has been selected, the ENGINEER will prepare pre-coordination requests, research designs and Antiquities permit applications for archeological and non-archeological resource field studies. At present the ENGINEER assumes a research design and permit application for non-archeological and archeological resources will be required. Therefore, a Pre-Coordination Request (PCR) and research design will be prepared prior to fieldwork. All deliverables will be submitted to the client and TxDOT and conform to TxDOT's SOUs for PCRs, Research Designs and Antiquities Permit Applications.
  - Cultural Resources Surveys. Following approval of research designs and receipt of Antiquities permits, the ENGINEER will conduct field investigations for archeological and non-archeological resources within the Area of Potential Effects (APE) of the preferred alternative. Archeological surveys will conform to CTA standards. Methods will include visual inspection, and shovel testing. An estimated 80 shovel tests would be excavated in support of the survey. AmaTerra shall also perform a historic resources reconnaissance survey conforming to the methodology outlined in Appendix B of the Draft CRM Guide for Accurately Identifying Non-Archeological Cultural Resources (Texas Department of Transportation, April 2006). The survey shall document each historic-age resource (defined by TxDOT as a building, structure, object, historic district or non-archeological site at least 45 years old at the time of letting) within the APE.
  - Reporting. the ENGINEER will prepare one professional report of all archeological field investigations, as required under 13 TAC 26 and in conformance with TxDOT's SOUs. The report will summarize the project, the regulatory framework, the methodology and field results. The report will offer clear recommendations regarding the need for further archeological work under Section 106 and the ACT. the ENGINEER will submit this report to the County

and TxDOT for review and concurrence with recommendations. the ENGINEER shall provide a separate report detailing the results and findings of the non-archeological resources reconnaissance survey including effects to historic properties and the need, if any, to conduct intensive survey efforts. The report shall have sufficient detail and clarity to provide TxDOT and THC with the basis for making determinations of National Register of Historic Places (NRHP) eligibility or shall have sufficient detail and clarity to make recommendations concerning the scope of the intensive survey. The report shall conform to the TxDOT SOUs for Non-Archeological Historic-Age Resource Reconnaissance Survey Reports Review Checklist (October 2009 version).

- **Hazardous Materials.** The ENGINEER shall perform an initial assessment for potential hazardous materials impacts. The initial assessment shall determine the potential for encountering hazardous materials in the study area. The initial hazardous materials assessment shall also be in accordance with the American Society for Testing and Materials (ASTM) Environmental Site Assessment standard practices (ASTM E 1527 and ASTM E 1528) or equivalent (i.e., satisfies "due diligence" and "appropriate inquiry" requirements under the Comprehensive Environmental Response and Compensation Liability Act (42 USC 9601(35)(B)).The following components of the initial hazardous materials assessment shall be reviewed, assessed, and/or documented to an appropriate project-specific level:
    - Existing and previous land use information from readily available resources (topographic maps, available aerial photos, right-of-way maps, files and other information;
    - Initial site/corridor field surveys by the hazardous materials expert;
    - A regulatory agency database search (list search) and/or review of regulatory agency files.
    - Note: A Phase I Environmental Site Assessment (ESA) in accordance with procedures contained in the American Society for Testing and Materials (ASTM) Standard E1527-05, Standard Practices for Environmental Site Assessments: Phase I ESA Process (which includes the federally-mandated All Appropriate Inquiries requirements) is not included in this scope of work. A Phase I ESA is typically only considered valid for six (6) months; therefore, it is assumed it will be developed during the final real estate phase, if necessary.
- **Noise .** The ENGINEER shall perform a traffic noise analysis in accordance with the most current version of TxDOT's "Guidelines for Analysis and Abatement of Roadway Traffic Noise."
    - The ENGINEER shall determine existing and predicted noise levels for representative receivers, as follows:
    - The ENGINEER shall perform computer modeling of existing noise levels and predicted (future) noise levels. Computer modeling shall be accomplished with the FHWA Traffic Noise Model (TNM), Version 2.5 (or most current version), in areas where there is an existing roadway/traffic.
- **Air Quality**. The ENGINEER shall perform an air quality analysis in accordance with the current approved version of the TxDOT Air Quality Guidelines. The ENGINEER shall contact TxDOT to request a copy of the current version of the guidelines and associated "recommended text"; obtain the current and projected traffic volumes; and if

required, based on design year Average Daily Traffic, ENGINEER will also obtain traffic models for the Build and No-Build scenarios, estimated time of completion and design year for the MSAT qualitative analysis.

- **Environmental Document Preparation**
  - Draft EA. The ENGINEER shall prepare an EA which shall include discussions of purpose and need, existing and proposed design, alternative descriptions, alternatives analysis, air/noise computer modeling, historical/archeological assessment, wildlife and endangered species review, right-of-way, displacements, socioeconomic analysis and environmental justice impacts, water quality, wetlands, floodplains, aesthetics/visual effects, construction impacts, indirect and cumulative impacts, and environmental permits, issues, and commitments. The ENGINEER assumes that the EA will evaluate the No-Build Alternative and on Build Alternative.
    - The ENGINEER shall prepare exhibits including, but not limited to, the following: vicinity map, floodplain map, existing and proposed typical sections, line diagrammatic schematic, noise and air receiver location map, wetlands inventory map, USGS map, site photographs and hazardous sites map, as appropriate.
    - Exhibits in the document shall be limited in size to 8 1/2" x 11" or 11" x 17" for ease of reproduction. Illustrations shall be developed using GIS (ArcView) and/or CADD (MicroStation) software.
    - The ENGINEER shall schedule and attend up to three review meetings to be held with Hays County for the Project. The purpose of the review is for the ENGINEER to receive comments from Hays County, TxDOT (Austin District and ENV) and the FHWA.
    - The ENGINEER shall revise the EA, addressing those comments obtained from Hays County, TxDOT Austin District, TxDOT ENV, FHWA, and Agency review.
      - Deliverables
        - Draft EA
        - Revised EA per review comments (6 review cycles)
  - Final EA. After the public hearing, the ENGINEER shall update the environmental document. The ENGINEER shall address the engineering and environmental issues raised at the public hearing and provide a response to each issue raised. This action is an important part of the study process and shall involve evaluating suggestions received as a result of the hearing. This shall be done in coordination with Hays County, TxDOT Austin District, TxDOT ENV and FHWA.
    - The ENGINEER shall revise the draft environmental document to discuss changes to the preferred alternative in response to agency and public hearing comments, as required.
    - The ENGINEER shall review the draft impacts section and revise this section to reflect the preferred alternative and pertinent comments received during the hearing. As appropriate, the ENGINEER shall include a summary of further agency comments and a discussion of results of agency coordination.

        - The ENGINEER shall prepare and list public hearing comments and responses. This summary shall be included as an appendix to the environmental document, as appropriate.
        - The ENGINEER shall submit the Draft Final EA for Hays County, TxDOT Austin District, TxDOT ENV and FHWA review.
        - The ENGINEER shall revise the Final EA document to respond to Hays County, TxDOT, FHWA, and Agency comments. Following final revisions, the ENGINEER shall provide to Hays County hard copies and CD ROMs of the Final EA.
            - Deliverables
                - Public Hearing Summary and Analysis Report
                - Draft Final EA
                - Revised Final EA per review comments
    - "Finding of No Significant Impact (FONSI)/Final Approval
        - The ENGINEER shall prepare and submit to Hays County the Draft FONSI, as appropriate, for their use in obtaining final clearance of the Project. The Draft FONSI shall be submitted to Hays County following the submission and review of the Final EA.
            - Deliverables
                - One electronic copy of a Draft FONSI
- **Administrative Record (AR).**
    - The ENGINEER shall establish, track, organize and manage the project's administrative record, which is the written record supporting the agency's decisions. The AR will include:
        - Draft and final documents and materials
        - Technical information, sampling results, survey information, engineering reports or studies
        - E-Mail messages and attachments
        - Correspondence and attachments
        - Documented communications among organizations involved in the project
        - Policies, guidelines, directives, and manuals relevant to the development of project NEPA documentation
        - Modeling results and factual data
        - Public involvement materials, communications, comments, and other information that documents public participation in the project
        - Meeting minutes or transcripts
        - Maps, drawings, and displays
        - Photographs
        - Field and personal notes (under special circumstances)
- **Public Involvement.**
    - The ENGINEER will develop a Public Outreach and Involvement Plan.
        - Develop and obtain approval from County Commissioner of an overall public outreach and involvement strategy.
        - Prepare Public Meeting notice and coordinate an Open House / Public Meeting to explain the project and receive public input. Prepare and execute an agenda and outreach plan, including public notice and

advertising. Assist the County to meet any meeting standards required by State or Federal funding guidelines, or by internal County policy. Facilitate the meeting itself. Provide both electronic and written opportunities for comment. Summarize and disseminate comment to the County and project team. Provide language assistance at the meeting for Spanish speakers who may not feel comfortable making comments in English, and provide avenues, if requested by any member of the public, to share information before or after the meeting in Spanish (or any other language recognized as an ESL language group by a school district in Hays County).

- Prepare public meeting summary and analysis report.
- Prepare public hearing notice and coordinate a public hearing on the project, providing all the services enumerated under "Open House / Public Meeting" (above).
- Public Hearing summary and analysis report.

- The ENGINEER will develop a Stakeholder Contact and Communication Plan.
  - Develop a recommended outreach and communication strategy for stakeholders (or for various levels or subgroups of stakeholders).
  - Confer with County Commissioner, County Engineer and project GEC to obtain consensus about the strategy, refining as necessary.
  - Lead communication efforts throughout the project, providing communication that supports the project goals, ensures fair and honest information-sharing for citizens, and adapts the strategy to changing project conditions.

RIGHT OF WAY (FC 130)

- **ROW Mapping for up to five (5) ROW Acquisition Parcels.**
  - Records Research. The ENGINEER will provide ROW survey along the proposed alignment of the Buda Truck Bypass from FM 1626 and extending eastward approximately 1.2 miles to FM 967 will be performed. The Engineer will conduct research in the Hays County Appraisal District offices to confirm property ownership for the five affected properties (subject properties). Copies of the current deeds and any plats for all subject properties will be obtained from the County Clerks' records.
  - Right-of-Entry. The ENGINEER will work with the County as well as with to prepare and use a Right of Entry document that is appropriate to the project and acceptable to Hays County for services to include environmental evaluation and analysis, survey, and design engineering.
    - The ENGINEER will develop a spreadsheet for all landowners (assume approximately 5 parcels) that may potentially be affected by the proposed the Buda Truck Bypass corridor, containing Hays County Appraisal District Tax Information (Owner Name, Mailing Address, Tax ID Number and Legal Description).
    - The ROE documents will be provided to the County to be printed on County letterhead and signed by the County Commissioner prior to being mailed.

        - The ENGINEER will initiate and coordinate outreach and contact with property owners in the project path, working closely with the County Commissioner. Coordinate contact efforts, take appropriate mesasures to obtain ROE in a timely fashion and verify the project team has legal right of entry to needed properties.
        - The ENGINEER will contact affected land owners from which ROE has been obtained prior to commencing any work on private property. The Engineer anticipates that the County will address issues regarding any and all refusal to grant ROE or communication with land owners who are hostile with respect to the completion of this scope of services. The Engineer will document any interactions with land owners while performing the work.
    - Deed Study. The ENGINEER will perform courthouse research for the five affected landowners within the above described project limits. Courthouse research will consist of obtaining current vesting deeds only. Obtaining easements, right-of-way maps, or any additional documents beyond the current vesting deeds is not a part of this scope of services. Based upon the records obtained, the Engineer will prepare a working drawing of the deed information to be used for a preliminary base map. This base map will be utilized in the preparation and parcel surveys. The State will be notified of all deed line conflicts and major discrepancies discovered in preparing the deed study. Resolution of conflicts is not a budgeted item since the number or extent of such conflicts cannot be quantified at this time.
    - Field Surveys. The ENGINEER will recover monuments marking the existing ROW lines (if any) and the front corners of the properties from which ROW is to be obtained and will tie to the project control. The Engineer will recover the corner or angle point monuments nearest to the proposed ROW on the side line of each of the subject properties and these corners will be tied to the project control. The Engineer will locate any visible improvements including buildings, propane tanks, sheds, fences, barns, cattle catch pens and stalls, and wells within approximately 25 feet of the proposed ROW line. Detail bisected improvements with distances to the proposed ROW line. Structures encroaching into the existing/proposed ROW will be located and detailed on the base file. Visible utilities and visible evidence of underground utilities along the proposed ROW corridor will be located and shown.
    - Boundary Analysis. Utilizing the deed study and the data from the field survey, The ENGINEER will analyze the results of the survey and perform computations related to the analysis. Location of the existing ROW lines and the side property lines of each of the subject properties will be determined. The State will be notified of boundary line conflicts which become apparent as a result of the field survey.
- **Preparation of Documents.** The ENGINEER will develop a base file showing ownership of the subject properties and any easements found during the title abstract. Properties adjacent to the existing/proposed right of way within the project limits will be labeled with the owner's name and deed recordation information.

- Utilizing the boundary surveys and the proposed ROW line location to compute the boundaries of the ROW parcels for each of the subject properties.
- Prepare draft plats of the parcels for ROW acquisition. The plats will be prepared on 8 1/2" x 11" pages at a scale of 1 inch equals 50 or 100 feet, depending on the parcel size. A closure computation will be prepared for each of the plats.
- Prepare a field note (metes and bounds) description for each parcel. A closure computation will be prepared for each of the descriptions.
- Prepare draft the ROW plans to a scale of 1 inch equals 50 feet based upon the above stated TxDOT ROW standards. SAM estimates that there will be approximately twelve (12) map sheets including an index/control sheet and a plan cover sheet. A closure computation will be prepared for each ROW parcel on the plans.

- **Monumentation.** The ENGINEER will set TxDOT brass caps in concrete (Type II monuments) at PCs, PTs, angle points and at no greater than 1,000 foot intervals along tangents on the proposed right-of-way line (assume 44 total). 5/8-inch iron rods with TxDOT aluminum caps will be set at property line intersections with the new right-of-way line (assume 4 total).
- **ROW Survey Deliverables**
  - One legal description for each parcel (signed and sealed).
  - One individual survey plat on 8 1/2"x11" for each parcel (signed and sealed).
  - ROW plans on 11"x17" mylar.
  - One set of area computation sheets for legal descriptions and plats and ROW maps for all parcels.
  - Digital files on CD for the right-of-way base file and reference files in Microstation V8 (.dgn) format.

SURVEYING AND PHOTOGRAMMETRY (FC 150)

Low altitude LiDAR and imagery acquisition will be utilized on this project. All work will conform to the American Society of Photogrammetry and Remote Sensing (ASPRS) for 1 = 50' scale, 1 foot contour intervals.

- LiDAR and digital imagery collection acquisition within the mapping corridor, which is approximately 0.43 square miles (274 acres) of land area, delineated as the yellow highlighted area depicted on Exhibit B, Attachment 1.
- 1"=50' scale digital imagery data collected will be converted into three (3) inch ground sample distance (GSD) orthoimagery.
- 1 foot accurate DTM will be produced utilizing imagery and LiDAR data collected and provided as a deliverable in Microstation V8i DGN file format.
- LiDAR and imagery acquisition for entire project will be completed in a single mobilization, as all individual segments are to be collected in a single continuous effort.
- The project horizontal datum will be relative to the Texas Coordinate System, Texas South Central, North American Datum 1983 (NAD83/CORS96). The vertical datum will be relative to the North American Vertical Datum of 1988 (NAVD88) using the National Geodetic Survey (NGS) Geoid 12A.
- TxDOT's TXDOT06 feature code library will be used.

- Files shall include, as applicable, features listed on the state's Photogrammetric Mapping Legend. symbology and level structure shall be in compliance with the state's Photogrammetric Mapping Legend, current the date of this proposal.
- The ENGINEER will utilize TxDOT MicroStation V8i seed files TXDOT2004SEED2D.dgn and TXDOT2004SEED3D.dgn for all mapping.
- All MicroStation V8i 2D and 3D files will be in US survey feet.
- **Ground Survey Support of LiDAR Acquisition.** Prior to the flight, the site preparation and aerial targeting required to control the areas for mapping and ground truthing will be provided. The following ground survey support will be provided:
    - Prior to the flight 8, 4' x 1' panels with a capped iron rod or nail with metal tag will be set at locations specified around the perimeter and within the project area.
    - At least 15 ground truthing points will be collected within project limits to support QA/QC of process LiDAR data.
    - Horizontal and vertical control will be established using GPS with a tolerance of +/- 0.03 feet horizontal, +/- 0.06 feet vertical.
    - SAM will obtain multiple checks along the route to validate the XYZ accuracy of the LiDAR survey.
    - Simultaneous with LiDAR acquisition, survey field personnel will position and operate two GPS base stations along route.
- **LiDAR Acquisition.** LiDAR data at not less than 24 points per square meter average density, and will simultaneously collect with color imagery suitable to generate 3-inch pixel GSD resolution orthoimagery. Aerial acquisition will be controlled with GPS base stations during the acquisition. Base station data is logged at 2 Hz and merged with GPS and IMU data recorded on-board the helicopter (GPS - 10 Hz and multiple receivers) using post-processed kinematic techniques to produce a highly accurate position for the laser aperture and cameras. The following equipment will be used for data acquisition.
    - Rotary wing aircraft.
    - Trimble Harrier 68i aerial mapping system fully integrated with a Trimble 60MP aerial camera.
- **LiDAR Acquisition - Quality Assurance/Control Process.** Captured LiDAR data will be recorded on removable data storage units onboard the aircraft. After acquisition, the data will be copied to SATA drives and returned to our offices where it will be copied onto our network drives. The data will then be post-processed and reviewed to confirm complete data acquisition coverage. Any seams, holes, or other unwanted artifacts can be quickly identified to assess the need for any data acquisition re-capture. Once approved, the data will be archived and prepared for production. Daily acquisition QC procedures will be utilized to ensure data integrity from the mapping systems. These procedures include using a current satellite ephemeris for tracking the satellite constellation to plan scanning operations around the time of GPS Position Dilution of Precision (PDOP) spikes, adequate GPS static collection for receiver initialization and dynamic flying to initialize the IMU. During data acquisition, technicians constantly monitor the scanning system, checking the data logging rate, data storage capacity, GPS PDOP and imagery being collected.
- **LiDAR Data Processing.**
    - Initial Processing. GPS/IMU Geo-referencing and Data Calibration. Once the collected data arrives, it is immediately processed and verified. Inertial

measurement unit (IMU) data is processed and checked for gyro bias, systematic errors, and positional error.

- Laser Point Processing. The calibration parameters are systematically checked and refined by estimating the residual boresight angles (roll, pitch, heading) and scanner scale corrections from overlapping strip areas, minimizing the inter-strip differences using a least squares approach.
- The ".las" data will then be projected into the required coordinate system. Simultaneously, the elevations will be transformed from ellipsoidal to orthometric heights by applying the latest GEOID models and all data will be geo-referenced to appropriate State Plane Coordinate System NAD83.

- **Accuracy Testing.** Once the LAS files are created for a line, the data is tested to ensure it meets accuracy standards for the project. The ground survey information collected will be for use as an independent check of the LiDAR accuracy (minimum 15 pts. required). The ENGINEER will collect no less than 15 well distributed check points throughout the Project. The survey test points should be on hard surfaces that are well defined features. Using the conventional survey data, a statistical comparison test will be run to verify that the geodetic positioning of the LiDAR data meets the accuracy standards required for the project. The absolute vertical accuracy of the project is +/-.25 ft. vertically, and 90% of the points tested shall be within this accuracy.
- **LIDAR Data Classification and Feature Extraction.**
  - Data Filtering. Once the initial post processing of the laser and imagery data is completed, it is ready for project set up and initial automated filtering and classification.
  - Automated Filtering. Once the GPS/IMU data has been processed and the LiDAR data has gone through the boresite (correct for all roll, pitch, and yaw) the LiDAR data is sent to our LiDAR processing technicians for automated filtering and classification. Automated filtering of the data is the first process necessary to complete the bare earth ground processing and prepare the topographic mapping.
  - Manual Editing. Effective auto filter routines can produce very clean LiDAR classifications. It is, however, always necessary to complete a manual review and edit of the data. The manual edit process eliminates any remaining anomalies and misclassifications within the data set.
  - Feature Extraction and Planimetric Mapping. While automated filtering is a necessary component of each project and produces useful point cloud products, additional processing is required to produce all deliverables requested for the project. Our process includes collection of visible planimetric features in the specified collection area in accordance with the features required by TXDOT. Vector mapping will be produced for each of the planimetric features and will be delivered as a DGN drawing file for each line.
  - Feature Coding. All data that is collected from the LIDAR (both point cloud and vector) will be feature coded at the time of collection using the attached TXDOT06 feature code library.
- **Quality Assurance/Control Process for LiDAR Data Classification and Feature Extraction.**
  - Feature Extraction Quality Control. At the time of classification and feature extraction, our LiDAR technicians will use LiDAR data processing and feature extraction software to accurately identify, classify and locate specific features.

There are multiple Quality Control steps built into our feature collection process. The methodology proposed for this project is designed to ensure that QC steps for feature extraction and attribution meet or exceed the requirements set forth in the RFP. The major QC components of feature extraction process are summarized below.

- Use of workflow "checklists". Our suite of software is designed specifically to ensure that quality control is part of each step in the process. One of its key features is the use of well documented and managed workflows called "Cues" which define and control each step of a given task. These work flow checklists serve several purposes in the QC process:
  - Process repeatability and consistency. The software guides each technician through the required processing steps. Each technician uses the exact same process. The "Cues" encode flow logic so that steps have to be executed in a specific order. This ensures that each part of the collection process is repeatable and consistent no matter how many technicians are working on each phase of the project.
  - Process tracking. The software automatically records a time-stamped history of who executed each step on each workstation. This creates a time and date trail for any change recorded to the database during the duration of the project. These records are reviewed to make sure that each step in the collection process is completed.
  - Access Control. Cues also control access such that only a person who is a member of a specific processing group can execute a specific step (for example, if technician X is not a member of the QC group, he cannot execute the QC step). This also limits use of any data block to one person for any given task. It is not possible for two technicians to complete tasks at the same time on a given section of data and overwrite each other's updates.

- **Image Acquisition.** Vertical color aerial imagery will be captured simultanoeus to the the LiDAR suitable for producing 3- inch GSD pixel orthophotography.
- **Aerial Triangulation.** During the analytical Aerial Triangulation (AT) process, image coordinates of all tie, control, and check points in the imagery are measured and a "least squares bundle adjustment" is performed. This process yields exterior orientation parameters for all imagery and three-dimensional object coordinates for all measured image points.
- **Imagery and Control Data Comparison.** the A/T process will begin immediately after receiving the imagery. All ABGPS/IMU data will be imported into the project, and control points will be measured on every photo on which they occur. We will then perform and exterior orientation analysis which will compare the given coordinates of the control points with their locations as projected on the photos by the given exterior orientation.
- **Measure Control Points Using Auto-Correlation.** A digital photogrammetry application that applies image-matching techniques to automate the point transfer and the point mensuration procedures to automatically extract tie points. To improve the bundle-adjustment we will manually measure points as necessary in any weak areas.

- **Review Residuals of Image Coordinates and Bundle Adjustments.** A simultaneous bundle block adjustment will be performed using a least squares solution for all ground control, ABGPS/IMU, and photogrammetric observations.
- **Orthophotography Production.** The digital orthophotos will have a resolution of 1 pixel = 3 inches. All imagery will be rectified to the processed bare earth LiDAR data. The major processing tasks related to orthophotography production have been listed below.
    - Rectification. The LiDAR data will be used to rectify the orthophotography. A triangulated irregular network (TIN) is created from the ground data which consists of the ground points and breaklines such as hydro lines and roads collected during the LiDAR data extraction process. Together these elements help to define the shape of the surface in three-dimensional space. Rectification to the surface model ensures the image pixels will be correctly located in the X and Y dimensions of the map space.
    - Balancing/Mosaicking. Digital orthoimagery is subject to imbalances in tone, hue, and contrast due to a number of factors, including source imagery. We will not only balance adjoining images but will also use balancing techniques on the project as a whole. This process will eliminate the "patchwork" appearance caused by changes in conditions and sensor location/orientation between flight lines and image capture stations. To achieve consistent tone across the project area and to address the overlap between tiles, we will mosaic the images.
    - Tiling. When the orthoimagery has passed internal quality check procedures, it will be broken up so that no individual image is larger than 10 MB. Imagery will be provided in TIF/TFW and ECW/EWW formats.
- **Orthophotography Quality Control.** Aerial imagery is thoroughly reviewed by our digital imaging discipline lead for clarity, contrast, shadow detail, and sun spots.
    - The DEM is evaluated using various isometric views to check for any "spikes." DEM data are merged for given block and the elevation data is graphically displayed relative to the project boundary to ensure that all areas will be correctly rectified.
    - Ortho technicians validate that the DEM blocks overlap to ensure that there are no data gaps between blocks of imagery.
    - Ortho technicians review the location of seam lines and manually modify them to avoid height objects and to place them in monotone areas (through open field, along road centerlines, etc.)
    - Ortho Technicians review the block-wide image characteristics and modify a histogram as necessary to adjust the overall tonal balance. Tonal balancing on a project-wide basis is reviewed to ensure consistent imagery and to specifically identify any breaks or processing failures.
    - A final visual inspection of each tile is completed for aesthetics and anomalies. Visible control points are measured on the final orthoimages and are compared against the values of the survey control coordinates. An RMSE is calculated for all measured control points and compared against the accuracy standards for the project.
- **Supplemental Design Survey**
    - Horizontal and Vertical Control. The ENGINEER will set a minimum of 6 horizontal and vertical control points within the survey limits. The survey control

points (5/8" iron rods with SAM Control" plastic caps) will be set in locations that will likely be undisturbed by construction or maintenance. The project control will be placed on the same datum used for aerial mapping targets, with a surface adjustment factor of 1.00011 or as provided by the state. Elevations will be derived from GPS observations using Geoid 2012A model. Digital levels will be run through all control points to confirm the established elevations.

- Obscured Areas (Maximum area of 10 acres). The aerial mapping design survey will be supplemented with conventional on-the-ground surveying within the mapping limits in areas that are obscured from the LiDAR sensors field of view and to support PS&E preparation. In obscured areas, cross-sections and break lines will be obtained at approximate 50-foot intervals. Major grade-break lines necessary to produce a one-foot interval contour DTM will be collected. Planimetric features within obscured areas will be located and will include edge of pavement, edge (shoulder) line, crown (physical centerline), guardrail, and fences only.
- Utilities and other Features. Locate utility and planimetric features within the survey limits that may not be typically collected with LiDAR, such as driveway types, driveway culverts, drainage structures (noting size, material and flowline elevation), signs (with text) and mailboxes, visible utilities and visible evidence of underground utilities. Addtionally, The ENGINEER will locate hardwood trees 24" and greater in diameter. Location of other trees and roadway striping is not included in this scope of services.
- Mustang Branch Cross Sections. In areas within the mapping corridor, The ENGINEER will utilize the base DTM and TIN files to extract cross section data as indicated on Exhibit B, Attachment 2. In areas outside of the mapping corridor, additional on-the-ground spot elevations, at grade breaks and maximum 50-foot intervals, terminating at the ends of the depicted lines shown on Exhibit B, Attachment 2 will be provided. Surveying of the additional cross sections will not include locating any additional planimetric features, utilities, or trees outside of the mapping corridor.
- UPRR railroad crossing. Centerline top of rail elevations will be collected at 50' intervals along the Union Pacific Railroad. This task assumes Right of Entry (acquired by others) is provided by Union Pacific. Additional spot elevations will be collected along the railroad extending to a point 1200' north and south of the intersection with the Buda Truck Bypass alignment.
- Geotechnical borehole staking and location. The ENGINEER will collect the location of up to 25 geotechnical soil borings using X, Y and Z coordinates provided by the ENGINER. The ENGINEER will then locate the 25 drilled soil borings as placed and drilled by the geotechnical consultant.
- Aerial Mapping and Suplemental Design Survey Deliverables. The ENGINEER will provide all files via secure ftp site and/or on a portable hard. Electronic files shall be fully compatible with the State's MicroStation GeoPak system without further modification or conversion. Aerial Mapping and Supplemental Design Survey data will be merged to create seamless 2D, DTM and TIN files for the project area as described above.
- Digital Orthophotography Image files.

- Analytical aerial triangulation summary report in digital form.
- Tiled LiDAR data files of classified points in LAS format.
- One set of electronic files in MicroStation V8.
  - 2D DGN files of the planimetric feature collection data.
  - 3D DTM files in GeoPak format.
  - GeoPak .tin file.
  - GeoPak crossing features and duplicate point Error Report.
- Word doc file of surveyed points list and TxDOT descriptor code list.
- Survey Control Index Sheet and Horizontal and Vertical Control Sheet signed, sealed, and dated by a Registered Professional Land Surveyor on 11x17 white mylar and pdf.
- PDF file of scanned field book copies.

ROADWAY GEOMETRICS (FC 160)

- **Develop design schematic.** A design schematic will be prepared for the Buda Truck Bypass ultimate section and presented on a roll plot utilizing a 1"=100-ft scale. The following design elements will be provided.
  - The ENGINEER will develop typical sections for the proposed roadway and existing roadway widenings. Proposed ultimate section for the truck bypass consists of 2-12-ft lanes in each direction with 10-ft shoulders and 48-ft depressed median.
    - Truck Bypass.
    - RM 967. Show existing and proposed section with left turn lane.
    - FM 2770. Show existing and proposed section with left turn lane.
    - FM 1626. Show proposed section from FM 1626 Pass-Through finance project.
  - The ENGINEER will develop the horizontal alignment with curve data. Horizontal alignment will meet 4R design criteria in accordance with the TxDOT Roadway Design Manual as determined during the Design Concept Conference meeting with TxDOT.
  - The ENGINEER will develop the vertical profile with vertical curve data. The vertical profile will meet 4R design criteria in accordance with the TxDOT Roadway Design Manual as determined during the Design Concept Conference meeting with TxDOT. Vertical clearances will be shown at the UPRR and CenTex haul road crossings.
  - The ENGINEER will develop preliminary cross sections necessary for the determination of ROW needs along the project corridor. Cross sections will be presented on a roll plot at 1"=10-ft horizontal and vertical scales.
  - The ENGINEER will determine preliminary bridge lengths based on horizontal and vertical clearance requirements at the UPRR bridge structure and hydraulic opening need at the Mustang Branch bridge structure.
  - The ENGINEER will establish limits of dedicated left and right turn lanes in accordance with needs as determined by the traffic analysis in accordance with the TxDOT Roadway Design Manual.
    - Buda Truck Bypass
    - RM 967.
    - FM 2770.
    - FM 1626.

- The ENGINEER will coordinate with TxDOT for schematic reviews.
  - 30% schematic District review
  - 60% schematic District review
  - 90% schematic District review
  - 100% schematic Division review
  - Submit final schematic / Schematic approval
- The ENGINEER will perform QC reviews before each submittal

DRAINAGE (FC 161)

- **Data Collection.** The ENGINEER will collect and review available drainage data from nearby roadways, watershed studies, FEMA maps, aerial imagery, or other relevant information. The Engineer shall perform site visits to understand drainage patterns on site.
- **Preliminary Hydrology.** The ENGINEER will develop overall drainage boundaries, identify major crossings for planned culvert/bridge crossings, and develop preliminary peak flow rates for design storms according to Hays County criteria for each proposed crossing. The ENGINEER will only develop peak flows for the design and check flood events.
- **Preliminary Cross Drainage.** The ENGINEER will develop preliminary peak flood elevations for design storms and determine preliminary sizes of culverts and minimum required spans/heights of bridges. The ENGINEER will only develop flood elevations for the design and check flood events.
- **Preliminary Parallel Drainage.** The ENGINEER will develop preliminary layout of parallel drainage system. This system is expected to include storm sewers, ditches, and driveway culverts. Prior to beginning this preliminary effort, a decision between curb and gutter or rural section is expected, alternative or multiple analyses are not anticipated.
- **Preliminary Water Quality.** The ENGINEER will develop a preliminary plan for addressing TCEQ Edwards water quality requirements. The Engineer will investigate and propose Best Management Practices (BMPs) that may be feasible for use on this project and perform preliminary water quality calculations to determine sizing that will meet TCEQ standards. Assume the overall Water Quality BMP strategy generally identifying what kinds of BMPs to use and where will be settled no later than the 90% schematic submittal. Changes after the 90% schematic submittal will require additional services.
- **Preliminary Drainage Report**. The ENGINEER will prepare a preliminary drainage report that summarizes schematic drainage and water quality modeling and design. The ENGINEER anticipates no FEMA submittals. A CLOMR/LOMR submittal shall be considered additional services to this scope.
- **Preliminary Design Plans and Estimate.** The ENGINEER will prepare schematic design plans for proposed drainage and water quality facilities. Plans shall include preliminary culvert layouts, parallel drainage concepts, and water quality features in plan view only, as part of a scroll plot. A preliminary quantity estimate shall be provided.
- **Comment / Response**. The ENGINEER will respond to review comments by Hays County, TxDOT, or other reviewers as requested by the County.

- **Meetings**. The ENGINEER anticipates up to 6 meetings for the schematic phase.
    - 1 – Halff,
    - 1 – TCEQ,
    - 1 – Hays County Floodplain Administrator,
    - 3 - 30/60/90 TxDOT schematic review meetings.

SIGNING, PAVEMENT MARKING, SIGNALIZATION AND ILLUMINATION (FC 162)

- The ENGINEER will layout pavement markings on schematic in accordance with the Texas Manual for Uniform Traffic Control Devices, TxDOT Roadway Design Manual and applicable standards.
- The ENGINEER will layout safety lighting at intersections only.
- The ENGINEER will prepare traffic signal warrant studies at the proposed intersections of the Truck Bypass at:
    - RM 967.
    - FM 2770.
    - FM 1626.

MISCELLANEOUS (FC 163)

- **UPRR Coordination.**
    - The ENGINEER will meet with UPRR (2 meetings).
    - The ENGINEER will prepare the UPRR Preliminary Engineering Agreement.
    - The ENGINEER will prepare a preliminary Project Layout (Preliminary Exhibit "A") providing overall project geometrics, including track profiles for 1000-ft in each direction from the proposed crossing and horizontal / vertical clearance requirements in accordance with the UPRR Railroad Grade Separation Guidelines.
- **Utility Coordination.** The ENGINEER will perform utility coordination/engineering services related to the number of existing utilities identified to date.
    - The ENGINEER has identified the following utilities as being present within the project limits for which this Work Authorization is based upon: The number of existing utilities or utility identification within the project limits are not confirmed at this time; the utilities found by Texas One-Call System and Site Visit/Field Check, generated the following tentative list:
        - ATT
        - City of Buda
        - Centerpoint Energy
        - Pedernales Electric Cooperative
        - Verizon
        - Level 3
        - MCI
        - Sprint/Nextel
        - Chevron Petroleum
        - Time Warner Cable
    - These services include, all utility adjustment coordination activities including but not limited to, meeting and contact with all utilities on the project, initial project notifications, preparation of existing utility layouts, providing progress reports,

preparation of contacts lists, preparation & submission of all reimbursable utility agreement assemblies as required, utility joint use acknowledgements, reviewing conflicts between the utilities and the proposed project, resolutions of all utility conflicts, creation of a utility conflict list, creating a utility tracking report, review of all of the proposed utility adjustments, recommendations for the proposed locations of the utility adjustments, and verification & monitoring of the adjustments where necessary. The above list of services is general in nature and should not be considered inclusive to the engineer's responsibilities, as listed in the following scope.

- The ENGINEER will identify existing utilities; the UC will identify and coordinate all existing utility information using available data sources, including:
  - Information provided by design team
  - Site visit
  - Survey information
  - Utility Coordination Meetings
  - Utility block maps
  - Record drawings
  - As-built drawings
  - Any other information provided by the utility companies.
- The ENGINEER will create a Utility Tracking Report. The UC will create, provide and maintain a Utility Tracking Report spreadsheet, in Excel format, containing at a minimum the following information:
  - Name of Utility
  - Contact Name/Address/Phone/E-Mail
  - Type of Facility
  - Utility Notification Date
  - Last Date of Contact
  - Within ROW or Private Easement
  - Eligible for Reimbursement
  - Possible conflict
  - Potential Conflict Location Data Information
  - Location of possible conflict
  - Utility Relocation
  - ROW Acquired
  - Notice to Proceed
  - Construction Start Date
  - Construction Complete Date
  - ROW Cleared
  - Comments Section – this section will be used to track all coordination from each utility company week to week via e-mail, phone call, meeting, etc. This section will contain dates of correspondence.
  - Action Item Required – this section will list any action items that are necessary from any party.
  - Action Item Due Date

This Tracking Report will be a live document updated continually as the project progresses. Each week it will be saved with a new ending date to ensure that a history can be found throughout the life of the project.

- The ENGINEER will send out a Notification Package to utility companies: Engineer will prepare Notification Packages for every identified utility company that will include a Draft Existing Utility Layout and copies of the available design plans. It will also include a Notification Letter notifying the utility company of the project, listing the limits of the project, estimated construction cost, letting date and date and time of a Utility Coordination Meeting that will be held at the City of Leander Office, if City prefers. Requests will be made for utility companies to provide all utility block maps, record drawings, As-Builts and any other information they have pertaining to their existing facility within the project limits.
- The ENGINEER will prepare a utility layout: using all utility information found, prepare a roll-plat utility exhibit that shows:
  - All existing utilities
  - Existing and Proposed ROW
  - Existing and Proposed Easements
  - Existing and Proposed edge of roadway
  - All existing and proposed storm sewer, bridge structures, retaining walls as well as any other pertinent structures in which the utility could be in conflict with
  - Background Image
    - Size, location, ownership, and number of lines in a particular utility facility
- The ENGINEER will create a Conflict Matrix: from the utility layout, identify all potential conflicts. Work with utility companies to determine if additional horizontal and/or vertical information is needed (this may require SUE Quality Level B or A). Conflict matrix will calculate separation distance with all proposed improvements as well as depth of cover, revealing all potential conflicts with proposed improvements. Calculations will be based upon City's criteria of minimum clearance requirements and minimum depth of cover requirements.
- The ENGINEER will determine SUE Needs: Subsurface Utility Engineering (SUE): No SUE services have been completed by the County. The ENGINEER will utilize the utility layout and conflict matrix to evaluate the nature of the conflict, and develop a plan to perform SUE investigations in a cost-effective manner should the need become necessary. Should additional SUE be required at a later date, a supplemental work authorization will be necessary.

- **Retaining Walls.** The ENGINEER will determine preliminary mechanically stabilized earth retaining wall length determinations.

GEOTECHNICAL

- **Bridge and Roadway Soil Borings.**
  - Bridge Borings. The ENGINEER will collect a maximum of 10 bore holes with depth of up to 70' for bridges. We plan maximum of 2 bore holes at UPRR and maximum of 8 bore holes at Mustang Branch/ Haul Road structure. Based on our

knowledge of the area and the data obtained from USDA, we believe there's limestone rock near the surface and we anticipate encountering solid rock in avaegae depth of about 50'. We will auger to refusal and will collect samples for Gradation, Atterberg Limits, Moisture content and Texas Cone Penetration data from each bore hole. We will obtained rock cores from 3 bore locations to determine rock quality.

  - Roadway Borings. The ENGINEER will conduct drilling, sampling and testing at 10 locations along the propsed roadway. Roadway bore holes will be approximately 10' deep. We will obtaine samples for Gradation, Atterberg Limits, Moisture content and Texas Cone Penetration from each bore holes
  - The ENGINEER will conduct soil classification on all samples obtained from borings
  - The ENGINEER will prepare boring logs using TxDOT WINCORE program.

- **Propose Pavement Section.** The ENGINEER will use TxDOT FPS program to develop the proposed pavement section design.
- **Robert S. Light existing pavement evaluation.** The ENGINEER will obtain up to 4 full depth pavement cores from Robert S. Light Pavement Section to evaluate pavement section and the existing base quality.
- **Geotechnical Report.** The ENGINEER will provide the findings of the soil borings and evaluation of the existing Robert S. Light pavement section in a Geotechnical Report for the project prepared on 8.5" x 11" sheets with 11" X 17" sheets for exhibits.

DELIVERABLES

- Roll plot of the design schematic for ultimate roadway section at a 1"=100-ft horizontal and 1"=10-ft vertical scales.
- Approved Environmental Assessment.
- Finding of No Significant Impact (FONSI).
- Geotechnical report with proposed pavement section.

PLANS, SPECIFICATIONS & ESTIMATE

The ENGINEER will prepare two PS&E packages.

Package 1: RM 967 to FM 2770. Approximately 0.78-mi. (4140-ft).

Package 2: FM 2770 to FM 1626. Approximately 1.02-mi. (5400-ft).

RIGHT OF WAY (FC 130). See Design Schematic above.

SURVEYING AND PHOTOGRAMMETRY (FC 150). See Design Schematic above.

ROADWAY GEOMETRICS (FC 160)(Both PS&E Packages).

The ENGINEER will develop the PS&E package in accordance with latest TxDOT policy and preferences. TxDOT Standard detail sheets shall be utilized to the maximum extent possible to minimize plan development work. All plan sheets shall be developed using 11" x 17" sheets sizes and shall be of uniform style and quality. Plans shall be submitted for County and TxDOT review at 30%, 60%, and 95% completion stages.

Project shall be governed by the TxDOT Standard Specifications for Construction and Maintenance of Highways, Streets and Bridges adopted June 1, 2004.

Roadway geometry shall be developed utilizing Geopak and in accordance with the latest version of the TxDOT Roadway Design Manual.

- Prepare Typical Sections. Package 1 & Package 2.
- Horizontal alignment data sheets. Package 1 and Package 2.
- Prepare Plan and Profile Sheets. Package 1 and Package 2.
  Scale 1"=100-ft Horizontal. & 1"=10-ft Vertical
    - Buda Truck Bypass.
    - RM 967
    - FM 2770
- Prepare cross-sections. Package 1 & Package 2. Cross-sections will be prepared on 11" x 17" sheets at a scale of 1" = 10-ft horizontally and vertically.
- Roadway Standard Details. Package 1 & Package 2.
    - TxDOT Seal Coat Material Selection Table.
    - MB(11)-1
    - Austin District – Mailstop Turnout sheet
    - Austin District – Concrete Driveways, Sidewalks and Riprap Medians

DRAINAGE (FC 161)(Both PS&E packages).

- **Final Hydrology.** The ENGINEER will finalize overall drainage boundaries, verify major crossings for culvert/bridge crossings, and develop final peak flow rates for design storms according to Hays County criteria for each proposed crossing. The ENGINEER shall only develop peak flows for the design and check flood events.
- **Final Cross Drainage.** The ENGINEER will develop peak flood elevations for design storms and determine sizes of culverts and minimum required spans/heights of bridges. A scour analysis for bridges shall be performed at 60% design. The ENGINEER shall only develop flood elevations for the design and check flood events.

- **Final Parallel Drainage.** The ENGINEER will develop layout of parallel drainage system. This system is expected to include storm sewers, ditches, and driveway culverts. Alternative or multiple analyses are not anticipated.
- **Final Water Quality**. The ENGINEER will develop a plan for addressing TCEQ Edwards water quality requirements. The ENGINEER will design Best Management Practices (BMPs) appropriate for use on this project and perform water quality calculations to determine sizing that to meet TCEQ standards.
- **SWPPP Design**. The ENGINEER will develop SWPPP designs to comply with TCEQ NPDES requirements.
- **Final Drainage Report**. The ENGINEER will prepare a final drainage report that summarizes final drainage and water quality design. A separate report is anticipated for TCEQ permitting. The ENGINEER anticipates no FEMA submittals. A CLOMR/LOMR submittal shall be considered additional services to this scope.
- **Final Design Plans and Estimate**. The ENGINEER will prepare design plans for proposed drainage, water quality, and SWPPP facilities. Plans shall include culvert layouts, parallel drainage concepts, water quality, and SWPPP features. Miscellaneous and standard drainage, water quality, and SWPPP details will be provided at 60/90/100. If needed, bridge deck drain detail design (e.g. design of BD-1,2,3) and piping through bridge columns will be provided by bridge designers. LAN will provide size/location of bridge deck drains._A quantity estimate shall be provided.
- **Comment / Response**. The ENGINEER will respond to review comments by Hays County, TxDOT, or other reviewers as requested by the County.
- **Permitting.**
    - TCEQ Edwards Aquifer. The ENGINEER will develop a permit submittal package including standard TCEQ forms and a report summarizing the approach to addressing TCEQ requirements.
    - Hays County Floodplain Administrator. The ENGINEER will coordinate with the Hays County Administrator and develop a permit submittal package according the local drainage regulations. Assume no CLOMR/LOMR required.
- **Meetings.** The ENGINEER anticipates up to 7 meetings for this final design phase:
    - 1 – Centex Materials,
    - 1 – Texas Lehigh,
    - 1 – TCEQ,
    - 1 – Hays County Floodplain Administrator,
    - 3 - 30/60/90 TxDOT design review meetings.

SIGNING, PAVEMENT MARKING, SINGALIZATION AND ILLUMINATION (FC 162)

All signing, pavement marking and delineators shall be in accordance with the Texas Manual on Uniform Traffic Control Devices (TMUTCD).

- The ENGINEER will prepare Signing and Pavement marking plans for the following roadways:
    - Buda Truck Bypass (between FM 1626 and RM 967)
    - RM 967 (approaches to Truck Bypass)
    - FM 2770 (approaches to Truck Bypass)
    - FM 1626 (approaches to Truck Bypass)
- The ENGINEER will prepare sign summaries. TxDOT SOSS & SOLS sheets.

- The ENGINEER will prepare intersection safety lighting details.
    - Coordinate with Texas One Call System and County to locate all utilities in the field.
    - Conduct a field review to note and verify physical constraints, power connection, utility placement, and any other details necessary for illumination plan preparation.
    - Attend meeting in the field with County and utility company to identify power source for illumination. One (1) meeting has been assumed.
    - Perform photometric analysis using VISUAL software to identify pole locations and fixture types to maintain adequate light levels along the entire corridor.
    - Illuminations plans will include complete illumination layout sheets, new pole schedule, conduit and conductor schedule and voltage drop calculations. It should be noted that the illumination plans will be prepared in accordance with TxDOT standards.
- The ENGINEER will prepare sign standard details. Both PS&E Plan Packages.
    - TSR(1)-08 thru TSR(5)-08
    - SMD(GEN)-08
    - SMD(SLIP-1)-08 thru SMD(SLIP-3)-08
    - SMD(2-1)-08 thru SMD(2-3)-08
- The ENGINEER will prepare pavement marking standard details. Both PS&E Plan Packages.
    - D&OM(1)-10
    - D&OM(2)-04 thru D&OM(5)-04
    - D&OM(VIA)-04
    - PM(1)-12 thru PM(3)-12
    - FPM(1)-12 thru FPM(4)-12
- The ENGINEER will prepare Electrical and Illumination Standard Details. Both PS&E Plan Packages.
    - ED(1)-03 to ED(13)-03
    - RID(LUM1)-07 & RID(LUM2)-07
    - RID(FND)-11
    - RIP(1)-11 thru RIP(4)-11
- The ENGINEER will prepare Traffic Signal Standard Details. Both PS&E Packages
    - DMA-80(1)-12 thru DMA-80(3)-12
    - MA-C-12
    - MA-C(ILSN)-12
    - MA-D-12
    - TS-FD-12
    - LUM-A-12
    - CFA-12
    - TS-CF-04
    - MA-DPD-12

MISCELLANEOUS (FC 163)

- **UPRR Coordination**
    - The ENGINEER will meet with UPRR (6 meetings at 4 hours each).

- The ENGINEER will prepare / submit Union Pacific Railroad Exhibit "A".
  - Including Railroad Requirements for Bridge Construction (3 sheets).
- The ENGINEER will prepare UPRR Construction and Maintenance Agreement. Coordination with TxDOT Rail Division.

- **Utility engineering / utility monitoring & verification services.**
  - Resolve Conflicts: Evaluate Alternatives / Utility Coordination Meetings / Determine reimbursement eligibility: The ENGINEER will arrange and attend meetings with utility companies to coordinate data collection and work with the design engineers (includes coordination, Agenda and meeting minutes), the City and the utility companies to determine if design modifications can be reasonably done to reduce and maybe remove the conflict as many times small tweaks in the profile, storm sewer, etc, can completely avoid a conflict. Also determination of which utilities will be eligible for reimbursement, if any, will be established.
  - The ENGINEER will review utility company's relocation plans, schedule and agreement: The ENGINEER will assist the utility company with preparing their relocation plans by providing an assigned alignment and reviewing their plans for compliance and assuring no conflicts with future improvements or other utilities. The ENGINEER will also assist with any agreement execution if eligible for reimbursement, which will include betterment review, if any. The ENGINEER will move the agreement through complete execution and provide NTP to utility company
  - Utility Reimbursement Agreement: The ENGINEER will coordinate with City and City's Legal Counsel to create and approve verbiage of Agreement.
  - The ENGINEER will perform QA/QC. The ENGINEER will perform a QA/QC review of the Utility Layout and the Utility Conflict Matrix at 30%, 60% and 90% Design Phases
  - Review/Approve Payment Request. The ENGINEER will review all payment requests for conformance with the utility estimate and verify the work has been preformed. This includes tracking/requesting detailed back up to support the invoiced amount in order to recommend payment.
  - Subsurface Utility Engineering. The ENGINEER proposes to provide Subsurface Utility Engineering (SUE) Quality Level A (QL-A) Test Hole Services for one (1) test hole on a Chevron Transmission pipeline near FM 1626 in Buda, Texas as part of PS&E package 2. This scope of services and associated fee estimate has been prepared taking into consideration the following understanding. If the Scope of Services is revised the fee will likewise be revised.
    - The ENGINEER will perform QL-A Test Hole services an existing Chevron Pipeline at one (1) location. The Test Hole location will be determined and marked by the client.
    - The County will provide The ENGINEER with and record information and profile drawings of the pipeline.
    - Survey Feature Codes will be shown as per the Feature Library and Line Styles.
    - The ENGINEER is to provide QL-A Test Hole Services only.
    - The ENGINEER will not be working in any hazardous or contaminated areas.

- Right of Entry to the Project Work Area will be provided by others.
- The ENGINEER will be notified, prior to coming to Project of any special requirements for access and the performance of the work. The ENGINEER will have unrestricted access to the work areas on a ten (10) hour per day basis for each day approved to perform work.
- Quality Level A (QL-A) locating services are the location and accurate horizontal and vertical position of subsurface utilities by excavating a test hole using vacuum excavation techniques and equipment that is non-destructive to utilities. In performing locating (test hole) services, The ENGINEER will:
    - Provide all equipment, personnel and supplies required to perform locating services. The ENGINEER will determine which equipment, personnel and supplies are required to perform such services.
    - Utilize existing records as provided by the County, designate the pipeline at the site pursuant to 1.4 and investigate site conditions.
    - Excavate test hole to expose the utility to be measured in such a manner that ensures the safety of the excavation and the integrity of the utility to be measured. In performing such excavations, The ENGINEER will comply with applicable utility damage prevention laws. Excavations will be performed using specially developed vacuum excavation equipment that is non-destructive to existing facilities. If contaminated soils are discovered during the excavation process, The ENGINEER will so notify the County.
    - Investigate, evaluate, measure and record:
    - Actual depth to top of utility referenced to a survey marker installed directly above the centerline of the exposed utility structure and
    - Outside diameter of utility and configuration of non-encased, multi-conduit systems.
    - Furnish and install survey markers directly above the centerline of utility structure.
    - Backfill around the exposed facility using excavated material in 6-inch compacted lifts.
    - In grass and landscape areas restoration shall be as reasonably possible to the condition that existed prior to excavation.
    - Excavation will not be in paved area.
    - It is assumed that no permits for excavation will be required.

- Deliverables:
    - Provide Utility Companies Contact List
    - Coordinate with Utility Companies on Design of their relocations (provide Meeting Minutes)
    - Provide Pre-Construction Meeting Minutes
    - Provide Utility Adjustment Status Reports

        - Provide Utility Payment Requests (if required)
        - Provide Utility Layouts
        - Provide Utility Tracking Report
        - Provide Conflict Matrix
        - Provide individual Plan/Profile of conflict when necessary
- **PS&E Plan Sheet Preparation.**
    - The ENGINEER will prepare title sheet. Package 1 & Package 2.
    - The ENGINEER will prepare Summary of Quantities.
        - Traffic Control.
        - Signing / Pavement Markings.
        - Traffic signals.
        - SW3P.
        - Removals.
        - Retaining walls.
        - Roadway.
        - Bridge.
    - The ENGINEER will project Layout / Control.
    - The ENGINEER will traffic control narrative / sequence of construction
    - The ENGINEER shall prepare from the schematic design files, a Traffic Control Plan (TCP) roll plot. The TCP roll plot shall include a plan view, at a scale of 1"=100-ft, showing each phase of construction and a phasing narrative and will be submitted with the 30% plan set. For the subsequent 60%, 90% and Final Mylar submittals, The ENGINEER shall prepare the TCP on 11" x 17" sheets and include needed typical section(s), a plan view showing each phase of construction where traffic exists, advance warning / construction signs, a phasing narrative, and a TCP Summary Sheet. TxDOT TCP standards will be used and incorporated into the plans when possible.
    - The ENGINEER will prepare removal plans.
    - The ENGINEER will prepare the necessary miscellaneous roadway detail sheets.
    - The ENGINEER will prepare retaining wall plan and profiles.
        - UPRR Bridge approach. Plan and profile for an MSE wall running along the north side of the truck bypass and turning in front of the abutment cap. Embankment on south side of the truck bypass will be sloped with no retaining wall.
        - Mustang Branch / Haul Road Bridge approach. Plan and profile for an MSE wall running along the north side of the truck bypass and turning in front of the abutment cap. Embankment on south side of the truck bypass will be sloped with no retaining wall.
        - Retaining wall global stability analysis will be performed for each wall utilizing the soil parameters and data provided by the geotechnical subconsultant. Design parameters will be provided on the MECHANICALLY STABILIZED EARTH RETAINING WALL DESIGN DATA standard detail sheet.
    - The ENGINEER will prepare EPIC. Environmental Permits, Issues and Commitments sheet.
    - The ENGINEER will prepare standard details

- Traffic Control Plans.
  - BC(1)-07 thru BC(12)-07
  - WZ(TD)-03
  - WZ(STPM)-03
  - WZ(UL)-03
  - WZ(BTS-1)-03
  - WZ(BTS-2)-03
  - WZ(BRK)-03
  - TCP(1-3)-12
  - TCP(2-3)-12
  - TCP(7-1)-98
- Retaining wall standard details
  - Earthwork Measurements at Retaining Walls – RW(EM)
  - Roadway Inlet for MSE Retaining Wall TRF – RW(RI)
  - Design Data for (MSE) Retaining Wall – RW(MSE)DD
  - Mechanically Stabilized Earth Retaining Wall – RW(MSE)
  - Traffic Rail Foundation for MSE – RW(TRF)

- The ENGINEER will coordinate with TxDOT for plan reviews.
  - 30% PS&E District Review
  - 60% PS&E District Review
  - 90% PS&E District Review
  - 100% PS&E Division Review
  - Final Mylar Submittal
- The ENGINEER will perform QC review of before each submittal (all disciplines).
- The ENGINEER will prepare / update engineer's opinion of probable construction cost for review by the County at each submittal.
  - 30%
  - 60%
  - 95%
  - Final
  - QC review of each submittal
- The ENGINEER will prepare supporting documents to be submitted to TxDOT with the final plan submittal.
  - General notes utilizing the most current version of the Austin District Master General Notes list.
  - Form 1002
  - Special Provisions / Special Specifications & Form 1814
  - Construction time determination using accepted production rates for construction elements.
  - List of governing specifications.
  - Significant Project Procedures form.

BRIDGE DESIGN (FC 170)

- **Bridge Design and Detailing.**
  - The ENGINEER will design bridges for an HL93 live load in accordance with the latest edition of the AASHTO LRFD Bridge Design Specifications, TxDOT LRFD Design Manual and pertinent online guidelines. Bridges will utilize TxDOT standard prestressed concrete TX-Girder shapes.
  - The ENGINEER will design the superstructure utilizing PGSuper.
  - The ENGINEER will design the substructure utilizing TxDOT CAP18.
  - The ENGINEER will design the bridge foundations utilizing the TxDOT WINCORE program utilizing Texas Cone Penetrometer data provided by the geotechnical subconsultant.
  - The ENGINEER will prepare bridge layouts in accordance with the TxDOT Bridge Detailing Manual.
    - UPRR grade separation. PS&E Package 1
    - Mustang Branch / Centex haul road crossing. PS&E Package 2
    - Coordinate with TxDOT Bridge Division for bridge layout approval.
  - The ENGINEER will prepare bridge details in accordance with the TxDOT Bridge Detailing Manual.
    - Bridge Quantities. Separate quantity sheets will be developed for each bridge in Package 1 & 2.
    - Bridge bearing seat elevations. Separate quantity sheets will be developed for each bridge in Package 1 & 2.
    - Abutments. Separate sheets will be developed for each respective abutment on each bridge in each plan package.
    - Interior bents. Separate sheets will be developed for each bridge in each plan package.
    - Span details. A separate sheet will be produced for each prestressed concrete beam unit on each bridge in each plan package.
    - Prestressed concrete beam design summary for each plan package.
    - Foundation design for each plan package.
  - The ENGINEER will prepare TxDOT Bridge Standard Detail Sheets.
    - BAS-A
    - CRR
    - CSAB
    - FD
    - ODSR
    - PCP
    - PCP-FAB
    - PMDF
    - SEJ-A
    - T551
    - CLF-RO
    - IGD
    - IGEB
    - IGMS
    - IGND

    - IGTS
    - MEBR(C)
    - Railroad Requirements for Bridge Construction (3 sheets). PS&E Package 1 only.
- **UPRR Exhibit "A".** The ENGINEER will finalize in accordance with the UPRR Guidelines for Railroad Grade Separation projects. Coordinate with UPRR for Exhibit "A" approval. Package 1.

DELIVERABLES

- Design Summary Report (DSR).
- 30%, 60%, 95% Submittals (5 Copies).
- 30% Submittal
    - Preliminary Title Sheet with Index of Sheets;
    - Project Layout;
    - Existing and Proposed Typical Sections;
    - Preliminary Summary Sheets;
    - Alignment Data Sheets;
    - Plan and Profile Sheets for all Alignments (Horizontal and vertical alignments final upon approval of 30% plans level);
    - Preliminary Traffic Control Narrative;
    - Drainage Area Maps;
    - Hydraulic Computations;
    - Preliminary Culvert Layouts;
    - Preliminary Storm Sewer Layouts (if necessary);
    - Preliminary Cross Sections; and
    - Preliminary Quantities and Construction Cost Estimate
- 60% Submittal
    - 60% Submittal will address comments from the 30% review;
    - Update Title Sheet with Index of Sheets (including standards);
    - Project Layout;
    - Final Existing and Proposed Typical Sections;
    - Preliminary Summary Sheets;
    - Preliminary Traffic Control & Sequence of Work;
    - Alignment Data Sheets;
    - Plan and Profile Sheets for all Alignments;
    - Preliminary Intersection Layouts;
    - Miscellaneous Roadway Details;
    - Drainage Area Maps;**
    - Hydraulic Computations;**
    - Final Culvert Layouts;**
    - Final Storm Sewer Layouts;** (if necessary)
    - Final Utility Exhibits;
    - Preliminary Signing Layouts;
    - Preliminary Pavement Marking Layouts and Delineation;
    - Preliminary SW3P Layouts;
    - Update Cross-Sections;

- Updated Quantities and Construction Cost Estimate;
- All standard sheets requiring review and/or modification;
- Proposed special provisions or special specifications requiring approval; and
- Preliminary Construction Schedule.
- (** Details final upon approval of 60% level)

- 95% Submittal
  - 95% Submittal will address comments from the 60% review;
  - Update Title Sheet with Index of Sheets;
  - Project Layout;
  - Final Existing and Proposed Typical Sections;
  - Final Summary Sheets;
  - Final Traffic Control Plan with Signing and Warning Devices;
  - Final Alignment Sheets;
  - Final Plan and Profile Sheets;
  - Final Intersection Layouts;
  - Final Miscellaneous Roadway Details;
  - Drainage Area Map;
  - Hydraulic Computations;
  - Final Culvert Layouts;
  - Final Storm Sewer Layouts (If necessary);
  - Final Utility Exhibits;
  - Final Signing Layouts;
  - Final Pavement Markings Layouts and Delineation;
  - Final SW3P Layouts;
  - Final Cross-Sections;
  - Updated Quantities, Construction Cost Estimate and Construction Schedule.
  - General Notes, Specification Data Sheets, Special Provisions, Special Specifications, Contract Time Determination, Other Supporting Paperwork (Form 1002, etc); and
- Final Submittal (1 Copy)
  - The final submittal will include items from the 95% submittal with resolution to a review comments. Plan sheets must be submitted on white opaque 11" X 17" Mylar Film and signed / sealed by a Professional Engineer or Survey licensed / registered within the State of Texas;
  - Complete PS&E package including the construction cost estimate, construction schedule, and necessary forms (Form 1002, etc.).

ADDITIONAL SERVICES (NOT INCLUDED IN THIS SCOPE OF SERVICES)

The Engineer shall, at the request of the County, provide the following additional services. Any additional services requested will require a Supplemental Agreement to this Work Authorization.

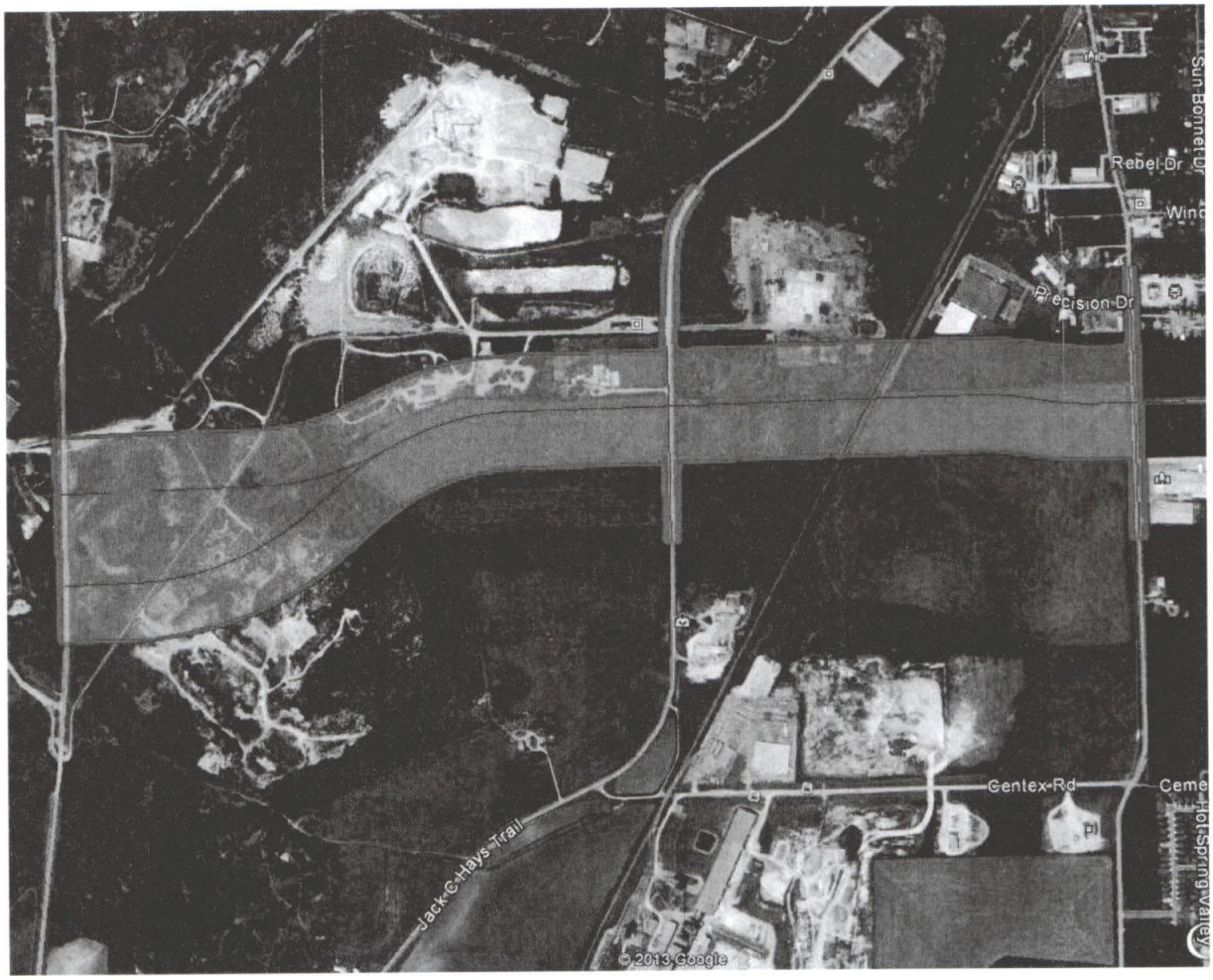
- Services resulting from significant changes in the general project scope, extent or character of the project or scope of work, and revising previously accepted studies, reports, design documents, or contract documents when such revisions are required by changes in laws, rules, regulations, ordinances, codes or orders enacted subsequent to the preparation of such studies, reports, or documents, or are due to any other causes beyond the Engineer's control.
- The ENGINEER anticipates no FEMA submittals. A CLOMR/LOMR submittal shall be considered additional services to this scope.
- Design / topographic mapping services beyond those described herein, including ground survey of obscured areas in excess of 10 acres.
- Infrastructure for traffic signals (ground boxes and conduits only) are included in this agreement. Actual design of traffic signal systems, timing, etc. will require a supplemental agreement.
- Staking of the ENGINEER's proposed baseline / centerline or proposed ROW.
- SUE services beyond that identified in the scope herein.
- Additional Mustang Branch cross sections beyond that scoped herein.
- Title abstracting or courthouse records research beyond that scoped herein.
- Surveying and document preparation for drainage easements, temporary construction easements or access denial lines.
- Processing of LiDAR data to produce DTM accuracy greater than that scoped herein.
- Additional work due to changes in alignment made by the County after initial acquisition is performed.
- Physical verification of utility relocations.
- Assistance in connection with bid protests, re-bidding, or re-negotiating contracts for construction, materials, equipment or services.
- Construction phase services (shop drawing review, RFIs, etc.).
- Construction engineering, inspection or materials testing for construction purposes.
- Preparing to serve or serving as an Engineer or witness for the County in any litigation, arbitration, or other legal or administrative proceeding.
- Any other services not specifically stated within this scope of work.

ATTACHMENT A

EXHIBIT B

ATTACHMENT 1

AERIAL MAPPING CORRIDOR

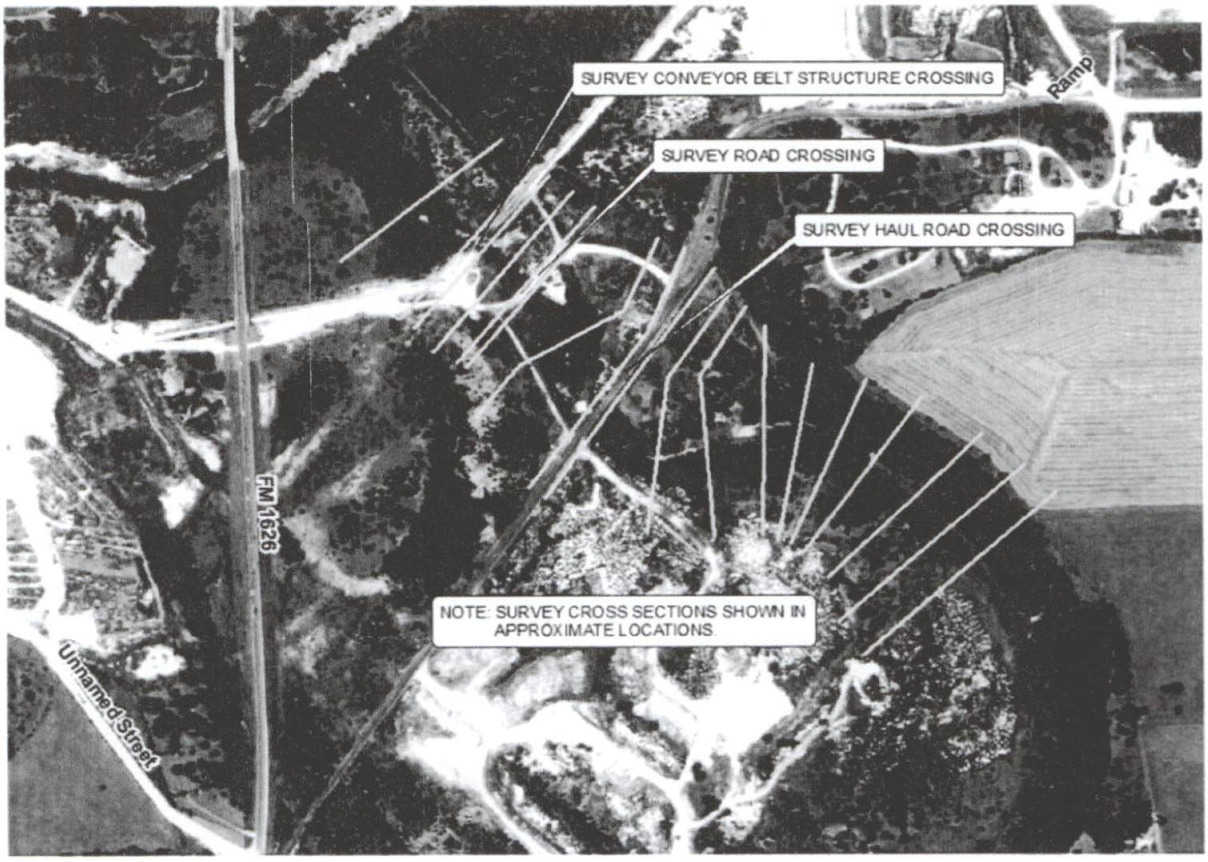


ATTACHMENT A

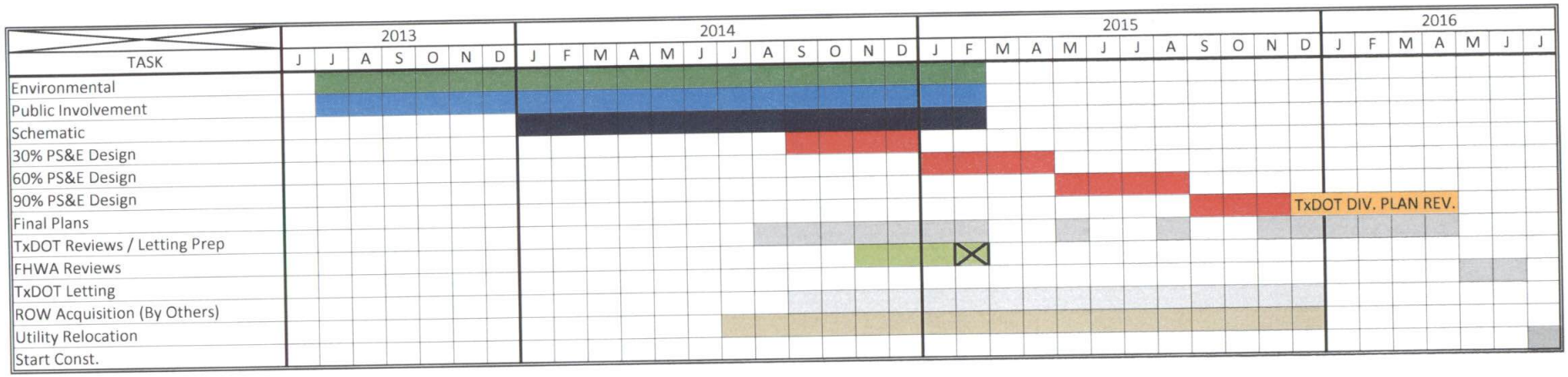
EXHIBIT B

ATTACHMENT 2

MUSTANG BRANCH CROSS-SECTIONS



BUDA TRUCK BYPASS
FROM IH-35 to FM 1626



- Finding of No Significant Impact (FONSI) / Approved Schematic

Project Description: Prepare design schematic and two PS&E packages for the Buda Truck Bypass from RM 967 to FM 1626.

Project Length: 1.80 miles 9,540 LF

PROJECT MANAGEMENT	100,632.00
PRELIMINARY ENGINEERING	
ROUTE AND STUDIES DESIGN	57,181.00
TRAFFIC ANALYSIS AND MODELING	34,501.00
ENVIRONMENTAL STUDIES (NEPA)(ENVIRONMENTAL ASSESSMENT)	143,648.00
ROADWAY GEOMETRICS / CROSS SECTIONS (DESIGN SCHEMATIC ROLL PLOT)	65,632.00
SCHEMATIC SIGNING, PAVEMENT MARKING, ILLUMINATION AND SIGNALIZATION	15,514.00
UPRR COORDINATION	26,054.00
PRELIMINARY UTILITY COORDINATION	27,674.00
SUBTOTAL PRELIMINARY ENGINEERING	370,204.00
PLANS, SPECIFICATIONS AND ESTIMATES (PS&E) - TWO PACKAGES	
PS&E PACKAGE 1 - PROJECT LENGTH EQUALS 0.78 MILES (4,140 LF).	
ROADWAY GEOMETRICS (P & P SHTS: 1" = 100')	119,294.00
SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION	34,153.00
MISCELLANEOUS ROADWAY	109,478.00
UPRR COORDINATION	42,868.00
UTILITY ENGINEERING	41,441.00
BRIDGE DESIGN	48,666.00
SUBTOTAL PS&E PACKAGE 1	395,900.00
PS&E PACKAGE 2 - PROJECT LENGTH EQUALS 1.02 MILES (5,400 LF).	
ROADWAY GEOMETRICS (P & P SHTS: 1" = 100')	100,598.00
SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION	30,621.00
MISCELLANEOUS ROADWAY	105,038.00
UTILITY COORDINATION	3,734.00
BRIDGE DESIGN	129,935.50
SUBTOTAL PS&E PACKAGE 2	369,926.50
SUBTOTAL PS&E PLAN PREPARATION	765,826.50
DIRECT EXPENSES	19,277.50
SUBCONSULTANT FEES	
LOCKWOOD, ANDREWS & NEWNAM, INC.	390,945.00
GAP STRATEGIES (DANDY PLANNING, LLC)	30,320.00
AMATERRA ENVIRONMENTAL, INC.	31,849.00
SURVEYING AND MAPPING, INC.	
AERIAL MAPPING	40,005.00
SUPPLEMENTAL DESIGN SURVEY (OBSCURED AREAS, UPRR TRACKS, MUSTANG BRANCH SECTIONS, ETC.)	53,394.12
RIGHT OF WAY	61,314.88
SUBSURFACE UTILITY ENGINEERING (POTHOLE CHEVRON PIPELINE, IF REQUIRED).	4,920.00
PAVETEX ENGINEERING AND TESTING, INC.	31,312.00
SUBTOTAL - SUBCONSULTANT FEES	644,060.00
TOTAL HDR LABOR FEE, SUBCONSULTANTS, AND DIRECT EXPENSES	1,900,000.00

	Project Description: Prepare design schematic for the Buda Truck Bypass from RM 967 to FM 1626.	Project Length: 1.80 miles 9,540 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
COST COMPONENT, HOURS															
1 - DESIGN SCHEMATIC															
1A	**ROUTE AND STUDIES DESIGN**														
	DESIGN CONCEPT CONFERENCE	4		4				4			0				12
	PREPARE DESIGN SUMMARY REPORT	4		8				8						8	28
	DATA COLLECTION / SITE VISITS	8	8	8	8										32
	ALTERNATIVE DEVELOPMENT / MTGS WITH AFFECTED PROPERTY OWNERS (2 MTGS)	8		30			16	30			40			8	132
	ALTERNATIVE(S) ANALYSIS (CONCEPTUAL/REASONABLE/PREFERRED)	20		40			16	48		16	48				188
	SUBTOTAL ROUTE AND DESIGN STUDIES	**44**	**8**	**90**	**8**	**0**	**32**	**90**	**0**	**16**	**88**	**0**	**0**	**16**	**392**
1B	**TRAFFIC ANALYSIS AND MODELING**														
	COORDINATION WITH COUNTY AND TxDOT	2		4											6
	FIELD REVIEW OF EXISTING ROADWAYS			4											4
	AM & PM PEAK HOUR TURNING MOVEMENTS			2											2
	24-HOUR BI-DIRECTIONAL TRAFFIC COUNTS			2				8							10
	DEVELOP EXISTING AND ULTIMATE INTERSECTION TRAFFIC VOLUME FORCASTS	2		8				14	30						54
	CREATE SYNCHRO MODELS (4 SCENARIOS - 8 MODELS)	8		16				30	30						84
	PREPARE TECHNICAL MEMORANDUM SUMMARIZING RESULTS	2		4				14	26						46
	PRESENT STUDY RESULTS AND RECOMMENDATIONS TO COUNTY AND TxDOT			4											
	FINAL TECHNICAL MEMORANDUM			4				8	14		4			2	32
	SUBTOTAL TRAFFIC ANALYSIS AND MODELING	**14**	**0**	**48**	**0**	**0**	**0**	**74**	**100**	**0**	**4**	**0**	**0**	**2**	**242**
1C	**ENVIRONMENTAL STUDIES (NEPA)(ENVIRONMENTAL ASSESSMENT)**														
	COORDINATION WITH TxDOT		32		12	12									56
	KEY STAKEHOLDER MEETINGS		8												8
	SCOPING FORM AND CLASSIFICATION LETTER		4	8	8	8									28
	DEVELOP PURPOSE AND NEED STATEMENT		4	4	16	16									40
	AGENCY COORDINATION		8	8	8	8									32
	GIS MAPPING						32								32
	NATURAL RESOURCES		4		12	32									48
	T & E HABITAT SURVEYS				8	8	8								24
	GCW & BCV PRESENCE/ABSENCE SURVEY (ONE SEASON)				16	16									32
	INFORMAL AGENCY COORDINATION FOR GCW/BCV POTENTIAL IMPACTS/MITIGATION		8		8	6									22
	WATER RESOURCES		4			16									20
	CULTURAL RESOURCES INVESTIGATIONS - Provided by Amaterra		4												4
	HAZARDOUS MATERIALS		4		16	16									36
	NOISE		32		16										48
	AIR QUALITY		4			8									12
	DRAFT ENVIRONMENTAL DOCUMENT PREPARATION - 4 REVIEW CYCLES		8		16	24									48
	ALTERNATIVES ANALYSIS		8		8	8									24
	DIRECT IMPACTS		4		8	8									20
	INDIRECT IMPACTS		4		16	32									52
	CUMULATIVE IMPACTS		4		16	32									52
	EPIC		4		6										10
	FINAL ENVIRONMENTAL DOCUMENT PREPARATION - 1 REVIEW CYCLE		8		16	24									48
	QC REVIEW OF DRAFT AND FINAL ENVIRONMENTAL DOCUMENT	16													16
	PREPARE FONSI		4		6										10

	Project Description: Prepare design schematic for the Buda Truck Bypass from RM 967 to FM 1626.	Project Length: 1.80 miles 9,540 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
	ADMINISTRATIVE RECORD		16		16	32									64
	PUBLIC MEETING / OPEN HOUSE PREPARATION	8	8	8	8	8									40
	PREPARE PUBLIC MEETING NOTICE		4		4										8
	HOLD PUBLIC MEETING	6	6		6	8									26
	PUBLIC MEETING SUMMARY AND ANALYSIS REPORT	2	8		8	24									42
	PUBLIC HEARING PREPARATION	8	8		8	8									32
	PREPARE PUBLIC HEARING NOTICE	2	4		4										10
	HOLD PUBLIC HEARING	6	8		6	8									28
	PUBLIC HEARING SUMMARY AND ANALYSIS REPORT	2	8		8	24									42
	SUBTOTAL ENVIRONMENTAL STUDIES	**50**	**230**	**28**	**280**	**386**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1014**

	Project Description: Prepare design schematic for the Buda Truck Bypass from RM 967 to FM 1626.	Project Length: 1.80 miles 9,540 LF												
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
1D	**RIGHT OF WAY**	*SEE SURVEYING AND MAPPING FEE (ATTACHED).*													
1E	**SURVEYING AND PHOTOGRAMMETRY**	*SEE SURVEYING AND MAPPING FEE (ATTACHED).*													
1F	**ROADWAY GEOMETRICS / CROSS SECTIONS (DESIGN SCHEMATIC ROLL PLOT)**														
	DEVELOP TYPICAL SECTIONS (TRUCK BYPASS, RM 967, FM 2770, RM 1626)	2		10				16			30				58
	DEVELOP HORIZONTAL ALIGNMENT (PREFERRED ALIGNMENT)	2		8				12			24				46
	DEVELOP VERTICAL PROFILE (PREFERRED ALIGNMENT)	2		8				12			24				46
	PREPARE PRELIMINARY CROSS SECTIONS FOR ROW DETERMINATION	2		4				40	100		40				186
	ESTABLISH LIMITS OF DEDICATED LEFT TURN LANES (ULTIMATE & INTERIM)	2		4					16						22
	TXDOT COORDINATION (30%, 60%, 90% & 100% REVIEWS)	16		16							40				72
	QC REVIEW PRIOR TO EACH SUBMITTAL (30%, 60%, 90% AND 100%)	32									40				72
	SUBTOTAL OF ROADWAY GEOMETRICS	**58**	**0**	**50**	**0**	**0**	**0**	**80**	**116**	**0**	**198**	**0**	**0**	**0**	**502**
1G	**SCHEMATIC DRAINAGE**	*SEE LOCKWOOD, ANDREWS AND NEWNAM, INC. FEE (ATTACHED).*													
1H	**SCHEMATIC SIGNING, PAVEMENT MARKING, ILLUMINATION AND SIGNALIZATION**														
	LAYOUT PAVEMENT MARKINGS	2		2				8	32						44
	LAYOUT SAFETY LIGHTING AT INTERSECTIONS	0		2				4	8						14
	PREPARE TRAFFIC SIGNAL WARRANTS (RM 967, FM 2770 & FM 1626)	2		4				16	40						62
	SUBTOTAL OF SIGNING, PAVEMENT MARKING, ILLUMINATION AND SIGNALIZATION	**4**	**0**	**8**	**0**	**0**	**0**	**28**	**80**	**0**	**0**	**0**	**0**	**0**	**120**
1I	**UPRR COORDINATION**														
	MEETINGS WITH UPRR (2)	6		6											12
	PREPARE PRELIMINARY ENGINEERING AGREEMENT	8		24										8	40
	PREPARE UPRR RIGHT OF ENTRY AGREEMENT	2		2										4	8
	PREPARE PRELIMINARY PROJECT LAYOUT (EXHIBIT A).	2		16				40			24		40		122
	SUBTOTAL OF UPRR COORDINATION	**18**	**0**	**48**	**0**	**0**	**0**	**40**	**0**	**0**	**24**	**0**	**40**	**12**	**182**
1J	**PRELIMINARY UTILITY COORDINATION**														
	IDENTIFY EXISTING UTILITIES									24					24
	CREATE AND MAINTAIN UTILITY TRACKING REPORT (MONTHLY UPDATES)									50					50
	PREPARE UTILITY NOTIFICATION PACKAGE / PRELIMINARY UTILITY COORDINATION			8						16					24
	PREPARE DRAFT UTILITY LAYOUT								4	16	40				60
	CREATE A CONFLICT MATRIX			8					2	24	16				50
	DETERMINE SUE NEEDS			8						16					24
	PERFORM QA / QC			8						4	4				16
	SUBTOTAL UTILITY COORDINATION	**0**	**0**	**32**	**0**	**0**	**0**	**0**	**6**	**150**	**60**	**0**	**0**	**0**	**248**
1K	**GEOTECHNICAL INVESTIGATION AND REPORT**	*SEE PAVETEX FEE (ATTACHED)*													

	Project Description: Prepare design schematic for the Buda Truck Bypass from RM 967 to FM 1626.	Project Length: 1.80 miles 9,540 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
1L	**PROJECT MANAGEMENT**														
	MONTHLY COORDINATION MTGDS WITH COUNTY / GEC (30 Mtgs at 2 hrs per mtg).	60		60										30	150
	COORDINATION MEETINGS WITH TXDOT (6 MTGS)	12		12											24
	COORDINATE OBTAINING TXDOT NATIONAL BRIDGE INVENTORY (NBI) NUMBERS	2		8											10
	BI-WEEKLY TEAM COORDINATION MEETINGS (80 meetings at 1 hour per meeting).	80	26	80										40	226
	COORDINATION MEETINGS WITH PASS-THROUGH FINANCE (FM 1626) DESIGNER (4)	8		8											16
	PREPARE MONTHLY PROJECT INVOICES (36)	72												108	180
	PREPARE / MAINTAIN PROJECT SCHEDULE	36													36
	PROJECT FILING	36												144	180
	SUBTOTAL PROJECT MANAGEMENT	**306**	**0**	**168**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**822**
	TOTAL HDR HOURS	**494**	**238**	**472**	**288**	**386**	**72**	**312**	**302**	**166**	**374**	**0**	**40**	**60**	**3204**
		HOURLY RATES INCLUDING OVERHEAD AND PROFIT													
	COST COMPONENT, DOLLARS	$ 223.00	$ 195.00	$ 178.00	$ 134.00	$ 104.00	$ 125.00	$ 148.50	$ 113.00	$ 104.00	$ 95.00	$ 83.00	$ 107.00	$ 83.00	
1A	**ROUTE AND STUDIES DESIGN**	**$9,812**	**$1,560**	**$16,020**	**$1,072**	**$0**	**$4,000**	**$13,365**	**$0**	**$1,664**	**$8,360**	**$0**	**$0**	**$1,328**	**$57,181.00**
1B	**TRAFFIC ANALYSIS AND MODELING**	**$3,122**	**$0**	**$8,544**	**$0**	**$0**	**$0**	**$10,989**	**$11,300**	**$0**	**$380**	**$0**	**$0**	**$166**	**$34,501.00**
1C	**ENVIRONMENTAL STUDIES (NEPA)(ENVIRONMENTAL ASSESSMENT)**	**$11,150**	**$44,850**	**$4,984**	**$37,520**	**$40,144**	**$5,000**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$143,648.00**
1F	**ROADWAY GEOMETRICS / CROSS SECTIONS (DESIGN SCHEMATIC ROLL PLOT)**	**$12,934**	**$0**	**$8,900**	**$0**	**$0**	**$0**	**$11,880**	**$13,108**	**$0**	**$18,810**	**$0**	**$0**	**$0**	**$65,632.00**
1H	**SCHEMATIC SIGNING, PAVEMENT MARKING, ILLUMINATION AND SIGNALIZATION**	**$892**	**$0**	**$1,424**	**$0**	**$0**	**$0**	**$4,158**	**$9,040**	**$0**	**$0**	**$0**	**$0**	**$0**	**$15,514.00**
1I	**UPRR COORDINATION**	**$4,014**	**$0**	**$8,544**	**$0**	**$0**	**$0**	**$5,940**	**$0**	**$0**	**$2,280**	**$0**	**$4,280**	**$996**	**$26,054.00**
1J	**PRELIMINARY UTILITY COORDINATION**	**$0**	**$0**	**$5,696**	**$0**	**$0**	**$0**	**$0**	**$678**	**$15,600**	**$5,700**	**$0**	**$0**	**$0**	**$27,674.00**
1L	**PROJECT MANAGEMENT**	**$68,238**	**$0**	**$29,904**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,490**	**$100,632.00**
	TOTAL HDR LABOR FEE	**$110,162**	**$46,410**	**$84,016**	**$38,592**	**$40,144**	**$9,000**	**$46,332**	**$34,126**	**$17,264**	**$35,530**	**$0**	**$4,280**	**$4,980**	**$470,836.00**
	COST COMPONENT DIRECT EXPENSES	UNIT COST	UNIT		QTY										
EXP	MILEAGE	$0.565	MILE		5800										$3,277.00
EXP	COPIES (8.5" x 11")	$0.05	EA		4850										$242.50
EXP	COPIES (11" x 17")	$0.10	EA		1000										$100.00
EXP	COPIES (8.5" X 11")(COLOR)	$0.15	EA		1000										$150.00
EXP	COPIES (11" X 17")(COLOR)	$0.30	EA		500										$150.00
EXP	ROLL PLOTS	$0.20	SF		1500										$300.00
EXP	HAZARDOUS MATERIALS DATABASE SEARCH	$500.00	EA		2										$1,000.00
EXP	TRAFFIC COUNT DATA COLLECTION	$3,500.00	EA		1										$3,500.00
	TOTAL DIRECT EXPENSES														**$8,719.50**
	TOTAL HDR LABOR FEE AND EXPENSES														**$479,555.50**

	PROJECT DESCRIPTION: PS&E PACKAGE 1 - FROM RM 967 to FM 2770.	Project Length: 0.78 miles 4,140 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
COST COMPONENT, HOURS															
2 - PS&E PACKAGE 1 - RM 967 to FM 2770															
2A	RIGHT OF WAY DATA	*SEE SURVEYING AND MAPPING FEE (ATTACHED).*													
2B	SURVEYING AND PHOTOGRAMMETRY	*SEE SURVEYING AND MAPPING FEE (ATTACHED).*													
2C	**ROADWAY GEOMETRICS (P & P SHTS: 1" = 100')**														
	PREPARE ROADWAY TYPICAL SECTIONS DETAIL SHEETS (3 SHTS)	4		6				8	12		36				66
	PREPARE HORIZONTAL ALIGNMENT DATA SHEET (1 SHT)	2		2					4		10				18
	PREPARE PLAN AND PROFILE SHEETS-TRUCK BYPASS-RM 967 TO FM 2770 (7 SHTS)	10		16				40	40		80				186
	PREPARE PLAN AND PROFILE SHEETS FOR RM 967 (2 SHTS)	4		6				8	12		30				60
	PREPARE PLAN AND PROFILE SHEET FOR FM 2770 (2 SHTS)	4		6				8	12		30				60
	PREPARE ROADWAY CROSS SECTIONS ON 11" X 17" SHEETS (54 SHTS)	24		46				80	120		270				540
	PREPARE ROADWAY STANDARD DETAIL SHEETS (12 SHTS)	2		2					4		8				16
	SUBTOTAL ROUTE AND DESIGN STUDIES	**50**	**0**	**84**	**0**	**0**	**0**	**144**	**204**	**0**	**464**	**0**	**0**	**0**	**946**
2D	**ROADWAY DRAINAGE**	*SEE LOCKWOOD, ANDREWS AND NEWNAM, INC. FEE (ATTACHED).*													
2E	**SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION**														
	PREPARE SIGNING / PAVEMENT MARKING PLAN - TRUCK BYPASS - RM 967 TO FM 2770	2		2				8	12		32				56
	PREPARE SIGNING / PAVEMENT MARKING PLAN - RM 967	2		2				4	4		12				24
	PREPARE SIGNING / PAVEMENT MARKING PLAN - FM 2770	2		2				4	4		12				24
	PREPARE INTERSECTION ILLUMINATION PLAN - TRUCK BYPASS AT RM 967	2		2				4	8		24				40
	PREPARE INTERSECTION ILLUMINATION PLAN - TRUCK BYPASS AT FM 2770	2		2				4	8		24				40
	PREPARE SMALL SIGN SUMMARY	2		2				8	16						28
	PREPARE SIGNAL CONDUCTOR CONDUIT SUMMARY	2		2					4		4				12
	PREPARE INTERSECTION ILLUMINATION QUANTITY SUMMARY	2		2					6		8				18
	PREPARE SIGNING STANDARD DETAILS (6 SHTS)	2									8				10
	PREPARE ILLUMINATION STANDARD DETAILS (10 SHTS)	2									8				10
	PREPARE PAVEMENT MARKING STANDARD DETAILS (7 SHTS)	2									8				10
	SUBTOTAL SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION	**22**	**0**	**16**	**0**	**0**	**0**	**32**	**62**	**0**	**140**	**0**	**0**	**0**	**272**
2F	**MISCELLANEOUS ROADWAY**														
	PREPARE TITLE SHEET	2		4				8			16				30
	PREPARE INDEX OF SHEETS	2		4				6			14				26
	PREPARE LAYOUT AND CONTROL PLAN	2		4				10			16				32
	REMOVAL PLANS	4		6				8	12		30				60
	RETAINING WALL PLAN AND PROFILE SHEETS - UPRR BRIDGE (3 SHEETS)	6		10				10	20		46				92
	RETAINING WALL GLOBAL STABILITY ANALYSIS	4		8				32							44
	PREPARE DRIVEWAY PLAN AND SUMMARY	2		4				4	8		16				34
	RESPOND TO COUNTY / TxDOT REVIEW COMMENTS (30%, 60%, 90% & 100%)	8		10				10	16		36				80
	QC REVIEW OF SUBMITTALS (30%, 60%, 90% & 100%)	40									40				80
	PREPARE TRAFFIC CONTROL STANDARD DETAILS (24 SHTS)	4		8							16				28
	PREPARE ROADWAY MISCELLANEOUS DETAILS	4		4				8			8				24
	PREPARE ROADWAY STANDARD DETAILS (12 SHTS)	2		4							8				14
	PREPARE RETAINING WALL STANDARD DETAIL SHEETS	2		4							8				14
	PREPARE GENERAL NOTES USING AUSTIN DISTRICT MASTER LIST	4		16				16						16	52
	PREPARE SPECIAL PROVISIONS / SPECIAL SPECIFICATIONS & FORM 1814	4		8				16						8	36

	PROJECT DESCRIPTION: PS&E PACKAGE 1 - FROM RM 967 to FM 2770.	Project Length: 0.78 miles 4,140 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
	PREPARE CONSTRUCTION TIME DETERMINATION	4		16					16						36
	PREPARE TxDOT FORM 1002	4		12										8	24
	PREPARE ENGINEERS OPINION OF PROBABLE CONST. COST (30%, 60%, 90% & FINAL)	4		8				12	32						56
	SUBTOTAL MISCELLANEOUS ROADWAY	**102**	**0**	**130**	**0**	**0**	**0**	**140**	**104**	**0**	**254**	**0**	**0**	**32**	**762**

	PROJECT DESCRIPTION: PS&E PACKAGE 1 - FROM RM 967 to FM 2770.	Project Length: 0.78 miles 4,140 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
2G	**UPRR COORDINATION**														
	MEETINGS WITH UPRR (6)	24		24											48
	PREPARE / SUBMIT EXHIBIT "A"	4		16				16	40		80			16	172
	PREPARE UPRR CONSTRUCTION AND MAINTENANCE AGREEMENT	16		40										16	72
	SUBTOTAL OF UPRR COORDINATION	**44**	**0**	**80**	**0**	**0**	**0**	**16**	**40**	**0**	**80**	**0**	**0**	**32**	**292**
2H	**UTILITY ENGINEERING**														
	UPDATE / FINALIZE UTILITY LAYOUT								4	12	30				46
	UPDATE CONFLICT MATRIX			8					2	24	16				50
	RESOLVE CONFLICTS														0
	EVALUATE ALTERNATIVE			16					4	16					36
	UTILITY COORDINATION MEETINGS (MAX OF 8 MTGS - 4 HRS / MTG)			8						32					40
	DETERMINE REIMBURSEMENT ELIGIBILITY			8						8					16
	ASSIST UTILITY COMPANY WITH RELOCATION PLANS, SCHEDULE AND AGREEMENT			16					16	40					72
	COORDINATE UTILITY REIMBURSEMENT AGREEMENTS W/ ELIGIBLE UTILITY COMPANIES			24											24
	PERFORM QA/QC			8						4	4				16
	REVIEW / APPROVE PAYMENT REQUESTS (ASSUME 2 UTILITY COMPANIES)			4						16					20
	SUBTOTAL UTILITY COORDINATION	**0**	**0**	**92**	**0**	**0**	**0**	**0**	**26**	**152**	**50**	**0**	**0**	**0**	**320**
2I	**BRIDGE DESIGN**														
	PREPARE BRIDGE LAYOUT - UPRR BRIDGE	2		4				16	16				40		78
	PREPARE BRIDGE TYPICAL SECTION SHEET	2		4					6				12		24
	PREPARE BRIDGE QUANTITY SUMMARY AND BEARING SEAT ELEVATIONS SHEET	2		4				2	8				14		30
	PREPARE BRIDGE ABUTMENT SHEETS (2 SHEETS FOR TWO ABUTMENTS)	2		4				4	16				48		74
	PREPARE BRIDGE INTERIOR BENT SHEET (2 SHEETS).	2		4				16	8				32		62
	PREPARE BRIDGE SPAN SHEETS (1 SHEET)	2		2				4	8				24		40
	FOUNDATION DESIGN	2		4				16					4		26
	PREPARE PRESTRESSED CONCRETE BEAM DESIGN AND SUMMARY SHEET	2		4					4				8		18
	PREPARE BRIDGE STANDARDS	2		2									14		18
	SUBTOTAL BRIDGE DESIGN	**18**	**0**	**32**	**0**	**0**	**0**	**58**	**66**	**0**	**0**	**0**	**196**	**0**	**370**
	TOTAL HDR HOURS	**236**	**0**	**434**	**0**	**0**	**0**	**390**	**502**	**152**	**988**	**0**	**196**	**64**	**2962**

	PROJECT DESCRIPTION: PS&E PACKAGE 1 - FROM RM 967 to FM 2770.	Project Length: 0.78 miles 4,140 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
		HOURLY RATES INCLUDING OVERHEAD AND PROFIT													
	COST COMPONENT, DOLLARS	$ 232.00	$203.00	$185.00	$139.50	$108.00	$130.00	$154.50	$117.50	$108.00	$99.00	$86.50	$111.50	$86.50	
2C	ROADWAY GEOMETRICS (P & P SHTS: 1" = 100')	$11,600	$0	$15,540	$0	$0	$0	$22,248	$23,970	$0	$45,936	$0	$0	$0	$119,294.00
2E	SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION	$5,104	$0	$2,960	$0	$0	$0	$4,944	$7,285	$0	$13,860	$0	$0	$0	$34,153.00
2F	MISCELLANEOUS ROADWAY	$23,664	$0	$24,050	$0	$0	$0	$21,630	$12,220	$0	$25,146	$0	$0	$2,768	$109,478.00
2G	UPRR COORDINATION	$10,208	$0	$14,800	$0	$0	$0	$2,472	$4,700	$0	$7,920	$0	$0	$2,768	$42,868.00
2H	UTILITY ENGINEERING	$0	$0	$17,020	$0	$0	$0	$0	$3,055	$16,416	$4,950	$0	$0	$0	$41,441.00
2I	BRIDGE DESIGN	$4,176	$0	$5,920	$0	$0	$0	$8,961	$7,755	$0	$0	$0	$21,854	$0	$48,666.00
	TOTAL HDR LABOR FEE	$54,752	$0	$80,290	$0	$0	$0	$60,255	$58,985	$16,416	$97,812	$0	$21,854	$5,536	$395,900.00
	COST COMPONENT DIRECT EXPENSES														
EXP	MILEAGE	$0.565	MILE		600										$339.00
EXP	COPIES (8.5" x 11")	$0.05	EA		2900										$145.00
EXP	COPIES (11" x 17")	$0.10	EA		9000										$900.00
EXP	COPIES (8.5" X 11")(COLOR)	$0.15	EA		300										$45.00
EXP	COPIES (11" X 17")(COLOR)	$0.30	EA		500										$150.00
EXP	MYLARS	$2.00	EA		600										$1,200.00
EXP	OVERNIGHT DELIVERIES	$25.00	EA		20										$500.00
	TOTAL DIRECT EXPENSES														$3,279.00
	TOTAL HDR LABOR FEE AND EXPENSES														$399,179.00

	PROJECT DESCRIPTION: PS&E PACKAGE 2 - FROM FM 2770 to FM 1626.	Project Length: 1.02 miles 5,400 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
COST COMPONENT, HOURS															
2 - PS&E PACKAGE 1 - FM 2770 to FM 1626															
3A	RIGHT OF WAY DATA	*SEE SURVEYING AND MAPPING FEE (ATTACHED).*													
3B	SURVEYING AND PHOTOGRAMMETRY	*SEE SURVEYING AND MAPPING FEE (ATTACHED).*													
3C	ROADWAY GEOMETRICS (P & P SHTS: 1" = 100')														
	PREPARE ROADWAY TYPICAL SECTIONS DETAIL SHEETS (3 SHTS)	4		6				8	8		24				50
	PREPARE HORIZONTAL ALIGNMENT DATA SHEET (1 SHT)	2		2					4		8				16
	PREPARE PLAN AND PROFILE SHEETS-BUDA TRUCK BYPASS-FM 2770 TO FM 1626(8 SHTS)	14		20				28	46		120				228
	PREPARE ROADWAY CROSS SECTIONS ON 11" X 17" SHEETS (50 SHTS)	22		44				74	110		250				500
	PREPARE ROADWAY STANDARD DETAIL SHEETS (12 SHTS)			2					2		4				8
	SUBTOTAL ROUTE AND DESIGN STUDIES	**42**	**0**	**74**	**0**	**0**	**0**	**110**	**170**	**0**	**406**	**0**	**0**	**0**	**802**
3D	ROADWAY DRAINAGE	*SEE LOCKWOOD, ANDREWS AND NEWNAM, INC. FEE (ATTACHED).*													
3E	SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION														
	PREPARE SIGNING / PAVEMENT MARKING PLAN - TRUCK BYPASS - FM 2770 TO FM 1626	2		4				16	24		58				104
	PREPARE SIGNING / PAVEMENT MARKING PLAN - FM 2770 (RESTRIPE)	2		2				4	4		10				22
	PREPARE INTERSECTION ILLUMINATION PLAN - TRUCK BYPASS AT FM 1626 / FM 2770	4		4				6	16		22				52
	PREPARE SMALL SIGN SUMMARY	2		2					8		6				18
	PREPARE SIGNAL CONDUCTOR CONDUIT SUMMARY	2		2					4		4				12
	PREPARE INTERSECTION ILLUMINATION QUANTITY SUMMARY	2		2					8		4				16
	PREPARE SIGNING STANDARD DETAILS (6 SHTS)	2									4				6
	PREPARE ILLUMINATION STANDARD DETAILS (10 SHTS)	2									4				6
	PREPARE PAVEMENT MARKING STANDARD DETAILS (7 SHTS)	2									4				6
	SUBTOTAL SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION	**20**	**0**	**16**	**0**	**0**	**0**	**26**	**64**	**0**	**116**	**0**	**0**	**0**	**242**
3F	MISCELLANEOUS ROADWAY														
	PREPARE TITLE SHEET	0		2				4			4				10
	PREPARE INDEX OF SHEETS	2		2				4			12				20
	PREPARE LAYOUT AND CONTROL PLAN	2		4				10			12				28
	REMOVAL PLANS	4		6				8	12		30				60
	RETAINING WALL PLAN AND PROFILE SHEETS - MUSTANG BRANCH BRIDGE (6 SHTS)	6		20				20	40		94				180
	RETAINING WALL GLOBAL STABILITY ANALYSIS	4		16				56							76
	PREPARE DRIVEWAY PLAN AND SUMMARY	2		4				4	8		20				38
	RESPOND TO COUNTY / TxDOT REVIEW COMMENTS (30%, 60%, 90% & 100%)	8		10				10	16		36				80
	QC REVIEW OF SUBMITTALS (30%, 60%, 90% & 100%)	40													40
	PREPARE TRAFFIC CONTROL STANDARD DETAILS (24 SHTS)	1		1							4				6
	PREPARE ROADWAY MISCELLANEOUS DETAILS	1		1				8			8				18
	PREPARE ROADWAY STANDARD DETAILS (12 SHTS)	1		1							4				6
	PREPARE RETAINING WALL STANDARD DETAIL SHEETS	1		1							4				6
	PREPARE GENERAL NOTES USING AUSTIN DISTRICT MASTER LIST	4		8				12						8	32
	PREPARE SPECIAL PROVISIONS / SPECIAL SPECIFICATIONS & FORM 1814	2		4				8						4	18
	PREPARE CONSTRUCTION TIME DETERMINATION	4		16					16						36
	PREPARE TxDOT FORM 1002	2		8										8	18
	PREPARE ENGINEERS OPINION OF PROBABLE CONST. COST (30%, 60%, 90% & FINAL)	8		8				12	32						60
	SUBTOTAL MISCELLANEOUS ROADWAY	**92**	**0**	**112**	**0**	**0**	**0**	**156**	**124**	**0**	**228**	**0**	**0**	**20**	**732**

	PROJECT DESCRIPTION: PS&E PACKAGE 2 - FROM FM 2770 to FM 1626.	Project Length: 1.02 miles 5,400 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
3G	**UTILITY COORDINATION**														
	POTHOLE CHEVRON PETROLEUM PIPELINE			2						4					6
	RESOLVE CONFLICTS	2		4						16					22
	SUBTOTAL UTILITY COORDINATION	**2**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**28**

	PROJECT DESCRIPTION: PS&E PACKAGE 2 - FROM FM 2770 to FM 1626.	Project Length: 1.02 miles 5,400 LF													
TASK NO.	TASK DESCRIPTION	SENIOR PROJ. MGR.	ENV. MGR.	SR. ENGR.	SR. ENV. SCIENTIST	JR. ENV. SCIENTIST	GIS TECH.	DESIGN ENGR.	EIT	UTILITY DESIGN COORD	CADD TECH.	ARCH/ HISTORIAN/ PI SPECIALIST	BRIDGE CAD TECH	ACCOUNTING CLERICAL/ STENO	TOTAL
3H	**BRIDGE DESIGN**														
	PREPARE BRIDGE LAYOUT - MUSTANG BRANCH BRIDGE / CENTEX HAUL ROAD (7 SHTS)	4		38				60	80				218		400
	PREPARE BRIDGE TYPICAL SECTION SHEET (1 SHT)	2		2					2				10		16
	PREPARE BRIDGE QUANTITY SUMMARY AND BEARING SEAT ELEV. SHEET (1 SHT)	2		4				2	10				14		32
	PREPARE BRIDGE ABUTMENT SHEETS (4 SHEETS - 2 EACH ABUTMENT)	2		8				8	40				80		138
	PREPARE BRIDGE INTERIOR BENT SHEETS (4 SHTS)	2		6				8	35				90		141
	PREPARE BRIDGE SPAN SHEETS (7 SHTS)	2		8				8	64				160		242
	FOUNDATION DESIGN	2		8				32							42
	PREPARE PRESTRESSED CONCRETE BEAM DESIGN AND SUMMARY SHEET	2		4					4				8		18
	PREPARE BRIDGE STANDARDS			2									4		6
	SUBTOTAL BRIDGE DESIGN	**18**	**0**	**80**	**0**	**0**	**0**	**118**	**235**	**0**	**0**	**0**	**584**	**0**	**1035**
	TOTAL HDR HOURS	**174**	**0**	**288**	**0**	**0**	**0**	**410**	**593**	**20**	**750**	**0**	**584**	**20**	**2839**
		HOURLY RATES INCLUDING OVERHEAD AND PROFIT													
	COST COMPONENT, DOLLARS	$ 232.00	$203.00	$185.00	$139.50	$108.00	$130.00	$154.50	$117.50	$108.00	$99.00	$86.50	$111.50	$86.50	
3C	**ROADWAY GEOMETRICS (P & P SHTS: 1" = 100')**	**$9,744**	**$0**	**$13,690**	**$0**	**$0**	**$0**	**$16,995**	**$19,975**	**$0**	**$40,194**	**$0**	**$0**	**$0**	**$100,598.00**
3E	**SIGNING, PAVEMENT MARKING, ILLUMINATION & SIGNALIZATION**	**$4,640**	**$0**	**$2,960**	**$0**	**$0**	**$0**	**$4,017**	**$7,520**	**$0**	**$11,484**	**$0**	**$0**	**$0**	**$30,621.00**
3F	**MISCELLANEOUS ROADWAY**	**$21,344**	**$0**	**$20,720**	**$0**	**$0**	**$0**	**$24,102**	**$14,570**	**$0**	**$22,572**	**$0**	**$0**	**$1,730**	**$105,038.00**
3G	**UTILITY COORDINATION**	**$464**	**$0**	**$1,110**	**$0**	**$0**	**$0**	**$0**	**$0**	**$2,160**	**$0**	**$0**	**$0**	**$0**	**$3,734.00**
3H	**BRIDGE DESIGN**	**$4,176**	**$0**	**$14,800**	**$0**	**$0**	**$0**	**$18,231**	**$27,613**	**$0**	**$0**	**$0**	**$65,116**	**$0**	**$129,935.50**
	TOTAL HDR LABOR FEE	**$40,368**	**$0**	**$53,280**	**$0**	**$0**	**$0**	**$63,345**	**$69,678**	**$2,160**	**$74,250**	**$0**	**$65,116**	**$1,730**	**$369,926.50**
	COST COMPONENT DIRECT EXPENSES														
EXP	MILEAGE	$0.565	MILE		600										$339.00
EXP	COPIES (8.5" x 11")	$0.05	EA		2900										$145.00
EXP	COPIES (11" x 17")	$0.10	EA		9000										$900.00
EXP	COPIES (8.5" X 11")(COLOR)	$0.15	EA		300										$45.00
EXP	COPIES (11" X 17")(COLOR)	$0.30	EA		500										$150.00
EXP	MYLARS	$2.00	EA		600										$1,200.00
EXP	OVERNIGHT DELIVERIES	$25.00	EA		20										$500.00
EXP	WPAP SUBMITTAL FEE	$4,000.00	EA		1										$4,000.00
	TOTAL DIRECT EXPENSES														**$7,279.00**
	TOTAL HDR LABOR FEE AND EXPENSES														**$377,205.50**

Hays County: Truck Bypass
Limits: RM 967 to FM 1626
Length: 1.8 Miles
County: Hays

TRUCK BYPASS, HAYS COUNTY
Basic Engineering Services

Firm	Labor Cost	Reimbursable Expenses	Total Cost
Lockwood Andrews & Newnam, Inc.	$389,120.00	$1,825.00	$390,945.00
Total Basic Services			$ 390,945.00
Total Work Authorization			$ **390,945.00**

Hays County: Truck Bypass
Limits: RM 967 to FM 1626
Length: 1.8 Miles
County: Hays

TRUCK BYPASS, HAYS COUNTY
Basic Engineering Services

Direct Expenses									
Plotting & Reproduction			300	SF at	$0.50	/ SF		$150.00	
Document Printing			500	Sheets at	$0.15	/ Sheet		$75.00	
Mileage			540	Miles at	$0.50	/ Mile		$270.00	
Materials/Courier			4	LS	$50.00	/ Each		$200.00	
SUBTOTAL								$695.00	
Project Totals	1054		$129,380.00						

Total Maximum Fee for Basic Engineering Services **$130,075.00**

Hays County: Truck Bypass
Limits: RM 967 to FM 2770
Length: 0.8 Miles
County: Hays

TRUCK BYPASS, HAYS COUNTY

Basic Engineering Services

Task	Sr. Project Manager	Sr. Hydraulics Engineer	Project Engineer	Design Engineer	Graduate Engineer	Senior Designer	CADD Operator	Clerical	Total Hours
Contract Rate	$225.00	$210.00	$155.00	$125.00	$100.00	$120.00	$90.00	$80.00	
Package 2 - Drainage Final Design From RM 967 to FM 2770									
1) Drainage Final Design (30%, 60%, 90%, 100% Submittals)									
a) Drainage Final Design 30% Submittal									
Final Hydrologic Study		2	2	4	8				16
Final Cross Drainage		2	4	4	8				18
Final Parallel Drainage		4	6	8	16				34
Final Water Quality		4	4	4	8		6		26
Final Design Plans and Estimate		4	6	8	8	12	40		78
Comments/Response		2	6	8					16
b) Drainage Final Design 60% Submittal									
Final Hydrologic Study		2	2	2	4				10
Final Cross Drainage		2	2	4	8				16
Final Parallel Drainage		4	4	8	16				32
Final Water Quality		2	4	8	10		12		36
SWPPP Design		4	8	8	16				36
Final Drainage Report		4	6	6	8		6	12	42
Final Design Plans and Estimate		4	4	6	8	12	32		66
Comments/Response		2	4	6					12
c) Drainage Final Design 90% Submittal									
Final Hydrologic Study		2	2	2	2				8
Final Cross Drainage		2	2	4	6				14
Final Parallel Drainage		2	4	8	10				24
Final Water Quality		2	2	6	8		8		26
SWPPP Design		2	4	8	8				22
Final Drainage Report		2	2	4	4		4	6	22
Final Design Plans and Estimate		2	4	4	6	6	16		38
Comments/Response		2	4	4					10
d) Drainage Final Design 100% Submittal									
Final Hydrologic Study		2	2	2	2				8
Final Cross Drainage		2	2	2	4				10
Final Parallel Drainage		2	2	8	8				20
Final Water Quality		2	4	4	8		4		22
SWPPP Design		2	2	2	4				10
Final Drainage Report		2	2	2	4		4	4	18
Final Design Plans and Estimate		2	4	4	8	6	10		34
Comments/Response		2	2	4					8
2) Permitting - TCEQ		4	8	16	20		16	16	80
3) Meetings- up to 3 total; client, agency or public		8	8	4	4		4	4	32
Subtotal Man Hours (FC 161)	0	86	122	172	224	36	162	42	562
Subtotal Labor Costs (FC 161)	$0.00	$18,060.00	$18,910.00	$21,500.00	$22,400.00	$4,320.00	$14,580.00	$3,360.00	
4) TCP Roll Plot (30%) & TCP Plan Sheets (60%, 90%, 100% Submittals)(FC 163)									
TCP Roll Plot	2		2		8	4			16
TCP Typical Section Sheets (2)	2			4	16	8			30
TCP Phasing Narrative Sheet (1)	1				4	2			7
TCP Sheets (4)				8	50				58
TCP Summary Sheet (1)				1	3	4			8
Four submittals (30%, 60%, 90% & 100%)	4				8	8		8	28
Meeting (one)	4								4

Hays County: Truck Bypass
Limits: RM 967 to FM 2770
Length: 0.8 Miles
County: Hays

TRUCK BYPASS, HAYS COUNTY
Basic Engineering Services

Comments/Response	2			4	4	6		2	18
Subtotal Man Hours (FC 163)	15	0	2	17	93	32	0	10	169
Subtotal Labor Costs (FC 163)	$3,375.00	$0.00	$310.00	$2,125.00	$9,300.00	$3,840.00	$0.00	$800.00	
Grand Totals: Man Hours	**15**	**86**	**124**	**189**	**317**	**68**	**162**	**52**	**1,013**
Grand Totals: Contract Cost	$3,375.00	$18,060.00	$19,220.00	$23,625.00	$31,700.00	$8,160.00	$14,580.00	$4,160.00	

Breakdown of Costs for Basic Engineering Services

Function Code	Total Hours		Contract Cost						
Totals for Function Code 161	562		$103,130.00						
Totals for Function Code 163	169		$19,750.00						
Surveying Services									
Environmental Services									
Direct Expenses									
Plotting & Reproduction			100	SF at	$0.50	/ SF		$50.00	
Document Printing			600	Sheets at	$0.15	/ Sheet		$90.00	
Mileage			270	Miles at	$0.50	/ Mile		$135.00	
Materials/Courier			4	LS	$50.00	/ Each		$200.00	
SUBTOTAL								$475.00	
Project Totals	562		$122,880.00						

Total Maximum Fee for Basic Engineering Services **$123,355.00**

Hays County: Truck Bypass
Limits: FM 2770 to FM 1626
Length: 1.0 Miles
County: Hays

TRUCK BYPASS, HAYS COUNTY

Basic Engineering Services

Task	Sr. Project Manager	Sr. Hydraulics Engineer	Project Engineer	Design Engineer	Graduate Engineer	Senior Designer	CADD Operator	Clerical	Total Hours
Contract Rate	$225.00	$210.00	$155.00	$125.00	$100.00	$120.00	$90.00	$80.00	
Package 2 - Drainage Final Design From RM 967 to FM 2770									
1) Drainage Final Design (30%, 60%, 90%, 100% Submittals)									
a) Drainage Final Design 30% Submittal									
Final Hydrologic Study		2	2	4	10				18
Final Cross Drainage		2	6	8	12				28
Final Parallel Drainage		4	6	8	16				34
Final Water Quality		4	4	4	8		6		26
Final Design Plans and Estimate		4	6	8	8	12	40		78
Comments/Response		2	8	8					18
b) Drainage Final Design 60% Submittal									
Final Hydrologic Study		2	2	2	8				14
Final Cross Drainage		2	4	6	8				20
Final Parallel Drainage		4	4	8	16				32
Final Water Quality		4	4	6	12		8		34
SWPPP Design		4	8	8	16				36
Final Drainage Report		4	6	8	8		12	16	54
Final Design Plans and Estimate		4	4	6	8	12	32		66
Comments/Response		2	4	8					14
c) Drainage Final Design 90% Submittal									
Final Hydrologic Study		2	2	2	4				10
Final Cross Drainage		2	2	4	6				14
Final Parallel Drainage		2	4	8	10				24
Final Water Quality		4	4	8	8		8		32
SWPPP Design		2	4	8	8				22
Final Drainage Report		2	4	4	8		6	8	32
Final Design Plans and Estimate		2	4	4	6	6	16		38
Comments/Response		2	4	6					12
d) Drainage Final Design 100% Submittal									
Final Hydrologic Study		2	2	2	2				8
Final Cross Drainage		2	2	2	6				12
Final Parallel Drainage		2	2	8	8				20
Final Water Quality		2	2	2	8		4		18
SWPPP Design		2	4	4	8				18
Final Drainage Report		2	2	4	6		6	4	24
Final Design Plans and Estimate		2	4	4	8	6	10		34
Comments/Response		2	2	4					8
2) Permitting - TCEQ									
a) TCEQ Edwards Aquifer (90%)		6	12	16	24		16	8	82
b) Hays County Floodplain Administrator (90%)		4	4	4	12		4	4	32
3) Meetings- up to 7 total; client, agency or public		8	16	4	8		12	8	56
Subtotals: Man Hours	0	96	148	190	270	36	180	48	968
Subtotals: Contract Cost	$0.00	$20,160.00	$22,940.00	$23,750.00	$27,000.00	$4,320.00	$16,200.00	$3,840.00	
4) TCP Roll Plot (30%) & TCP Plan Sheets (60%, 90%, 100% Submittals)(FC 163)									
TCP Roll Plot	2		2		8	4			16
TCP Typical Section Sheets (2)	2			4	16	8			30
TCP Phasing Narrative Sheet (1)	1				4	2			7
TCP Sheets (4)				8	48				56
TCP Summary Sheet (1)				1	3	4			8

Hays County: Truck Bypass
Limits: FM 2770 to FM 1626
Length: 1.0 Miles
County: Hays

TRUCK BYPASS, HAYS COUNTY

Basic Engineering Services

Four submittals (30%, 60%, 90% & 100%)	4				8	8		8	28
Meeting (none planned)									0
Comments/Response	2			4	4	6		2	18
Subtotal Man Hours (FC 163)	11	0	2	17	91	32	0	10	163
Subtotal Labor Costs (FC 163)	$2,475.00	$0.00	$310.00	$2,125.00	$9,100.00	$3,840.00	$0.00	$800.00	
Grand Totals: Man Hours	**11**	**96**	**150**	**207**	**361**	**68**	**180**	**58**	**1,131**
Grand Totals: Contract Cost	$2,475.00	$20,160.00	$23,250.00	$25,875.00	$36,100.00	$8,160.00	$16,200.00	$4,640.00	**136,860**

Breakdown of Costs for Basic Engineering Services

Function Code	Total Hours		Contract Cost						
Totals for Function Code 161	968		$118,210.00						
Totals for Function Code 163	163		$18,650.00						
Surveying Services									
Environmental Services									
Direct Expenses									
Plotting & Reproduction			100	SF at	$0.50	/ SF		$50.00	
Document Printing			600	Sheets at	$0.15	/ Sheet		$90.00	
Mileage			630	Miles at	$0.50	/ Mile		$315.00	
Materials/Courier			4	LS	$50.00	/ Each		$200.00	
SUBTOTAL								$655.00	
Project Totals	968		$136,860.00						

Total Maximum Fee for Basic Engineering Services **$137,515.00**

Gap Strategies Proposal Worksheet (labor only)
Hays County: Buda Truck Bypass Extension
May 12, 2013

Task	Sr. Proj. Mgr.	Sr. Public Outreach Specialist	Sr. Com. Spec.	Com. Specialist	Clerical / Translator	Totals
A. Administration & QC	22	35	16.5	21.5		$8,735
Kick-off & gen org	4	3	1.5	1.5		
Filing, progress reports, mtgs, inv. QC	16	30	14	18		
Project close-out	2	2	1	2		
B. Prepare and Coordinate Right of Er	10	11	0	1		$2,470
Prepare ROE doc (env, surv, des) etc.	4	1		1		
Coord. prop owner response w Comm	6	10				
C. Database Dev & Management	6	16	4	0		$2,410
Update throughout project	4	12	4			
Coordinate with county & HDR	2	4				
D. Stakeholder Contact & Communica	30	40	0	0		$7,750
Dev outreach strategy	4	4				
Coordinate with team & Comm office	2	4				
On-going comm through project	24	32				
E. Public Outreach and Involvement	12	22	14	0	10	$6,340
Open house / public meeting	6	10	6		6	
Public hearing	6	12	8		4	
F. Analyze Route Alternatives	12	0	0	0		$1,740
Two mtgs with Lehigh to review alts	4					
Two mtngs with Centex to review alts	6					
"After action" with team to review mtgs	2					
Total Projected Hrs on Project	92	124	34.5	22.5	10	283
Rate	$145 per hour	$85 per hour	$45 per hour	$85 per hour	$55 per hour	
SUBTOTAL (LABOR) $						$29,445.00
DIRECT EXPENSES						
Mileage						$150
Public Notices / Advertisements						$500
Stakeholder / Public Meeting / Public Hearing Refreshments						$175
Web Hosting Fees						$0
Public Meeting/ Hearing Supplies						$50
SUBTOTAL (DIRECTS) $						$875
GRAND TOTAL $						$30,320.00

Prime: HDR
Assume 60-wk project

AmaTerra Environmental

Buda Truck By-Pass Loop
17-Apr-13

LABOR	Alternatives Analysis	PCR prep	Permit and Research Design	Fieldwork	Draft Report	Final Report	Admin	total	units	Rate	Cost
Principal							2	2	hrs	$206.00	$ 412.00
Principal Investigator	10	6	6	8	10	2	4	46	hrs	$123.00	$ 5,658.00
Sr. Hist Arch	12	16			4	8		40	hrs	$124.00	$ 4,960.00
Hist III	6		24	8	24			62	hrs	$103.00	$ 6,386.00
Hist I					8			8	hrs	$62.00	$ 496.00
Arch III/Field Dir	12	8	8	32	36	4		100	hrs	$69.00	$ 6,900.00
Arch I/Field Tech				32	8			40	hrs	$51.00	$ 2,040.00
GIS Tech	16	4	2		4	1		27	hrs	$74.00	$ 1,998.00
Administrative						2	6	8	hrs	$80.00	$ 640.00
Clerical					8	4	14	26	hrs	$30.00	$ 780.00
TOTAL LABOR	56	34	40	80	102	21	26	359			$ 30,270.00
EXPENSES											
Backhoe, day	0	0	0	0	0	0	0	0	day	$ 1,000.00	$ -
Mileage, mile	0	0	0	225	0	0	0	225	miles	$ 0.56	$ 126.00
Misc. expenses	0	0	0	1	0	0	0	1	each	$ 50.00	$ 50.00
TARL Fees	0	0	0	0	0	0	0.25	0.25	drawer	$ 2,264.00	$ 566.00
Overnight mail	0	0	0	0	0	0	2	2	each	$ 25.00	$ 50.00
copies, b/w	50	70	70	70	260	310	40	870	copy	$ 0.10	$ 87.00
copies, color	30	40	40	60	230	280	20	700	copy	$ 1.00	$ 700.00
TOTAL EXPENSES											$ 1,579.00
TOTAL											**$ 31,849.00**

Assumptions
2.5 miles new location roadway
120 foot wide corridor

SAM, Inc.
[illegible]

Proposal Breakout

Client: HDR Engineering, Inc. **Date: 4/23/2013**

Project: P2013-00365

Production Task:	Hours							
	Principal	Senior Project Manager	Project Manager	Photogrammetrist /Project Lead	AT/Ortho Technician	LiDAR/Photogrammetry Technician	Geospatial Computer	
AERIAL MAPPING								
Video/Oblique Production								
Aerial Triangulation				2	14.5		16.5	
Stereo Classification and Feature Extraction				6		75	81	
LiDAR Classification / Feature Extraction Quality Control				3		37	40	
Orthophotography Processing and Production				5	16		21	
Editing - CADD - TxDOT							0	
Total Hours	1	4	10	16	30.5	112	158.5	
Labor Rates	$170.00	$155.00	$140.00	$105.00	$95.00	$92.50	$15.00	
Production Cost	$170.00	$620.00	$1,400.00	$1,680.00	$2,897.50	$10,360.00	$2,377.50	**$19,505.00 SUBTOTAL**

Acquisition	**$20,500.00 SUBTOTAL**

GRAND TOTAL **$40,005.00**

Project: Buda Truck Bypass
Limits: FM1626 to FM967
Client: HDR Engineering
Date: Revised May 9, 2013
Proposal Number: 2013-00365
By: PGS

TASK DESCRIPTION	OF /GS	LABOR HRS PER SHEET
FC 130- RIGHT-OF-WAY SURVEYING AND MAPPING		
1 -RECORDS RESEARCH (OBTAIN CURRENT OWNERSHIP DEEDS FROM HAYS COUNTY)		
2 - RIGHT-OF-ENTRY (PREPARE RIGHT-OF-ENTRY SPREADSHEET)		
3 - RIGHT-OF-WAY SURVEYS (Locate Existing ROW, Front Corners and Improvements)		
4 - RIGHT-OF-WAY SURVEYS ALONG NEW ALIGNMENT (Locate Existing Property Corners and		
5 - RIGHT-OF-WAY AND BOUNDARY ANALYSIS/PREPARE BASEMAP (Calc Existing and Propos		
6- PREPARE FIELD NOTES AND PARCEL PLATS (5 Parcels)		
7 - PREPARE RIGHT-OF-WAY MAPSHEETS (12 Sheets)		
8 - RIGHT-OF-WAY SURVEY DELIVERABLES (QA/QC, Prepare Final Deliverables)		
9 - SET MONUMENTS AND PINS (44 Monuments/4 Pins)		
FC 130 SUB-TOTALS		
FIELD SURVEYING AND MAPPING (FC 150)		
1 -LiDAR SUPPORT, ESTABLISH HORIZONTAL AND VERTICAL CONTROL - 6 Primary, 8 AM Tar		
2 - SUPPLEMENTAL DESIGN SURVEY TO AERIAL MAPPING		
3 - Additional Mustang Branch Cross Sections (up to 10)		
4- Railroad Crossing		
4 - SURVEY GEOTECHNICAL SOIL BORINGS - Up to 25 (2 Mobilizations)		
5 - APPEND 2D AND DTM TO AERIAL MAPPING DATA		
6 - PREPARE FINAL DELIVERABLES		
FC 150 SUB-TOTALS		
HOURS SUB-TOTALS	N/A	
CONTRACT RATE PER HOUR		
TOTAL LABOR COSTS		
% DISTRIBUTION OF STAFFING		

OTHER DIRECT EXPENSES	
Mileage (number x current state rate)	
GPS Receiver (Static)	
GPS RTK	
Monument Materials	
Courier Services	
Deed Copies	
Mylar Plots (11"x17")	
Mylar Plots (22"x34")	
Photocopies BW (11"x17")	
Photocopies BW (8.5"x11")	
SUBTOTAL DIRECT EXPENSES	

SUMMARY

DESCRIPTION	QUANTITY	UNIT	RATE	AMOUNT
SUE Services				
Staff Engineer	2	Hrs.	$154.00	$308.00
Engineering Technician	2	Hrs.	$90.00	$180.00
1-man Designating Crew	8	Hrs.	$84.00	$672.00
2-man Survey Crew	4	Hrs.	$130.00	$520.00
Vacuum Truck Mobilization	400	Miles	$5.45	$2,180.00
2-man Crew with Vacuum Truck	4	Hrs.	$265.00	$1,060.00
Total Estimated Cost				**$4,920.00**

FEE PROPOSAL
GEOTECHNICAL INVESTIGATION

PaveTex Engineering & Testing, Inc.
3989 Hwy 290 E
Dripping Springs, TX 78620
Office (512) 894-3040
Fax (512) 858-2921

Client: HDR
Project: Buda Truck By Pass
Location: Buda, TX
Date: 4/23/2013

Revised: 5/6/2013

	Estimate		
Geotechnical Investigation	**Fee**	**Qty**	**Estimate**
Geotech Borings Per Foot (Auger With Sampling)	$ 12.65	480	$ 6,072.00
Geotech Borings Per Foot (Rock Coring, Soft Rock)	$ 19.50	20	$ 390.00
Pavement Coring Coring (<6" Depth)	$ 150.00	4	$ 600.00
Drill Rig Mobilization	$ 250.00	1	$ 250.00
Air compressor	$ 85.00	7	$ 595.00
NX Core Box	$ 16.00	20	$ 320.00
Laboratory Tests			
Atterburg Limits	$ 50.00	75	$ 3,750.00
Classification of soils (inc washed grad)	$ 50.00	75	$ 3,750.00
Moisture content	$ 10.00	90	$ 900.00
Existing Base Gradation	$ 85.00	1	$ 85.00
Existing Base Wetball & Increase	$ 45.00	1	$ 450.00
Rock Compressive Strength	$ 100.00	6	$ 600.00
Traffic Control for Rober S. Light Coring	$ 1,500.00	1	$ 1,500.00
Technician / Engineering			
Field Technician (Hourly)	$ 50.00	60	$ 3,000.00
Vehicle Fee	$ 50.00	6	$ 300.00
Engineering Time	$ 175.00	50	$ 8,750.00
		Total	**$ 31,312.00**