

ENGINEERING SERVICES AGREEMENT

THE STATE OF TEXAS §
 §
COUNTY OF WALLER §

THIS AGREEMENT is made and entered into by and between **WALLER COUNTY, TEXAS**, a public body corporate and politic of the State of Texas acting by and through the Waller County Commissioners Court (hereinafter referred to as “County”), and KCI Technologies, INC., hereinafter called the "Engineer" or “Company”.

W I T N E S S E T H:

WHEREAS, the County proposes to hire the Engineer to perform design services to reconstruct Morrison Road from approximately FM 362 to Pattison Road in Waller County, Texas, hereinafter called the “Project;”

WHEREAS, the Engineer has represented to the County that it is qualified and prepared to perform all of the services described in the Scope of Services, Appendices A, attached hereto and incorporated herein by reference as if copied herein verbatim (Scope of Services), and has submitted a proposal to provide professional engineering services for the Project;

WHEREAS, the County is satisfied that the Engineer is capable of performing the necessary services required for the Project and desires to contract with the Engineer to perform the services described in the Scope of Services;

WHEREAS, the provisions of Chapter 252, Texas Local Government Code, Competitive Bidding Law do not apply to the proposed agreement because the contract is for professional engineering services and the services were procured pursuant to Chapter 2254, Texas Government Code;

WHEREAS, the County has determined and found that it would be in the best interest of the County to delegate to LJA Engineering, Inc. (“LJA”) supervisory and management authority over the Engineer; and

WHEREAS, the Engineer will control the methods and means in performing the work set out in the Scope of Services;

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth below, the parties agree as follows:

1. General
 - a. In performing professional engineering services under this Agreement, the Engineer will function solely and exclusively for the benefit of the County and not for the benefit of the Engineer for the Project or any other party. All services rendered by the Engineer

under this Agreement shall be performed under the supervision of LJA. The Engineer shall render services in accordance with generally accepted professional standards of competent engineers practicing in the same or similar locality and under the same or similar circumstances and professional license and use that degree of care and skill to comply with all applicable laws and regulations.

- b. The Engineer shall be responsible for the professional quality, technical accuracy and the coordination of all deliverable documents and services furnished by the Engineer under this Agreement. The Engineer shall, without additional compensation, correct or revise all errors and omissions in its documents. Reuse of the documents and deliverables for any purpose other than that for which such deliverables were originally prepared, or alteration of such documents or deliverables without the written verification or adaptation by Engineer for the specific purpose intended, shall be at County's risk. All title blocks and engineer's seal, if applicable, shall be noted and made according to Texas Administrative Code.
- c. At the County's request, the Engineer will collaborate with LJA and County personnel to facilitate the implementation of a Project Database within the County's Electronic Document Management System. The Electronic Document Management System will provide electronic management that shall govern the distribution and file copies of all Project related correspondence, reports, plans, and technical data. The County and the Engineer will use this system to facilitate the effective electronic exchange of Project information and documents with members of the design team and other interested stakeholders.
- d. The Engineer will collaborate with LJA and County personnel to facilitate the maintenance of the Project Database. Project files shall be entered into the database by the Engineer on a timely basis and made available by LJA and the County at all times for performance of daily Project activities. Other documents, including those used for legal review, audit requests/requirements, and open records request purposes, shall be entered by the County staff assisting the Engineer team. The Engineer shall also ensure that all Project files are appropriately entered into the database:
 - 1. At all critical milestones;
 - 2. At established periodic intervals; and
 - 3. Following completion of the work as a final Project record, including applicable record drawings.
- e. County may provide information, reports, studies, site characterizations, advice, instructions, and similar information in its possession relating to the Project ("County Data"). Engineer may reasonably and in good faith rely upon the accuracy of County Data provided by County or any third party designated by County. However, Engineer will not ignore the implications of information furnished to Engineer and shall make reasonable inquiries if County Data as furnished appears to be incorrect or incomplete. Engineer makes no representations or warranties as to the quality, accuracy, usefulness, or completeness of any Services to the extent Engineer relies on County Data. Engineer, its officers, directors, and employees shall have no liability whatsoever with respect to the use of unreliable, inaccurate, or incomplete County Data.

2. Scope of Services

The services to be provided herein in regard to the Project are defined in Appendices A ("Scope of Services").

3. Compensation and Payment

a. The Engineer shall be entitled to payment of the lump sum amount of **\$1,549,642.00** for services to perform the tasks delineated in Appendix A-1. Development of the plans for the Project will be the responsibility of the Engineer. The Engineer shall submit plans for County review at 30%, 60%, 90% and 100% completion, unless modified in writing by County. The County shall review and provide the Engineer comments to the submittals within 20 working days of receipt. The County will pay the Engineer commensurate to the plan submittal completion based upon the County's assessment. The Engineer will not receive further payment until the County is satisfied with the Engineer's responses to the review comments. The services necessary to perform the tasks delineated in Appendix A-2 shall be paid based on hourly rates and the County shall not be obligated to pay in excess of **\$100,336.00** for the services described in Appendix A-2. The Engineer shall not be obligated to perform further services hereunder once the Scope of Services delineated in Appendices A-1 and A-2 have been performed.

(1) All hourly billing for the services defined in Appendix A-2 and any additional services not included in the Scope of Services under this Agreement, including changes in the contractual scope of work and revision of work satisfactorily performed, will be performed only when approved in advance and authorized by the County, and will be reimbursed at the raw salary rates in effect at that time, times a multiplier as set forth below, to the extent that such direct salary costs and subcontracts are reasonable and necessary for the performance of such services. The reimbursable hourly raw salary rates cannot exceed those set forth in Appendix B. The Engineer shall also be entitled to expense reimbursement as set forth in Appendix B, provided that miscellaneous expenses, if any, may be reimbursed hereunder only when LJA determines that incurring such expenses is not required as part of the original Scope of Services and provides written approval of such expense in advance of it being incurred. Payment will be made on the basis of certified time and expense records and in accordance with those payment procedures set forth in subparagraph b., below. Billing rates will have a 3.00 multiplier on raw salary rates.

(2) Where Subconsultants are employed by the Engineer to perform additional services not within the original Scope of Services, the Engineer will be reimbursed for Subconsultants' salaries and hourly rates, including overtime rates, on the same basis as described for the Engineer's own personnel in subparagraph a. (1), of this Paragraph. Reimbursement to the Subconsultant for non-salary costs incurred by Subconsultants will be on the same basis as if the costs were incurred by the Engineer. Total contract amounts shall include Subconsultant fees.

b. It is understood and agreed that monthly payments will be made to the Engineer by the

County based on the following procedures: On or about the fifteenth day of each month during the performance of services hereunder and on or about the fifteenth day of the month following completion of all services hereunder, the Engineer shall submit to the County the invoice electronically showing the amounts due for services performed during the previous month, set forth separately for work under this Agreement and for additional services (accompanied by supporting certified time and expense records of such charges in a form acceptable to the County Auditor). The fee, as determined by the methods described herein, includes out-of-pocket costs of Engineer for delivery services, parking, mileage at IRS rate and document printing. Travel expenses submitted for reimbursement must be incurred in accordance with County's travel policy. All expenses submitted by Engineer shall be subject to approval by County prior to reimbursement.

LJA shall review such invoices and approve them within ten (10) calendar days with such modifications as are consistent with this Agreement and forward same to the County Engineer, who will forward to the County Auditor. The County shall pay each such invoice as approved by the County Auditor within twenty (20) calendar days after the County Auditor's approval of same. Invoices are due and payable net 30 days from receipt.

- c. It is expressly understood and agreed that the County has available the total maximum sum of **\$1,649,978.00** as hereinafter certified available for the purpose of satisfying the County's obligations under the terms and provisions of this Agreement. The County shall not be liable under any circumstances or any interpretations hereof for any costs under the Agreement except for those certified available for this Agreement by the Waller County Auditor, as evidenced by the issuance of a purchase order by Waller County for the certified amount. Once the funds are expended for the purpose of satisfying the County's obligations under the terms and provisions of this Agreement, the County shall have no further obligations nor shall the Engineer be required to perform further services hereunder.

4. Time of Performance

It is understood and agreed that time is of the essence for performance of the Engineer's services under this Agreement and services shall be performed as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer or architect.

5. The County's Option to Terminate

- a. The County has the right to terminate this Agreement at its sole option at any time, with or without cause, by providing written notice of such intention to terminate and by stating in said notice the "Termination Date." Upon such termination, the County shall compensate the Engineer in accordance with Paragraph 3., above, for those services that were provided under this Agreement prior to its termination and that have not been previously invoiced to the County. The Engineer's final invoice for said services will be presented to and paid by the County in the same manner set forth in Paragraph 3. b., above.

- b. Termination of this Agreement and payment in settlement as described in subparagraph a. of this Paragraph shall extinguish all rights, duties, obligations, and liabilities of the County and the Engineer under this Agreement and this Agreement shall be of no further force and effect; provided, however, such termination shall not act to release the Engineer from liability for any previous default either under this Agreement or under any standard of conduct set by law. No termination of this Agreement shall have the effect of terminating the Engineer's obligations under Sections 7 (Delays and Damages), 8 (Inspection of the Engineer's Books and Records), 12 (Appearance as Witness), or 15 (Indemnification).
- c. If the County shall terminate this Agreement as provided in this Paragraph, no fees of any type, other than fees due and payable at the Termination Date, shall thereafter be paid to the Engineer.
- d. The County's rights and options to terminate this Agreement, as provided in any provision of this Agreement shall be in addition to, and not in lieu of, any and all rights, actions and privileges otherwise available under law or equity to the County by virtue of this Agreement or otherwise. Failure of the County to exercise any of its rights, actions, options or privileges to terminate this Agreement as provided in any provision of this Agreement shall not be deemed a waiver of any rights, actions or privileges otherwise available under the law or equity with respect to any continuing or subsequent breaches of this Agreement or of any other standard of conduct set by law.
- e. Copies of all completed and partially completed documents prepared under this Agreement shall be delivered to the County upon the Engineer's receipt of termination payment when and if this Agreement is terminated.

6. Source of Fee Payments

The County intends to pay for design and construction with the proceeds from the sale and issuance of bonds. It is expressly acknowledged that all payments owing for Engineering services performed under this Agreement shall be made solely from this source of funds for financing design and construction of the Project. The County shall be under no liability under this Agreement to make payment to the Engineer from any other source. In addition, the County reserves the right, at its sole discretion, at any time prior to issuance by the County of the written notice to proceed, to terminate this Agreement and in the event of such termination, the Engineer shall not be entitled to any payment, nor have any claim for compensation or damages resulting from such cancellation. In no event shall the liability of the County under this Agreement exceed the amount hereunder certified as available by the County Auditor.

7. Delays and Damages

Except as otherwise provided herein, the Engineer agrees that no other charges or claims for damage shall be made by it against the County for any delays or hindrances occurring during the progress of the Engineer in providing to the County the services specified in this Agreement.

8. Inspection of the Engineer's Books and Records

County shall have the right, during normal business hours, to inspect, copy and audit at any time, and from time to time, all of Engineer's files, books, records, costs, and expenses pertaining to the Program. The County will conduct an audit on an annual basis, or more frequently at its sole discretion. If County elects to audit Engineer's files, books, records, costs, and expenses pertaining to the Program, and the audit discloses a discrepancy of one percent (1%) or more from the payment applications or invoices, then, in addition to repaying County all sums owing, Engineer shall pay the cost of the audit. Any such audit or examination may be undertaken by County or its contracted representative at reasonable times during normal business hours and in conformance with generally accepted auditing standards upon five (5) business days' notice to Engineer.

9. Personnel, Equipment, and Material

- a. The 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 the Engineer shall furnish and maintain, at its own expense, adequate and sufficient personnel and equipment, in the opinion of LJA, to perform the services when and as required and without delays. It is understood that LJA will approve assignment and release of all key engineering personnel and that the Engineer shall submit written notification of all key engineering personnel changes monthly for LJA's approval prior to the implementation of such changes. Services described in this Agreement shall be performed under the direction of an engineer licensed to practice professional engineering in the State of Texas.
- b. All employees of the Engineer or Subconsultants hired by the Engineer shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of the Engineer or Subconsultant of the Engineer who, in the opinion of LJA, is incompetent or by his conduct becomes detrimental to the Project shall, upon request of LJA, immediately be removed from association with the Project.
- c. Except as otherwise specified, the Engineer shall furnish all equipment, transportation, supplies, and materials required for its operations under this Agreement.

10. Subletting

The Engineer shall not sublet, assign, or transfer all or any part of the services in this Agreement without the prior written approval of the County. Even in the case of a permitted sublet, Engineer shall remain responsible under this Agreement for the work.

11. Conferences

At the request of LJA, the Engineer shall provide appropriate personnel for conferences at its offices, or attend conferences at the various offices of LJA, or at the site of the Project. LJA and the County are permitted to inspect the Engineer site Project offices.

12. Appearance as Witness

If requested by the County, or on its behalf, the Engineer shall prepare such engineering exhibits and plats as may be requested for all hearings and trials related to the Project and, further, it shall prepare for and appear at conferences and shall furnish competent expert engineering witnesses to provide such oral testimony and to introduce such demonstrative evidence as may be needed throughout all trials and hearings with reference to any litigation relating to the Project. Compensation for trial preparation and appearance by the Engineer in courts regarding litigation matters will be made in accordance with the provisions of Paragraph 3. a. (1), above.

13. Compliance with Laws

The Engineer shall comply with all applicable 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, 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 specified above.

The Engineer shall strictly comply with Section 2251.022 Texas Government Code, and shall require that its Subconsultants fully comply with Section 2251.023 Texas Government Code.

14. Insurance

The Engineer shall obtain, keep and maintain any and all insurance that may be required by law or that may be required by any agreement the County has with any other party concerning the Project as contained in Attachment C.

15. Indemnification

TO THE EXTENT ALLOWED BY LAW, THE ENGINEER AGREES TO INDEMNIFY AND HOLD HARMLESS THE COUNTY, ITS COMMISSIONERS, OFFICERS, EMPLOYEES, AND AGENTS FROM LIABILITY, LOSSES, EXPENSES, DEMANDS, REASONABLE ATTORNEYS' FEES, AND CLAIMS FOR BODILY INJURY (INCLUDING DEATH) AND PROPERTY DAMAGE TO THE EXTENT CAUSED BY THE NEGLIGENCE, INTENTIONAL TORT, INTELLECTUAL PROPERTY INFRINGEMENT OF THE ENGINEER (INCLUDING THE ENGINEER'S AGENTS, EMPLOYEES, VOLUNTEERS, AND SUBCONSULTANTS/CONSULTANTS UNDER CONTRACT, OR ANY OTHER ENTITY OVER WHICH THE ENGINEER EXERCISES CONTROL) IN THE PERFORMANCE OF THE SERVICES DEFINED IN THIS AGREEMENT. THE ENGINEER SHALL ALSO SAVE THE COUNTY HARMLESS FROM AND AGAINST ANY AND ALL EXPENSES, INCLUDING REASONABLE ATTORNEYS' FEES, IN PROPORTION TO THE ENGINEER'S LIABILITY, THAT MIGHT BE INCURRED BY THE COUNTY, IN LITIGATION OR OTHERWISE RESISTING SUCH CLAIMS OR LIABILITIES.

16. Delivery of Notices, Etc.

- a. All routine written notices, invoices, change orders, etc. are to be delivered to the County Engineer J. Ross McCall, P.E., 775 Business US 290 East, Hempstead, TX 77445, or at such other place or places as the County may designate by written notice delivered to the Engineer.

All formal notices and demands under this Agreement shall be delivered to the Waller County Judge, Attention: Carbett "Trey" J. Duhon III, 425 FM 1488, Hempstead, TX 77445.

- b. All written notices, demands, and other papers or documents to be delivered to the Engineer under this Agreement shall be delivered to Glenn D. Graham, KCI Technologies, INC., 3 Riverway Dr # 1500, Houston, TX 77056, or at such other place or places as the Engineer may designate by written notice delivered to the County.

17. Reports of Accidents, Etc.

Within 24 hours of Engineer becoming 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 known to Engineer 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.

18. The County's Acts

Anything to be done under this Agreement by the County may be done by such persons, corporations, or firms as the County may designate.

19. Limitations

Notwithstanding anything herein to the contrary, all covenants and obligations of the County under this Agreement shall be deemed to be valid covenants and obligations only to the extent authorized by the Act creating the County and permitted by the laws and the Constitution of the State of Texas.

20. 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.

21. Controlling Law, Venue

This Agreement shall be governed and construed in accordance with the laws of the State of Texas. This Agreement shall be performed entirely in Waller County, Texas and the parties hereto acknowledge that venue is proper in Waller County, Texas, for all disputes arising hereunder and waive the right to sue or be sued elsewhere.

22. Successors and Assigns

The County and the Engineer bind themselves and their successors, executors, administrators and assigns to the other party of this Agreement and to the successors, executors, administrators and assigns of the other party, in respect to all covenants of this Agreement.

23. Independent Engineer

Notwithstanding any provision of this Agreement, the Engineer shall at all times act as an independent Engineer, and not as an employee of the County, and the Engineer shall be responsible for the means and methods employed in performing services hereunder.

24. Certificate of Interested Parties (Form 1295)

Texas law requires all parties who enter into any contract with the County that must be approved by Commissioners Court to disclose all Interested Parties. Texas Ethics Commission Form 1295 must be completed in its entirety. If changes to this Form are necessary during this Agreement, the Engineer will notify and send the County an updated and complete version.

25. Additional Statutory Requirements. Certain State Law Requirements for Contracts. For purposes of section 2252.152, 2271.002, and 2274.002, Texas Government Code, as amended, Engineer hereby verifies that Engineer and any parent company, wholly owned subsidiary, majority-owned subsidiary, and affiliate:

- a. Unless affirmatively declared by the United States government to be excluded from its federal sanctions regime relating to Sudan or Iran or any federal sanctions regime relating to a foreign terrorist organization, is not identified on a list prepared and maintained by the Texas Comptroller of Public Accounts under Section 806.051, 807.051, or 2252.153 of the Texas Government Code.
- b. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Engineer does not boycott Israel and is authorized to agree in such contracts not to boycott Israel during the term of such contracts. "Boycott Israel" has the meaning provided in section 808.001 of the Texas Government Code.
- c. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Engineer does not boycott energy companies and is authorized to agree in such contracts not to boycott energy companies during the term of such contracts. "Boycott energy company" has the meaning provided in section 809.001 of the Texas Government Code.

- d. If employing ten (10) or more full-time employees and this Agreement has a value of \$100,000.00 or more, Engineer does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade association and is authorized to agree in such contracts not to discriminate against a firearm entity or firearm trade association during the term of such contracts. “Discriminate against a firearm entity or firearm trade association” has the meaning provided in section 2274.001(3) of the Texas Government Code. “Firearm entity” and “firearm trade association” have the meanings provided in section 2274.001(6) and (7) of the Texas Government Code.

BY ACCEPTANCE OF AGREEMENT, ENGINEER ACKNOWLEDGES THAT THE COUNTY IS OPPOSED TO HUMAN TRAFFICKING AND THAT NO COUNTY FUNDS WILL BE USED IN SUPPORT OF SERVICES OR ACTIVITIES THAT VIOLATE HUMAN TRAFFICKING LAWS.

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IN WITNESS WHEREOF, County and Engineer have caused their respective duly authorized representatives to execute, seal and deliver this Agreement, all as of the day and year first above written.

COUNTY:

ENGINEER:

WALLER COUNTY

KCI Technologies, INC.

Carbett "Trey" J. Duhon III, County Judge

Glenn D. Graham

Date

Date

ATTEST:

Debbie Hollan, County Clerk

Approved:

J. Ross McCall, P.E., County Engineer

AUDITOR'S CERTIFICATE

I hereby certify that funds are available in an amount not to exceed \$1,649,978.00 to accomplish and pay the obligation of Waller County in the foregoing matter.

Alan R. Younts, County Auditor

APPENDIX A-1
Scope of Services (Lump Sum)



ISO 9001:2015 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

3 Riverway Drive, Suite 1500 • Houston, Texas 77056 • Phone 713-237-9800 • Fax 713-237-9801

ATTACHMENT A

SCOPE OF SERVICES TO BE PROVIDED BY THE ENGINEER

Scope of Services to Perform Design and Prepare Plans, Specifications, and Estimate, and Provide Construction Phase Engineering Services

Morrison Road - From FM 362 to Pattison Road Waller County

General Scope of Project

The work to be performed by the Engineer under this contract consists of providing preliminary and final design services for the project, coordination with County, and preparation of construction documents containing plans, specifications and details pertaining to paving, grading, drainage, storm sewers, storm water pollution prevention, pavement markings, sequence of construction and traffic control plans, construction cost estimate and time of construction estimate. Topographic survey and ROW documents, Geotechnical engineering services, Subsurface Utility Engineering, bridge design and environmental services will be provided by Engineer's sub-consultants.

The project involves the proposed widening from two lane undivided roadway to four lane boulevard of Morrison Road from FM 362 to Pattison Road. The total length is approximately 3.0 miles.

Types of Service

The engineering services to be performed by the Engineer are those services which are necessary for the preparation of designs, construction plans, specifications, and other items of work related thereto, all of which are hereinafter referred to as the "Design Phase Services." Engineering services to be performed also include Construction Phase Engineering Services. These services will include, but are not limited to the general type and classifications listed in the following:

I. Project Management

A. Develop and Maintain

1. Project Schedules
2. Budgets
3. Monthly Progress Reports and Invoices

B. Meet with the County staff on a regular basis to review project progress.

C. Coordinate and review the work produced to comply with County policies and procedures, and to deliver that work on time. Comply with all applicable laws, ordinances and codes of the State and local governments.

- D. Field Reconnaissance. Travel to the project to inspect features along and adjacent to the roadway to assist in making decisions concerning roadway design, drainage design, sequence of construction, and ROW acquisition.
- E. Develop and implement Quality Control and Quality Assurance program.
- F. Coordinate identification of utility conflicts and monitor relocation status. Utilities include but are not limited to AT&T, Comcast, CPE Gas, CPE Power, and Petroleum Pipeline Companies.
- G. Prepare utility conflict table for the project.

II. Preliminary Engineering (30%)

The Preliminary Engineering shall include the preparation and approval of reports necessary to support the recommendations and design of the roadway, drainage system, detention, and all appurtenances included, but not limited to, Environmental Study, Survey, Right-of-Way (ROW) mapping, Geotechnical Investigations, and Drainage Studies.

As a result of the study, a Preliminary Engineering Report (PER) will be generated. The PER shall serve as a summary document that incorporates necessary recommendations from the supporting investigative reports, results from the working meetings with Waller County, as well as approvals and final recommendations from the project team's efforts. The document will serve as the outline and framework for the design phase, addressing the major design issues and concerns that affect the roadway drainage design and supporting infrastructure.

The preliminary design goals consist of the following points:

1. Establish a typical cross section and cross sections in non-standard areas
2. Perform a detailed field survey for the detailed design phase.
3. Perform detailed SUE QL A-D for the detailed design phase.
4. Perform geotechnical evaluation for pavement or structural design in the final design phase.
5. Perform an environmental constraints evaluation and identify any required approvals to proceed to the final design phase.
6. Present a schematic roll plot for each alternative with horizontal and vertical alignments.
7. Evaluate intersections for sight triangles and analyze need for Unobstructed Visibility Easements (UVE).
8. Evaluate ROW requirements for roadway based on preliminary cross sections.
9. Perform a review of the utilities along the corridor and provide a utility conflict list which includes all correspondence with utility companies to the Program Manager.
10. Perform a Drainage Analysis in the preliminary design stage to include the following:
 - a. Identify the ultimate project outfalls
 - b. Define drainage boundaries for the project
 - c. Size crossing using HEC-RAS and/or HY-8
 - d. Provide existing vs proposed flows. If existing road has inlets (curb and gutter), analyze existing street ponding.
11. Provide Drainage Report.

12. Provide updated construction cost estimates based on the preliminary design.
13. Provide Preliminary Engineering Report (PER, draft and final).
14. Attend PER meeting at Waller County facility.
15. Provide M&Bs for ROW taking after design is finalized at PER meeting.

Deliverables

- A. Preliminary Horizontal Alignment Determination
- B. Preliminary Potential Proposed Right-of-Way
- C. Schematic Plan View Rollplot
- D. Preliminary Typical Sections
- E. Preliminary Utility Conflict Table
- F. Preliminary Drainage Study
- G. Preliminary Traffic Control Plan
- H. Geotechnical Investigation
- I. Environmental Investigation
- J. Quantity Take-Off and Preliminary Cost Estimate

III. Final Design (70%, 95%, 100%)

A. Roadway Design

The purpose of this task is to prepare the final roadway design and develop a plan using CADD standard, in accordance with the latest Waller County design standards, specifications, and bid items.

The following describes the work to be performed:

1. Data Collection and Field Reconnaissance
2. Verification of Topographic Features
3. Proposed Roadway Design for Ultimate Conditions as determined during the Preliminary Design Phase
4. TxDOT Street Tie-In Review and Permitting
5. Utility Conflict Table
6. Utility Conflict Exhibits

The final roadway plans will include the following sheets:

- Cover
- Index
- General Notes
- Project Layout
- Existing Typical Sections
- Proposed Typical Sections
- Removal Layout
- Horizontal Alignment Data
- Survey Control Index

- Survey Control Horizontal and Vertical Controls
- Roadway/Drainage Plan and Profile
- Driveway Table/Details
- Signing and Pavement Markings
- Drainage Area Maps/Calculations
- Earthwork Cross Sections
- Standard Details/TxDOT Details

B. Traffic Control

Traffic Control and Sequencing Plans will be designed in accordance with the Texas Manual on Uniform Traffic Control Devices. The project will be designed for the ultimate four lane boulevard, but the traffic control and sequencing will account for the possibility of constructing half the boulevard today and having the ultimate cross section of the boulevard constructed later. The plans will include:

1. Overall Phasing
2. Advance Warning Signs
3. Narrative
4. Phasing Details (showing the various construction sequences with barricades, signing, pavement markings, temporary drainage, and any other devices used for traffic control)

C. Drainage Design

1. Storm Drains – Curb and Gutter Storm Sewer System shall be designed using Bentley OpenRoads Designer. Facility shall be designed to accommodate design year reflected in Drainage Report (10 year recommended).
2. Temporary Drainage Facilities – KCI shall develop temporary drainage design to ensure acceptable serviceability during phased construction. Temporary drainage shall be referenced into TCP sheets.
3. Plans, Specifications and Estimates (PS&E) Development for Hydraulics - Prepare the PS&E package in accordance with the applicable requirements of the County. If no requirement is in place for any component of the PS&E, KCI shall utilize applicable TxDOT specifications, standards, and manuals. Include the following sheets and documents:
 - a. Hydrologic Data Sheets
 - b. Hydraulic Data Sheets
 - c. Drainage Plan and Profile Sheets (Hor. 1" = 50', Vert. 1" 10")
 - d. Identify areas requiring trench protection, excavation, shoring and de-watering.
 - e. Prepare drainage area maps.
 - f. Select any necessary standard details from County and/or TxDOT list of standards for items such as inlets, manholes, junction boxes and end treatments, as applicable.
 - g. Prepare details for non-standard inlets, manholes and junction boxes.
 - h. Prepare drainage details for outlet protection, outlet structures and utility accommodation structures
 - i. Identify pipe strength requirements
 - j. Prepare drainage facility quantity summaries
 - k. Identify potential utility conflicts and, if feasible, design to mitigate or avoid those identified conflicts.
 - l. Consider pedestrian facilities, utility impacts, driveway grades, retaining wall and concrete traffic barrier drainage impacts.

- m. Identify existing ground elevation profiles at the ROW lines on storm sewer plan and profile sheets.
- n. Prepare Hydraulic Data Sheets for any bridge or cross drainage structures at the outfall channel and indicate site location (e.g., station and name of creek or bayou), if applicable.

D. Topographic Survey and ROW Mapping

1. Survey Control

- a. Horizontal and Vertical Survey Control shall be referenced to the nearest Waller County Survey Control Monument, or NGS if no County Monuments are established.
- b. Survey Control Points will be established at 1,000-foot maximum intervals and tied to the Calculated Project Alignment.
- c. Deliverable will be Signed and Sealed Survey Control Maps (22"x34", 11"x17") per Waller County standards with Detail Sketches in PDF format and CAD Files.

2. Existing Right of Way Mapping (Cat. 1B, Cond. 3)

- a. Perform abstract survey; obtain deeds of record, and plats for the right-of-way, streets intersecting and tracts of land adjoining the project limits.
- b. Establish the existing right-of-way and boundary lines adjoining the project limits.
- c. Deliverable will be Signed and Sealed existing Right-of-Way Map Sheets (22"x34", 11"x17") in PDF format per Waller County standards and CAD Files.

3. Topographic Surveying (Cat. 6, Cond. 1)

The Surveyor will provide the following within the surveying limits described above:

- a. For the roadway and ditches, obtain cross-sections at 100-foot intervals with grade breaks. Cross-sections shall extend 20 feet beyond the Proposed right-of-way. Topographic Survey will include the following: Identify locations and elevations of physical features to include edges or curbs and gutters of pavement, parking lanes, center of the median, fences, walls, tree-lines (individual tree locations is not included), sidewalks, driveways and driveway curbs, power poles, light poles, water meters, water wells, ponds, sprinklers, off-site drain pipe, elevations at ditch banks, toe, flow line, and side slope, etc. Horizontally and vertically locate available existing utilities within, crossing, and adjoining project limits. Utilities will be located and tied based on visual evidence and marked by "One Call" within the project limits. The rim (top) and flow line elevations will be obtained on inlets, manholes (sanitary and storm), and drainage structures, including culverts, SETs, etc. The rise, width, flowlines, etc. of the drainage elements will be obtained where accessible. Research and preparation of right-of-entry letters. Letters will include name and contact info for each consultant on the project.
- b. Prepare existing Signed and Sealed Topographic Survey Map Sheets (22"x34", 11"x17") of the Project to be delivered in PDF per Waller County standards and CAD Files.

4. Control and Right-of-Way Staking

- a. Recover or re-establish project control referenced to the project baseline for construction.
- b. Stake the right-of-way with wooden stakes at PC's, PT's, and 100'-200' intervals along the project limits.
- c. Control and ROW Staking is estimated to happen 3 separate times (for beginning of construction, during or right after construction, and one additional for as needed purposes).

5. Parcel Surveys (estimate 50 parcels)
 - a. Prepare metes and bounds descriptions and parcel plats in accordance with Waller County guidelines for property acquisition and add parcels to the existing right-of-way maps.
 - b. Cost includes initial (one time) staking of parcel corners. Recovering or Restaking parcels due to construction or reconfiguration will incur separate charges.
6. Soil Boring Locations
 - a. Field Locate Soil Borings performed by others.
 - b. Soil Borings will be added to existing CAD files and PDF deliverables.
 - c. Bore Hole Field Locating assumes that all Bore Holes are complete and can be located in the field in one trip. Requests to locate Bore Holes in phases or sections will incur separate charges.
7. Level "A" and "B" SUE (If Applicable)
 - a. Locate SUE marks performed by others.
 - b. SUE Locating will be added to existing CAD files and PDF deliverables.
 - c. Estimate for Level "A" and "B" SUE Locating assumes one trip to locate Level "A" marks and two trips to locate Level "B" marks. Coordination with SUE Consultant may be necessary to verify estimated trips for locating.
 - d. SUE research and designation to be performed by others. Survey Estimate is to locate marks performed by others only.

E. Subsurface Utility Engineering

The scope of subsurface utility designating and/or locating services for this project is described below. Survey services to tie utility crossing marks and/or identifiers placed during the subsurface utility designating and/or locating effort will be provided in this contract.

1. Quality Level 'B' through 'D' Utility Information & Designation – The Engineer will provide utility information, up to QL-"B", along Morrison Rd from FM 362 to Pattison Rd, Approximately 3.0 Mi.
2. Quality Level A Utility Test Hole – The Engineer will excavate by air-vacuum or other minimally invasive methods **up to Six (6) test holes** on existing utilities along Morrison Rd from FM 362 to Pattison Rd at locations to be determined. This work includes:
 - a. Providing all necessary personnel, equipment, supplies, management and supervision needed for the test hole excavation, backfill and restoration.
 - b. Contacting the appropriate one-call system to request utilities to be marked on-the-ground prior to beginning excavation of test hole.
 - c. Preparing documentation for each test hole attempted. This documentation will include the horizontal and vertical position of the targeted utility or structure, a general description of the target utility, with condition, material and general orientation noted, a generalized description of the material encountered in the test hole, and any other field observations noted during the excavation.
 - d. Based on ASCE Standard 38-22 standards, a 2d CADD file and PDF depicting the subsurface utilities designated, signed and sealed by a professional engineer in the state of Texas.

F. Geotechnical Engineering Services

The Engineer proposes that the scope of work for the geotechnical investigation be as follows:

1. Core/drill and sample a total of 32 geotechnical borings (each boring 500-ft spacing) within the area of the proposed development. The depth and number of borings were determined based on the Waller County Engineering Design Manual. The depth for all 32 borings will be 10 feet.
2. Obtain both disturbed and undisturbed samples continuously to a depth of 10 feet.
3. Measure groundwater levels in the borings during drilling and within approximately 24 hours after the completion of drilling.
4. Backfill the borings with soil cutting after drilling. Mark the borings with spray marking/ stakes that extend at least 3 feet above the ground surface, tie survey flagging near the top of the stakes, and label the stakes with the boring number. After the completion of our field activities, the client will be notified for surveying of the boring locations.
5. Perform laboratory tests to classify and determine the engineering properties of the subsurface Soil classifications will be performed in strict accordance with ASTM D 2487.
6. Characterize the site subsoil and groundwater conditions and provide the results on the "gINT" boring logs.
7. Perform engineering analyses to develop geotechnical recommendations including final concrete pavement recommendations (which will include pavement layer thickness) including subgrade stabilization requirements.
8. Conduct a desktop geological fault study, which may include reviewing existing fault maps along the project alignment or at the specific project site that could impact the project design.
9. Submit a pdf file of a report which presents the results of the geotechnical investigation.

G. Bridge Design

This scope of work (SOW) is limited to those items associated with the potential bridging and/or structural pipe protection system(s) design intended to protect existing "buried" Oil & Gas pipeline crossing(s) along Morrison Road for the project limits.

1. Coordinate with SUE subconsultant, geotechnical subconsultant and Prime (KCI) on the research, assessment, and selection of bridging and/or pipe protection system (if need) for two crossing locations.
2. Provide engineering plans/sheets, and technical specifications for placement of the bridging and/or proposed pipe protection system at two locations along Morrison Rd: Including the engineer's estimate cost and specifications.

H. Environmental Design

1. The Desktop Environmental Review will be performed for the purposes of providing a limited review of conditions at the site and surrounding properties. The client is advised that this Desktop Environmental Review will not satisfy the requirements to qualify for landowner liability protections. The Desktop Environmental Review scope of work includes the following:
 - a. Historical records review
 - b. Regulatory records review
 - c. Summary letter of findings and conclusions
2. Waters of the United States (WOTUS) Desktop Assessment

This scope item aims to assist the client in maintaining compliance with Section 404 of the Clean Water Act (CWA) and/or Section 10 of the Rivers and Harbors Act. The results may determine the necessary level of United States Army Corps of Engineers (USACE) permitting and/or coordination. To achieve this, the Engineer will perform subtasks including a desktop review and report preparation.

3. Cultural Resources Desktop Assessment

The Engineer will prepare a cultural resources desktop assessment that contains information about the presence or probability of cultural resources within a one-mile search radius of the project site to assist the client in evaluating and complying with the ACT. This assessment will include the review of the Texas Archeological Sites Atlas restricted-access database, the National Register of Historic Places (NRHP) database, and the Texas Department of Transportation (TxDOT) Houston District PALM datasets, that assess the likelihood for buried precontact archeological sites in certain areas of Texas, as well as sources representing soils and geology mapped within the project site.

I. Miscellaneous Roadway

1. Prepare storm water pollution prevention plans (SW3P) (1" = 80' double bank) showing temporary control measures during each phase of construction. Prepare NOI and SWMP forms/sheets.
 - a. Include demolition plans, showing existing structures and pavement to be removed along the project corridor, which will require removal or relocation due to the proposed improvements.
 - b. Earthwork Cross-Sections (1" = 80' H, 1" = 20' V) showing existing and proposed roadway sections will be prepared every 100' for the proposed roadway. The cross-sections will be generated from vertical topographic information
 - c. Compute and tabulate construction quantities and prepare estimate. Estimates will be prepared and submitted with each review submittal at Preliminary Design, 60%, 90% and Final.

IV. Bid Phase

- A. Prepare project manual to include Notice to Bidders, Instruction and Information to Bidders, Bid Proposal Form, Standard Form of Agreement, Bond Forms, General Conditions, Special Conditions if any, Technical Specifications and Construction Plans, in accordance with County standards.
- B. Attend pre-bid meeting.
- C. Answer Contractor questions and prepare any required addenda.
- D. Attend bid opening, tabulate, analyze and review bids for completeness and accuracy.
- E. Provide review on Contractors references.
- F. Provide bid tabulation and recommendation of award letter.

V. Construction Phase

- A. Provide hard copy sets and pdf's for construction drawings, project manual, and posted addenda for construction. (County to confirm # of ½ size and full size sets prior to printing).

- B. Attend pre-construction meeting.
- C. Review and approve shop drawings, answer RFIs, prepare Change Order Requests (including revisions to plan sheets and specifications) as required.
- D. Make periodic visits to the site to observe the progress and quality of the work if required.
- E. Revise contract drawings to show the work as actually constructed (based on contractor mark ups), and furnish the County with “record drawings” plans, pdf CDs, and GIS format.

WORK TASK	DESCRIPTION	FEE
DESIGN PLANS		
1	ROADWAY DESIGN	\$ 530,510.00
2	DRAINAGE DESIGN	\$ 399,824.00
3	BRIDGE DESIGN (IMS)	\$ 51,247.00
4	SUBSURFACE UTILITY ENGINEERING (TNP)	\$ 85,483.88
5	SURVEY AND MAPPING (WEISSER)	\$ 433,200.00
6	GEOTECHNICAL (HTS)	\$ 32,462.00
7	ENVIRONMENTAL (TERRACON)	\$ 16,915.00
	Total	\$ 1,549,642
ADDITIONAL SERVICES		
	CONSTRUCTION PHASE SERVICES (HOURLY)	\$ 100,336.00
	Total Additional Services	\$ 100,336
TOTAL		\$ 1,649,978

ROADWAY DESIGN FEE SCHEDULE

TASK DESCRIPTION	PROJECT MANAGER	PROJECT ENGINEER	EIT	SENIOR ENGR TECH	ENGR TECH	CADD OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	UNIT	NO OF UNITS	HOURS PER UNIT
GENERAL											
DATA COLLECTION	6		20	20				46	NA	NA	NA
PROJECT MEETINGS	40		40					80	NA	NA	NA
TXDOT PERMIT	16		140					156	NA	NA	NA
COORDINATION WITH LOCAL AGENCIES	12		24					36	NA	NA	NA
PROJECT ADMINISTRATION	24		24					48	NA	NA	NA
PRELIMINARY ENGINEERING								0	NA	NA	NA
FIELD SURVEYING	8		8					16	NA	NA	NA
SUE COORDINATION	8		8					16	NA	NA	NA
GEOTECH COORDINATION	8		18					26	NA	NA	NA
ENVIRONMENTAL CONTRAINTS EVALUATION	20		30					50	NA	NA	NA
PREPARE SCHEMATIC ROLL PLOT	27		66	50		45		188	NA	NA	NA
EVALUATE ROW REQUIREMENTS	10		32	28		9		79	NA	NA	NA
UTILITY COORDINATION	40		40					80	NA	NA	NA
CONSTRUCTION COST ESTIMATES	4		14					18	NA	NA	NA
PREPARATION OF PER	9		48					57	NA	NA	NA
PER MEETING	4		4					8	NA	NA	NA
PREPARATION OF M&B FOR ROW	8		20					28	NA	NA	NA
FINAL DESIGN								0	NA	NA	NA
TITLE SHEET	2		4	4		4		14	SHT	1	14
INDEX SHEET	2		2	2		4		10	SHT	1	10
GENERAL NOTES	2		4	2				8	SHT	1	8
HORIZONTAL ALIGNMENT DATA	2		2	2		4		10	SHT	1	10
EXISTING TYPICAL SECTIONS	3		8	4		8		23	SHT	1	23
PROPOSED TYPICAL SECTIONS	8		12	12		40		72	SHT	2	36
ROADWAY PLAN & PROFILE SHEETS (50 SCALE)	80		300			700		1080	SHT	32	34
ROADWAY DETAILS	3		24	40				67	SHT	2	34
EARTHWORK/DESIGN CROSS SECTIONS (EVERY 50')	12		80	80		120		292	SHT	40	7
SIGNING AND STRIPING LAYOUTS (50 SCALE)	8		20	20		40		88	SHT	16	6
TCP LAYOUTS (50 SCALE DOUBLE BANK)	62		224	140		224		650	SHT	25	26
SW3P LAYOUTS (50 SCALE DOUBLE BANK)	5		32	40		60		137	SHT	16	9
MISCELLENAEIOUS DETAILS	3		10	9		18		40	SHT	2	20
PREPARATION OF STANDARDS	3		20	40				63	SHT	30	2
DETAILED CONSTRUCTION COST ESTIMATE	6		40	40				86	SHT	NA	NA
PRODUCE PROJECT MANUAL	8		40					48	SHT	NA	NA
HOURS SUB-TOTALS	453	0	1,358	533	0	1,276	0	3,620		170	# OF SHEETS
CONTRACT RATE PER HOUR	\$307.00	\$208.00	\$130.00	\$163.00	\$100.00	\$100.00	\$95.00				
TOTAL LABOR COSTS	\$139,071.00	\$0.00	\$176,540.00	\$86,879.00	\$0.00	\$127,600.00	\$0.00	\$530,090.00			
LABOR SUBTOTAL								\$530,090.00			

OTHER DIRECT EXPENSES	# OF UNITS	UNIT	COST/UNIT							
Mileage	600	mile	\$0.700							\$420.00
Overnight mail - letter size		each								\$0.00
Overnight mail - oversized box		each								\$0.00
Photocopies B/W (8.5 x 11)		each								\$0.00
Photocopies B/W (11 x 17)		each								\$0.00
SUBTOTAL DIRECT EXPENSES										\$420.00

SUMMARY	
TOTAL LABOR COSTS	\$530,090.00
OTHER DIRECT EXPENSES	\$420.00
TOTAL	\$530,510.00

DRAINAGE DESIGN FEE SCHEDULE

TASK DESCRIPTION	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	EIT	SENIOR ENGR TECH	ENGR TECH	CADD OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	UNIT	NO OF UNITS	HOURS PER UNIT
GENERAL													
DATA COLLECTION	8	8	8	8	8	16		16		72	NA	NA	NA
PROJECT MEETINGS	12		12							24	NA	NA	NA
COORDINATION WITH LOCAL AGENCIES	16		8							24	NA	NA	NA
PRELIMINARY ENGINEERING										0	NA	NA	NA
DRAINAGE ANALYSIS	8	24	20	40	40	32		32		196	NA	NA	NA
DRAINAGE REPORT	20	24	24	44	40	24		24		200	NA	NA	NA
ASSIST IN CONSTRUCTION COST ESTIMATES	4			8	12	8				32	NA	NA	NA
ASSIST WITH PREPARATION OF PER	4			8	8					20	NA	NA	NA
ASSIST WITH PER MEETING	4				4					8	NA	NA	NA
FINAL DESIGN										0	NA	NA	NA
STORM SEWER PLAN AND PROFILES (50 SCALE)	40	80	100	160	128	128		200		836	NA	27	31
CULVERT LAYOUT SHEETS	6	28	26	28	16	24		32		160	NA	4	40
DRAINAGE DETAILS	6	4	4	12	12	12		18		68	NA	2	34
DRAINAGE SUBAREA MAPS (50 SCALE DOUBLE BANK)	20	54	80	120	80	88		130		572	NA	14	41
MISCELLENAEIOUS DETAILS	4		2	16	16					38	NA	NA	NA
PREPARATION OF STANDARDS						8		8		16	NA	NA	NA
ASSIST WITH DETAILED CONSTRUCTION COST ESTIMATE	4	4	8	16	20					52	NA	NA	NA
ASSIST WITH PRODUCTION OF PROJECT MANUAL	4	2	4	8	16					34	NA	NA	NA
HOURS SUB-TOTALS	160	228	296	468	400	340	0	460	0	2,352		47	
CONTRACT RATE PER HOUR	\$375.00	\$307.00	\$208.00	\$130.00	\$115.00	\$163.00	\$100.00	\$100.00	\$95.00			# OF SHEETS	
TOTAL LABOR COSTS	\$60,000.00	\$69,996.00	\$61,568.00	\$60,840.00	\$46,000.00	\$55,420.00	\$0.00	\$46,000.00	\$0.00	\$399,824.00			
LABOR SUBTOTAL										\$399,824.00			

OTHER DIRECT EXPENSES	# OF UNITS	UNIT	COST/UNIT							
Mileage		mile								\$0.00
Overnight mail - letter size		each								\$0.00
Overnight mail - oversized box		each								\$0.00
Photocopies B/W (8.5 x 11)		each								\$0.00
Photocopies B/W (11 x 17)		each								\$0.00
SUBTOTAL DIRECT EXPENSES										\$0.00

SUMMARY	
TOTAL LABOR COSTS	\$399,824.00
OTHER DIRECT EXPENSES	\$0.00
TOTAL	\$399,824.00

BRIDGE DESIGN FEE SCHEDULE

TASK DESCRIPTION	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	EIT	SENIOR ENGR TECH	ENGR TECH	CADD OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	UNIT	NO OF UNITS	HOURS PER UNIT
GENERAL													
DATA COLLECTION		1		4	16					21	NA	NA	NA
PROJECT MEETINGS (Assume 4 - 1hr Teams Meetings life of project)		4			4					8	NA	NA	NA
PROJECT ADMINISTRATION									8	8	NA	NA	NA
PRELIMINARY ENGINEERING	4									4	NA	NA	NA
GEOTECH COORDINATION		1			2					3	NA	NA	NA
ASSIST IN CONSTRUCTION COST ESTIMATES		1			2					3	NA	NA	NA
ASSIST WITH PREPARATION OF PER		1			8					9	NA	NA	NA
ASSIST WITH PER MEETING										0	NA	NA	NA
FINAL DESIGN	4									4	NA	NA	NA
ROADWAY DETAILS										0	NA	NA	NA
PIPELINE STRUCTURAL DETAILS		1		4	50			64		119	NA	NA	NA
MISCELLENAEIOUS DETAILS		1		4	13			28		46	NA	NA	NA
PREPARATION OF STANDARDS				3	8			8		19	NA	NA	NA
ASSIST WITH DETAILED CONSTRUCTION COST ESTIMATE		1		2	10					13	NA	NA	NA
ASSIST WITH PRODUCTION OF PROJECT MANUAL		1		3	9					13	NA	NA	NA
CONSTRUCTION PHASE SERVICES	4									4	NA	NA	NA
RESPOND TO QUESTIONS		1			4					5	NA	NA	NA
ATTEND FIELD MEETINGS AND SITE VISITS (2 visits only)		1			8					9	NA	NA	NA
PREPARATION OF CHANGE ORDERS		1		4	8					13	NA	NA	NA
REVIEW AND APPROVE SHOP DRAWINGS		1			4					5	NA	NA	NA
REVIEW AND APPROVE FORMING DETAILS		1			4					5	NA	NA	NA
RESPOND TO RFIS		1			4					5	NA	NA	NA
ANSWER GENERAL QUESTIONS		1			2					3	NA	NA	NA
PROVIDE RECORD DRAWINGS		1			4					5	NA	NA	NA
HOURS SUB-TOTALS	12	20	0	24	160	0	0	100	8	324		0	
CONTRACT RATE PER HOUR	\$285.00	\$270.00	\$210.00	\$180.00	\$135.00	\$150.00	\$120.00	\$150.00	\$114.00			# OF SHEETS	
TOTAL LABOR COSTS	\$3,420.00	\$5,400.00	\$0.00	\$4,320.00	\$21,600.00	\$0.00	\$0.00	\$15,000.00	\$912.00	\$50,652.00			
LABOR SUBTOTAL										\$50,652.00			

OTHER DIRECT EXPENSES	# OF UNITS	UNIT	COST/UNIT							
Mileage	600	mile	\$0.70							\$420.00
Overnight mail - letter size		each								\$0.00
Overnight mail - oversized box		each								\$0.00
Photocopies B/W (8.5 x 11)	50	each	\$1.00							\$50.00
Photocopies B/W (11 x 17)	50	each	\$2.50							\$125.00
SUBTOTAL DIRECT EXPENSES										\$595.00

SUMMARY	
TOTAL LABOR COSTS	\$50,652.00
OTHER DIRECT EXPENSES	\$595.00
TOTAL	\$51,247.00

SUE FEE SCHEDULE

TASK DESCRIPTION	PROJECT MANAGER	ENGINEER SENIOR	ENGINEER PROJECT	ENGINEER UTILITIES	ENGINEER TECHNICIAN	ENGINEER IN TRAINING I	CADD OPERATOR SENIOR	UTILITIES COORDINATOR SENIOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	HR / SHT
										0	N/A	N/A
Utility Coordination										0		
1. Preliminary Conflict Analysis										0		
Obtain Design Files, Create Combined Design/SUE CAD Basefiles	1					2				3		
Initial Conflict Analysis	1		20			20		20		61		
Prepare Initial Utility Conflict Matrix	1		20							21		
2. Final Conflict Analysis										0		
Obtain Design Files, Create Combined Design/SUE CAD Basefiles	1					2				3		
Final Conflict Analysis	1		20			20				41		
Update Utility Conflict Matrix	1		16					16		33		
HOURS SUB-TOTALS	6	0	76	0	0	44	0	36	0	162	#REF!	
CONTRACT RATE PER HOUR	\$103.33	\$96.67	\$63.33	\$63.33	\$51.67	\$56.67	\$55.00	\$63.33	\$30.00			
TOTAL LABOR COSTS	\$619.98	\$0.00	\$4,813.08	\$0.00	\$0.00	\$2,493.48	\$0.00	\$2,279.88	\$0.00	\$10,206.42		
% DISTRIBUTION OF STAFFING	3.70%	0.00%	46.91%	0.00%	0.00%	27.16%	0.00%	22.22%	0.00%			
SUBTOTAL FC 135 (135)										\$10,206.42		

LABOR SUMMARY BY FUNCTION CODE	PROJECT MANAGER	ENGINEER SENIOR	ENGINEER PROJECT	ENGINEER UTILITIES	ENGINEER IN TRAINING II	ENGINEER IN TRAINING I	CADD OPERATOR SENIOR	SUE FIELD MANAGER	ADMIN/ CLERICAL	TOTAL MH BY FC	TOTAL COSTS BY FC
#REF!	6	0	76	0	0	44	0	36	0	162	\$10,206.42
SUBTOTAL LABOR EXPENSES	6	0	76	0	0	44	0	36	0		\$10,206.42

UNIT COSTS	# OF UNITS	COST/UNIT	UNIT						
SUE Mobilization/Demobilization (Vac Excavator)	50	\$5.65	mile						\$282.50
SUE (Quality Level D)	16,000	\$0.75	LF						\$12,000.00
SUE (Quality Level C)	16,000	\$0.85	LF						\$13,600.00
SUE (Quality Level B - Utility Designation)	16,000	\$2.00	LF						\$32,000.00
SUE (Quality Level A - Utility Locate, Test Holes) Level A: 0 to 5 ft	2	\$2,400.00	each						\$4,800.00
SUE (Quality Level A - Utility Locate, Test Holes) Level A: > 5 to 8 ft	2	\$2,600.00	each						\$5,200.00
SUE (Quality Level A - Utility Locate, Test Holes) Level A: > 8 to 13 ft	1	\$2,900.00	each						\$2,900.00
SUE (Quality Level A - Utility Locate, Test Holes) Level A: > 13 to 20 ft	1	\$3,300.00	each						\$3,300.00
SUE (Quality Level A - Utility Locate, Test Holes) Level A: > 20 ft	1	\$175.00	FT						\$175.00
One (1) Designating Person with equipment		\$55.00	hour						\$0.00
Two (2) Designating Person with equipment	12	\$73.33	hour						\$879.96
Two (2) Person Vacuum Excavation with equipment		\$350.00	hour						\$0.00
Coring and repairing the pavement includes labor, equipment, and materials		\$830.00	day						\$0.00
SUBTOTAL UNIT COSTS									\$75,137.46

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT						
Mileage	200	\$0.700	mile						\$140.00
Traffic Control Services, Arrow Boards and Attenuator trucks - (Includes labor, equipment and fuel)		\$2,200.00	day						\$0.00
SUBTOTAL DIRECT EXPENSES									\$140.00

SUMMARY	
TOTAL COSTS FOR SUE ONLY	\$10,206.42
NON-SALARY (UNIT COSTS) FOR SUE ONLY	\$75,137.46
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUE ONLY	\$140.00
GRAND TOTAL	\$85,483.88

SURVEY FEE SCHEDULE

TASK DESCRIPTION	Sr Project Manager (RPLS)	Survey Tech	CADD Operator	Field Crew Coordinator	2-Person Survey Crew	SURVEY TECHNICIAN	Clerical	TOTAL LABOR HRS. & COSTS	NO OF DWGS	HR / SHT
RIGHT-OF-WAY SURVEY										
EXISTING RIGHT-OF-WAY MAPPING (CATEGORY 1B, CONDITION 3)	60	210	125	12	95		4	506	N/A	N/A
CONTROL										
SURVEY CONTROL	32	105	105	6	66		6	320		
TOPOGRAPHIC SURVEY										
TOPOGRAPHIC SURVEYING (CATEGORY 6, CONDITION 1)	115	75	285	26	330		56	887	N/A	N/A
CONTROL AND RIGHT-OF-WAY STAKING	24	48		6	165		6	249		
PARCEL SURVEYS (EST 50 PARCELS)	200	200	400	50	250		50	1150	N/A	N/A
SOIL BORING LOCATIONS	4	4	6	1	10		1	26	N/A	N/A
HOURS SUB-TOTALS	435	642	921	101	916	0	123	3,138	0	
CONTRACT RATE PER HOUR	\$175.00	\$125.00	\$100.00	\$110.00	\$155.00	\$100.00	\$75.00			
TOTAL LABOR COSTS	\$76,125.00	\$80,250.00	\$92,100.00	\$11,110.00	\$141,980.00	\$0.00	\$9,225.00	\$410,790.00		
% DISTRIBUTION OF STAFFING	13.86%	20.46%	29.35%	3.22%	29.19%	0.00%	3.92%			
SUBTOTAL FC 145								\$410,790.00		

TASK DESCRIPTION	Sr Project Manager (RPLS)	Survey Tech	CADD Operator	Field Crew Coordinator	2-Person Survey Crew	SURVEY TECHNICIAN	Clerical	TOTAL LABOR HRS. & COSTS	NO OF DWGS	HR / SHT
SUBSURFACE UTILITY ENGINEERING (SUE) IF NEEDED										
LEVEL A SUE	8	8	16	2	20		2	56	N/A	N/A
LEVEL B SUE	16	16	32	4	40		4	112	N/A	N/A
								0		
								0	N/A	N/A
								0	N/A	N/A
								0	N/A	N/A
								0	N/A	N/A
HOURS SUB-TOTALS	24	24	48	6	60	0	6	168	0	
CONTRACT RATE PER HOUR	\$175.00	\$125.00	\$100.00	\$110.00	\$155.00	\$100.00	\$75.00			
TOTAL LABOR COSTS	\$4,200.00	\$3,000.00	\$4,800.00	\$660.00	\$9,300.00	\$0.00	\$450.00	\$22,410.00		
% DISTRIBUTION OF STAFFING	14.29%	14.29%	28.57%	3.57%	35.71%	0.00%	3.57%			
SUBTOTAL FC 160 (150)								\$22,410.00		

SURVEY FEE SCHEDULE

LABOR SUMMARY BY FUNCTION CODE	SUPPORT MANAGER	SURVEYOR RPLS SENIOR	SURVEYOR RPLS	SURVEYOR RPLS JUNIOR	SURVEY TECHNICIAN SIT	SURVEY TECHNICIAN	ADMIN/ CLERICAL	TOTAL MH BY FC	TOTAL COSTS BY FC
RIGHT-OF-WAY SURVEY FC 130 (130)	435	642	921	101	916	0	123	3,138	\$410,790.00
SUBSURFACE UTILITY ENGINEERING (SUE) IF NEEDED	24	24	48	6	60	0	6	168	\$22,410.00
SUBTOTAL LABOR EXPENSES	459	666	969	107	976	0	6		\$433,200.00

UNIT COSTS	# OF UNITS	Crew COST/UNIT	UNIT				
ESTABLISH HORIZONTAL AND VERTICAL CONTROL		\$ 100.00	HOUR				\$0.00
FIELD SURVEY - LOCATE ROW/PROPERTY CORNERS		\$ 100.00	HOUR				\$0.00
FIELD SURVEY - OBTAIN DESIGN SURVEY DATA		\$ 100.00	HOUR				\$0.00
SET ROW MONUMENTS AND PARCEL CORNERS		\$ 100.00	HOUR				\$0.00
SUBTOTAL UNIT COSTS	0						\$0.00

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT				
Mileage			mile				\$0.00
Certified Letter Return Receipt			each				\$0.00
Standard Postage			each				\$0.00
Deed Copies			sheet				\$0.00
SUBTOTAL DIRECT EXPENSES							\$0.00

SUMMARY	
TOTAL COSTS FOR SUR ONLY	\$433,200.00
NON-SALARY (UNIT COSTS) FOR SUR ONLY	\$0.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR SUR ONLY	\$0.00
GRAND TOTAL	\$433,200.00

GEOTECHNICAL FEE SCHEDULE

TASK DESCRIPTION	PROJECT MANAGER	ENGINEER SENIOR	ENGINEER PROJECT	ENGINEER DESIGN	ENGINEER IN TRAINING II	ENGINEER IN TRAINING I	ENGINEERING TECHNICIAN SENIOR	ENGINEERING TECHNICIAN	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	NO OF DWGS	HR / SHT
GEOTECH INVESTIGATION												
Coordinate Soil Bore Locations/Mark/Utility Call-ins										0	N/A	N/A
Field Personnel and Management During Drilling										0	N/A	N/A
Sample Classification, Laboratory Coordination and Boring Log Generation										0	N/A	N/A
Preliminary Geotechnical Report with Bridge Recommendations										0	N/A	N/A
Final Geotechnical Report with Bridge Recommendations			4		40				8	52	N/A	N/A
Prepare Boring Log Sheets, Stamp and Seal										0	N/A	N/A
HOURS SUB-TOTALS	0	0	4	0	40	0	0	0	8	52	#REF!	
CONTRACT RATE PER HOUR	\$100.00	\$100.00	\$176.00	\$100.00	\$122.00	\$100.00	\$100.00	\$100.00	\$75.00			
TOTAL LABOR COSTS	\$0.00	\$0.00	\$704.00	\$0.00	\$4,880.00	\$0.00	\$0.00	\$0.00	\$600.00	\$6,184.00		
% DISTRIBUTION OF STAFFING	0.00%	0.00%	7.69%	0.00%	76.92%	0.00%	0.00%	0.00%	15.38%			
SUBTOTAL FC 102 (110)										\$6,184.00		

LABOR SUMMARY BY FUNCTION CODE	SUPPORT MANAGER	ENGINEER SENIOR	ENGINEER PROJECT SENIOR	ENGINEER PROJECT	ENGINEER DESIGN	ENGINEER IN TRAINING II	ENGINEER IN TRAINING I	GEOLOGIST JUNIOR	ADMIN/ CLERICAL	TOTAL MH BY FC	TOTAL COSTS BY FC
GEOTECH INVESTIGATION	0	0	4	0	40	0	0	0	8	52	\$6,184.00
SUBTOTAL LABOR EXPENSES	0	0	4	0	40	0	0	0	8		\$6,184.00

UNIT COSTS	# OF UNITS	Test Code	COST/UNIT	UNIT					
Atterberg limits	34	ASTM D4318	\$76.00	each					\$2,584.00
Unconfined Compressive Strength (Soil)	32	ASTM D2166	\$54.00	each					\$1,728.00
Unconfined Compressive Strength (Rock)		ASTM D2938		each					\$0.00
Soil Boring/Rock Coring without TCP (< 60 ft.)		N/A		LF					\$0.00
Soil Boring/Rock Coring without TCP (> 60 ft.)		N/A		LF					\$0.00
Borehole Grouting - Bentonite Chips		N/A		LF					\$0.00
Determining Moisture Content in Soil Materials	34	Tex-103-E	\$12.00	each					\$408.00
Determining Liquid Limits of Soils		Tex-104-E		each					\$0.00
Determining Plastic Soil Limits		Tex-105-E		each					\$0.00
Calculating the Plasticity Index of Soils		Tex-106-E		each					\$0.00
California Bearing Ratio with Standard Proctor	2	ASTM D1883	\$1,023.00	each					\$2,046.00
Particle Size Analysis of Soils		Tex-110-E		each					\$0.00
Determining the Amount of Material in Soils Finer than the 75 micrometer (No. 200) Sieve	34	Tex-111-E	\$59.00	each					\$2,006.00
Determining Sulfate Content in Soils - Colorimetric Method		Tex-145-E		each					\$0.00
SUBTOTAL UNIT COSTS									\$8,772.00

OTHER DIRECT EXPENSES	# OF UNITS	COST/UNIT	UNIT						
Mileage			mile						\$0.00
Drill/Sample 32 Borings (32@10') 3" diameter	320	\$27.000	feet						\$8,640.00
Pavement coring	32	\$180.000	each						\$5,760.00
Mobilization and Demobilization of Drilling Rig (Trips over 100 miles from office to site)	1	\$746.00	LS						\$746.00
Traffic Control Services, Arrow Boards and Attenuator trucks - (Includes labor, equipment and fuel)	32	\$59.00	hour						\$1,888.00
Locate/Identify borings/site visit	8	59	hour						\$472.00
SUBTOTAL DIRECT EXPENSES									\$17,506.00

SUMMARY	
TOTAL COSTS FOR GEO ONLY	\$6,184.00
NON-SALARY (UNIT COSTS) FOR GEO ONLY	\$8,772.00
NON-SALARY (OTHER DIRECT EXPENSES) FOR GEO ONLY	\$17,506.00
GRAND TOTAL	\$32,462.00

ENVIRONMENTAL FEE SCHEDULE

TASK DESCRIPTION	PRINCIPAL	SENIOR GEOLOGIST/ SCIENTIST	PROJECT GEOLOGIST/ SCIENTIST	SENIOR STAFF GEOLOGIST/ SCIENTIST	STAFF GEOLOGIST/ SCIENTIST	FIELD GEOLOGIST/ SCIENTIST	CAD/GIS OPERATOR II	CONTRACT ADMIN SPECIALIST	ADMINISTRAT IVE ASSISTANT	TOTAL LABOR HRS. & COSTS	UNIT	NO OF UNITS	HOURS PER UNIT
GENERAL													
DATA COLLECTION										0	NA	NA	NA
PROJECT MEETINGS										0	NA	NA	NA
COORDINATION WITH LOCAL AGENCIES										0	NA	NA	NA
PROJECT ADMINISTRATION										0	NA	NA	NA
PRELIMINARY ENGINEERING										0	NA	NA	NA
ENVIRONMENTAL CONTRAINTS EVALUATION										0	NA	NA	NA
PREPARATION OF PER										0	NA	NA	NA
PER MEETING										0	NA	NA	NA
FINAL DESIGN										0	NA	NA	NA
ASSIST WITH PRODUCTION OF PROJECT MANUAL										0	NA	NA	NA
										0	NA	NA	NA
Task 1 - Desktop Environmental Review			4	20			6	2	2	34	NA	NA	NA
Task 2 - Waters of the U.S. Desktop Review	2	2		26	12		20	2	2	66	NA	NA	NA
Task 3 - Cultural Desktop Review		4			12				2	18	NA	NA	NA
HOURS SUB-TOTALS	2	6	4	46	24	0	26	4	6	118		0	# OF SHEETS
CONTRACT RATE PER HOUR	\$220.00	\$210.00	\$180.00	\$150.00	\$130.00	\$110.00	\$110.00	\$100.00	\$90.00				
TOTAL LABOR COSTS	\$440.00	\$1,260.00	\$720.00	\$6,900.00	\$3,120.00	\$0.00	\$2,860.00	\$400.00	\$540.00	\$16,240.00			
LABOR SUBTOTAL										\$16,240.00			

OTHER DIRECT EXPENSES	# OF UNITS	UNIT	COST/UNIT							
Database/Historical Resources Package (Desktop Environmental Review)	1	each	\$ 675.00							\$675.00
Mileage		mile	\$ 0.75							\$0.00
Overnight mail - letter size		each								\$0.00
Overnight mail - oversized box		each								\$0.00
Photocopies B/W (8.5 x 11)		each								\$0.00
Photocopies B/W (11 x 17)		each								\$0.00
SUBTOTAL DIRECT EXPENSES										\$675.00

SUMMARY	
TOTAL LABOR COSTS	\$16,240.00
OTHER DIRECT EXPENSES	\$675.00
TOTAL	\$16,915.00

CPS FEE SCHEDULE

TASK DESCRIPTION	PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	EIT	SENIOR ENGR TECH	ENGR TECH	CADD OPERATOR	ADMIN/ CLERICAL	TOTAL LABOR HRS. & COSTS	UNIT	NO OF UNITS	HOURS PER UNIT
CONSTRUCTION PHASE SERVICES										0	NA	NA	NA
RESPOND TO QUESTIONS	40	20	8							68	NA	NA	NA
ATTEND FIELD MEETINGS AND SITE VISITS	12	12	8							32	NA	NA	NA
PREPARATION OF CHANGE ORDERS	4	12	16							32	NA	NA	NA
REVIEW AND APPROVE SHOP DRAWINGS	2	8	8							18	NA	NA	NA
RESPOND TO RFIS	8	40	40							88	NA	NA	NA
ANSWER GENERAL QUESTIONS	20	40	20	8						88	NA	NA	NA
PROVIDE RECORD DRAWINGS	2	4	8	16						30	NA	NA	NA
HOURS SUB-TOTALS	88	136	108	24	0	0	0	0	0	356		0	
CONTRACT RATE PER HOUR	\$375.00	\$307.00	\$208.00	\$130.00	\$115.00	\$163.00	\$100.00	\$100.00	\$95.00			# OF SHEETS	
TOTAL LABOR COSTS	\$33,000.00	\$41,752.00	\$22,464.00	\$3,120.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$100,336.00			
LABOR SUBTOTAL										\$100,336.00			

OTHER DIRECT EXPENSES	# OF UNITS	UNIT	COST/UNIT										
Mileage		mile										\$0.00	
Overnight mail - letter size		each										\$0.00	
Overnight mail - oversized box		each										\$0.00	
Photocopies B/W (8.5 x 11)		each										\$0.00	
Photocopies B/W (11 x 17)		each										\$0.00	
SUBTOTAL DIRECT EXPENSES												\$0.00	

SUMMARY	
TOTAL LABOR COSTS	\$100,336.00
OTHER DIRECT EXPENSES	\$0.00
TOTAL	\$100,336.00

APPENDIX A-2
Scope of Services (Hourly)

The work to be performed by the Engineer for additional services shall be approved in writing by the County, or LJA, prior to the Engineer starting any work on the task. Prior to initiating any work, the Engineer shall submit a scope of services and a proposed fee for each requested task for the County's review and approval. Tasks may include, but are not limited to, Construction Phase services or any other services deemed necessary by the County for the project.

Appendix B
Maximum Hourly Rates and Expenses

KCI

Job Classification	Maximum Raw Salary Rate
Principal	\$129.72
Senior Project Manager	\$102.40
Deputy Project Manager/Project Manager	\$93.87
Survey Project Manager (TX RPLS)	\$103.33
Project Manager (TX RPLS)	\$88.33
Project Surveyor (TX RPLS)	\$50.00
Senior QA/QC Manager	\$110.00
Senior Project Engineer	\$110.99
Senior Structural Engineer	\$98.33
Project Engineer	\$80.00
Structural Engineer	\$70.00
Design Engineer	\$60.00
Engineer-In-Training II	\$63.00
Engineer-In-Training I	\$38.46
Junior Engineering Technician	\$35.00
Senior Scientist	\$60.70
Senior Industrial Hygienist	\$54.25
Project Geologist	\$53.00
Senior Archaeologist	\$52.53
Project Archaeologist	\$49.15
Senior Staff Geologist	\$44.04
Project Scientist	\$41.55
Staff Scientist	\$37.90
Senior Staff Industrial Hygienist	\$37.24
Senior Administrative Staff	\$35.36
Environmental Technician IV	\$34.58
Environmental Technician III	\$34.32
Field Scientist	\$33.05
Staff Geologist	\$32.85
Archaeological Crew Chief	\$29.93
Senior Geologist (Part Time)	\$26.00
Administrative Staff	\$38.00
Senior CADD Technician	\$54.40
CADD Technician	\$36.00
Junior CADD Technician	\$24.00
Environmental Technician I	\$23.14
Senior Archaeological Technician	\$20.48
Archaeological Technician	\$18.10
Environmental Technician II	\$16.58
Support Manager	\$31.00

Appendix B
Maximum Hourly Rates and Expenses

Senior Engineering Technician	\$53.00
Engineering Technician	\$51.00
GIS Specialist	\$49.00
GIS Technician	\$35.00
Survey Technician	\$49.00
3-Person Survey Crew	\$84.00
4-Person Survey Crew	\$90.00
SUE Project Manager	\$63.33
SUE Senior Engineer	\$79.00
SUE Engineer-In-Training	\$63.00
SUE Engineering Technician	\$51.00
Abstractor	\$30.00
Utility Coordinator	\$45.00

Appendix C

Insurance

Engineer's Insurance Requirements. Throughout the term of this Agreement, Engineer shall carry and maintain in force the insurance described herein.

Commercial General Liability Insurance at least as broad as CG 00 01 (including protective liability coverage on operations of independent Engineers engaged in construction, blanket contractual liability coverage, products liability coverage, and explosion, collapse and underground hazards coverage) for the benefit of Engineer, against claims for personal injury, bodily injury and property damage, with a limit of not less than One Million Dollars (\$1,000,000) in the event of personal injury or bodily injury to any number of persons or of damage to property arising out of any one occurrence, and not less than \$1,000,000 in the aggregate applicable to this Program.

Workers' compensation insurance covering all employees of Engineer employed in, on or about the Program in order to provide statutory benefits as required by the laws of the State of Texas.

Automobile Liability: \$300,000 combined single limit per accident for bodily injury and property damage. County shall be named as Additional Insured for this coverage.

Professional Liability: \$1,000,000 aggregate covering Engineer in connection with the services to be provided by Engineer under this Agreement.

Engineer shall, upon County's request, furnish County with appropriate certificates evidencing the insurance required to be maintained by Engineer hereunder.