

## **ENGINEERING SERVICES AGREEMENT**

THIS AGREEMENT is made and entered into by and between the Fort Bend Grand Parkway Toll Road Authority, a transportation corporation organized and operating under the laws of the State of Texas, hereinafter called the "FBGPTRA" and AECOM Technical Services, Inc, hereinafter called "Engineer."

### WITNESSETH

WHEREAS, the FBGPTRA desires to enter into an agreement for the performance by Engineer of services during the Project, and which are within the "Scope of Services" as defined in paragraph 2 below;

WHEREAS, the FBGPTRA proposes to construct Toll Road grade separation structures from US 59 to north of the Fort Bend Westpark Tollway (FM 1093) in Fort Bend County, Texas, called the Fort Bend Grand Parkway Toll Road, Segment D (the "Project");

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

### **AGREEMENT**

1. General

The Engineer shall render professional services to FBGPTRA related to the Project as defined in the Scope of Services in Attachment A and Attachment A-1.

The standard of care for all professional engineering and related services performed or furnished by Engineer under this Agreement will be the care and skill ordinarily used by members of Engineer's profession practicing under similar conditions at the same time and in the same locality.

2. Compensation and Payment

- a. The Maximum Compensation under this contract is \$539,868.69. The amount paid under this Agreement may not exceed the Maximum Compensation without an approved change order.

Compensation for the performance of services within the Scope of Services described in Attachment A will be paid as a lump sum amount not to exceed \$539,868.69, as shown in Attachment B. Progress payments for work detailed in Attachment A will be made when the Engineer has attained a level of completion equal to or greater than agreed upon milestones of completion in the reasonable opinion of FBGPTRA.

Compensation for services described in Attachment A-1 will be paid per the rates described in Attachment B-1 only for work authorized in writing prior to being performed and only for such work as was actually performed. The Engineer shall

furnish satisfactory documentation of such work (e.g. timesheets, billing rates, classifications, invoices, etc.) as may be required by FBGPTRA.

- b. All performance of the Scope of Services and any Additional Services 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 FBGPTRA, and Additional Services will be reimbursed based on the billing rates in effect at that time, to the extent that such labor costs, and subcontracts are reasonable and necessary for the performance of such services. Out-of-pocket expense costs may be reimbursed only when approved in advance and authorized by the FBGPTRA. Payment will be made on the basis of project completion certificate and, for Additional Services, time and expense records and in accordance with those payment procedures set forth in subparagraph d. below. Billing rates will be inclusive of all direct labor, fringe benefits, general overhead, and profit.
- c. Where subcontractors are employed by the Engineer to perform additional services not within the original Scope of Services, the Engineer will be reimbursed for subcontractors' actual salaries and hourly rates, including overtime rates. Reimbursement to the Subcontractor for non-salary costs incurred by subcontractor will be on the same basis as if the cost was incurred by the Engineer. For subcontractors employed for the convenience of the FBGPTRA, the Engineer will be paid a subcontract administrative fee equal to ten percent (10%) of all subcontractor invoiced amounts.
- d. It is understood and agreed that monthly payments will be made to the Engineer by the FBGPTRA 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 FBGPTRA two (2) copies of invoices 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 FBGPTRA.) It is specifically understood that any requests for travel reimbursements shall comply with those procedures for travel reimbursement to Fort Bend County employees established by the Fort Bend County Auditor. The FBGPTRA shall review such invoices and approve them within 30 calendar days with such modifications as are consistent with this Agreement and forward same to the Auditor. The County shall pay each such invoice as approved by the FBGPTRA within thirty (30) calendar days after the FBGPTRA's approval of same.

### 3. Time of Performance

It is understood and agreed that the time for performance of the Engineer's services under this Agreement shall begin with receipt of the Notice to Proceed and end 240 calendar days from that date.

4. The FBGPTRA's Option to Terminate

- a. The FBGPTRA has the right to terminate this Agreement at its sole option at any time, with or without cause, by providing 30 days written notice of such intentions to terminate and by stating in said notice the "Termination Date" which shall be less than 30 days later than the actual receipt of such written notice by the Engineer. Upon such termination, the FBGPTRA shall compensate the Engineer in accordance with paragraph 3, above, for those services which were provided under this Agreement prior to its termination and which have not been previously invoiced to the FBGPTRA. The Engineer's final invoice for said services will be presented to and paid by the FBGPTRA in the same manner set forth in paragraph 3(b), above.
- b. Termination of this Agreement and payment as described in subparagraph (a) of this Paragraph shall extinguish all rights, duties, obligations, and liabilities of the FBGPTRA 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 common law or statute. The obligations in Paragraph 6 shall survive the termination of this Agreement.
- c. If the FBGPTRA terminates 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 FBGPTRA'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 FBGPTRA by virtue of this Agreement or otherwise. Failure of the FBGPTRA to exercise any of its said 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 common law or statute.
- e. Copies of all completed and partially completed documents prepared under this Agreement shall be delivered to the FBGPTRA within 30 days or upon Engineer's receipt of termination payment, whichever is sooner, when and if this Agreement is terminated.

5. Inspection of the Engineer's Books and Records

The Engineer will permit the FBGPTRA, or any duly authorized agent of the FBGPTRA, to inspect and examine the books and records of the Engineer for the purpose of verifying the amount of work performed on the Project. FBGPTRA's right to inspect survives the termination of this Agreement for a period of four years.

6. Ownership and Reuse of Documents

All documents, including original drawings, estimates, specifications, field notes, and data created, produced, developed or prepared by Engineer or its approved outside advisory or support consultants (collectively, the "Documents") shall be the property of the FBGPTRA subject to all of the following terms and conditions; provided, however, FBGPTRA shall not own and shall have no right to receive any documents not deemed "final" by the Engineer until termination of this Agreement. Engineer will deliver the Documents to FBGPTRA within 30 days of the termination of this agreement and may retain a set of reproducible record copies of the Documents, provided that the Engineer has received full compensation due pursuant to the terms of this Agreement. It is mutually agreed that FBGPTRA will use the Documents solely in connection with the Project and for no other purposes, except with the express written consent of the Engineer, which consent will not be unreasonably withheld. Any use of the Documents without the express written consent of the Engineer will be at District's sole risk and without liability or legal exposure to Engineer.

FBGPTRA shall also be the owner of all intellectual property rights of the services rendered hereunder, including all rights of copyright therein. It is the intention of Engineer and FBGPTRA that the services provided are a "work for hire" as the term is used in the federal Copyright Act. Moreover, Engineer hereby agrees to assign, and by these presents, does assign to FBGPTRA all of Engineer worldwide right, title and interest in and to such work product and all rights of copyright therein.

Engineer agrees that all trademarks, trade names, service marks, logos, or copyrighted materials of FBGPTRA that Engineer is permitted to use in connection with the services will not be used without FBGPTRA's consent and shall remain in the sole and exclusive properties of FBGPTRA and this Agreement does not confer upon Engineer any right or interest therein or in the use thereof.

7. Personnel, Equipment, and Material

- a. The Engineer represents that it presently has, or is able to obtain, adequate qualified personnel in its employment for the timely performance of the Scope of 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 the FBGPTRA, to perform the Scope of Services when and as required and without delays. It is understood that the FBGPTRA will approve assignment and release of all key Engineer personnel and that the Engineer shall submit written notification of all key Engineer personnel changes for the FBGPTRA's approval prior to the implementation of such changes. For the purpose of this agreement, key Engineer personnel are defined as: Project Manager. 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 shall have such knowledge and experience as will enable them to perform the duties assigned to them. Any employee of the Engineer who, in the opinion of the FBGPTRA, is incompetent or by his conduct

becomes detrimental to the Project shall, upon request of the FBGPTRA, 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 operation under this Agreement.

8. Items to be furnished to Engineer by the FBGPTRA

The following items will be supplied to the Engineer:

- a. Copies of preliminary studies by others.
- b. Assistance in coordination with all utility companies.
- c. Assistance in coordination with all public and governmental entities.

9. Subletting

The Engineer shall not sublet, assign, or transfer any part of its rights or obligations in this Agreement without the prior written approval of the FBGPTRA. Responsibility to the FBGPTRA for sublet work shall remain with the Engineer.

10. Conference

At the request of the FBGPTRA, the Engineer shall provide appropriate personnel for conferences at its offices, or attend conferences at the various offices of the FBGPTRA, or at the site of the Project, and shall permit inspections of its offices by the FBGPTRA, or others when requested by the FBGPTRA.

11. Appearance as Witness

If requested by the FBGPTRA, or on its behalf, the Engineer shall prepare such engineering exhibits and plans as may be requested for all hearings and trials related to the Project and, further, it shall prepare for and appear at conferences at the office of the FBGPTRA's Executive Director 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. Trial preparation and appearance by the Engineer in courts regarding litigation matters are Additional Services and compensation will be made in accordance with the schedule contained in Exhibit B-1.

12. Compliance with Laws

The 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, 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 FBGPTRA with certification of compliance with said laws, statutes, ordinances, rules, regulations, orders, and decrees above specified.

13. Insurance

The Engineer shall obtain and maintain, throughout the term of the Agreement, insurance of the types and in the minimum amounts set forth in Attachment C.

14. Indemnification

With respect to claims brought by third parties against either Engineer of the FBGPTRA relating to the property or facilities with respect to which this Agreement pertains, Engineer and the FBGPTRA agree as follows:

- a. **ENGINEER WILL INDEMNIFY AND HOLD HARMLESS THE FBGPTRA, ITS DIRECTORS, OFFICERS, AND EMPLOYEES AGAINST ANY CLAIMS, DEMANDS OR CAUSES OF ACTION; AND COSTS, LOSSES, LIABILITIES, EXPENSES AND JUDGMENTS INCURRED IN CONNECTION THEREWITH, INCLUDING REASONABLE ATTORNEY'S FEES AND COURT COSTS, BROUGHT BY ANY OF ENGINEER'S EMPLOYEES OR REPRESENTATIVES, OR BY ANY OTHER THIRD PARTY, BASED UPON, IN CONNECTION WITH, RESULTING FROM OR ARISING OUT OF THE NEGLIGENT ACTS, ERRORS OR OMISSIONS OF ENGINEER; HOWEVER, ENGINEER'S CONTRACTUAL OBLIGATION OF INDEMNIFICATION SHALL NOT EXTEND TO THE NEGLIGENCE OR OTHER FAULT OF THE FBGPTRA OR STRICT LIABILITY IMPOSED UPON THE FBGPTRA AS A MATTER OF LAW (INCLUDING STRICT LIABILITY IMPOSED UPON THE FBGPTRA AS A RESULT OF THE CONDITION OF THE PROPERTY OR FACILITIES WITH RESPECT TO WHICH THIS AGREEMENT PERTAINS).**
- b. In the event that both the FBGPTRA and Engineer are adjudicated negligent or otherwise at fault or strictly liable without fault with respect to damage or injuries sustained by the claimant, each shall be responsible for its own costs of litigation and pro rata share of damages as determined by the proceedings.

It is a condition precedent to the indemnitor's contractual obligation of indemnification under this Agreement that the party seeking indemnity shall provide written notice of a third party claim, demand or cause of action within 30 days after such third party claim, demand or cause of action is received by the party seeking indemnity. It is a further condition precedent to the indemnitor's contractual obligation of indemnification under this Agreement that the indemnitor shall thereafter have the right to participate in the investigation, defense and resolution of such third party claim.

15. Dispute Resolution

Except as expressly provided in Section 4. Termination, if a dispute arises out of, or relates to, the breach thereof, and if the dispute cannot be settled through negotiation, then the FBGPTRA and the Engineer agree to submit the dispute to mediation. In the event the FBGPTRA or the Engineer desires to mediate any dispute, that party shall notify the other party in writing of the dispute desired to be mediated. If the parties are unable to resolve their differences within 10 days of the receipt of such notice, such dispute shall be submitted for mediation in accordance with the procedures and rules of the American Arbitration Association (or any successor organization) then in effect. The deadline for submitting the dispute to mediation can be changed if the parties mutually agree in writing to extend the time between receipt of notice and submission to mediation. The expenses of the mediator shall be shared 50 percent by the FBGPTRA and 50 percent by the Engineer. This requirement to seek mediation shall be a condition required before filing an action at law or in equity.

16. Delivery of Notices, Etc.

- a. All written notices, demands, and other papers or documents to be delivered to the FBGPTRA under this Agreement shall be delivered to the Fort Bend Grand Parkway Toll Road Authority, P.O. Box 2789, Sugar Land, Texas 77487-9740, Attention: Bill Jameson, or at such other place or places as it may from time to time designate by written notice delivered to the Engineer. For purposes of notice under this Agreement, a copy of any notice or communication hereunder shall also be forwarded to the following address: Fort Bend County Clerk, 301 Jackson Street, Richmond, Texas 77469, Attention: County Judge.
- b. All written notices, demands, and other papers or documents to be delivered to the Engineer under this Agreement shall be delivered to AECOM, 5757 Woodway Drive, Suite 101 West, Houston, TX 77057, Attention: Frank Cox, or such other place or places as the Engineer may designate by written notice delivered to the FBGPTRA.

17. Reports of Accidents, Etc.

Within 24 hours after 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 FBGPTRA, setting forth a full and concise statement of the facts pertaining thereto. The Engineer shall also immediately send the FBGPTRA a copy of any summons, subpoena, notice, 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 FBGPTRA's Acts

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

19. Limitations

Notwithstanding anything herein to the contrary, all covenants and obligations of the FBGPTRA under this Agreement shall be deemed to be valid covenants and obligations only to extent authorized by the Act creating the FBGPTRA and permitted by the laws and the Constitution of the State of Texas. This Agreement shall be governed by the laws of the State of Texas, and no officer, director, or employee of the FBGPTRA shall have any personal obligation hereunder.

20. Captions Not a Part Hereof

The captions of subtitle 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. The parties hereto acknowledge that venue is proper in Fort Bend County, Texas, for all disputes arising hereunder and waive the right to sue or be sued elsewhere.

22. Successors and Assigns

The FBGPTRA 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. Appendices


The Appendices attached to this Agreement, which consists of:

Attachment A	Scope of Services
Attachment A-1	Additional Services
Attachment B	Compensation for Scope of Services
Attachment B-1	Compensation for Additional Services
Attachment C	Insurance Requirements




IN WITNESS WHEREOF, the parties hereto have signed or have caused their respective names to be signed to multiple counterparts to be effective on the 19th day of January, 2011.

FORT BEND GRAND PARKWAY TOLL ROAD  
AUTHORITY, a local government Texas  
corporation

By:   
James D. Condrey  
Chairman, Board of Directors

ATTEST:   
By \_\_\_\_\_  
Secretary, Board of Directors

AECOM Technical Services, Inc.  
ENGINEER

By:   
Name: Craig Hester  
Title: Vice President

**ATTACHMENT A**  
**SCOPE OF SERVICES**  
**FORT BEND GRAND PARKWAY TOLL ROAD (SH 99) – SEGMENT D**  
**DESIGN SERVICES**

**SECTION 4 DESIGN SERVICES**

Section 4 Limits: West Airport Blvd

Section 4 Station Limits: 982+00 to 1023+00 (approximate)

**GENERAL DESCRIPTION**

The work to be performed by the Engineer under this scope of work consists of providing various roadway design engineering services for Section 4. The following is a detailed list of tasks which will be performed by the Engineer for this portion of Segment D.

**GENERAL REQUIREMENTS**

Produce roadway plans including cross-sections, specifications and estimates (PS&E) and prepare construction bid documents.

All designs for the above work will be in accordance with the Program Management Plan (PMP).

Develop designs to avoid and/or minimize conflicts with existing and proposed utilities.

Furnish computer media and computer graphics files in compliance with the PMP.

Submit 30%, 90%, 95% (if requested) and final (mylar) PS&E packages for review by the Program Management Consultant (PMC).

The scope of this project will not include any improvements or changes to the cross streets.

Coordinate contract documents preparation with the PMC, and Program Team Members (PTMs) preparing contract documents for other specialty portions (eg. illumination, tolling, signing, pavement markings, signals) for this Section.

Provide project planning and control to include quality management.

Providing an accurate, complete and constructible set of contract documents.

The Fort Bend Grand Parkway Toll Road Authority (FBGPTRA) will have the ultimate authority for determining what constitutes an accurate, complete and constructible set of contract documents.

If so directed by FBGPTRA, make the revisions to the contract documents, as reported during the design process.

**1) Route and Design Studies**

**A. Data Collection**

The Engineer shall collect, review and evaluate data described, below. The Engineer shall notify the PMC in writing whenever the Engineer finds disagreement with the information or documents.

1. Available engineering data, including:
    - a. As-built plans
    - b. Existing schematics
    - c. Existing planimetric mapping
    - d. Current unit bid price information
    - e. Current special provisions
    - f. Special specifications
    - g. Standard drawings
  2. Utility plans and documents from appropriate municipalities and agencies provided by the PMC.
  3. Readily available flood plain information and studies from the Federal Emergency Management Agency (FEMA), the U.S. Army Corps of Engineers, local municipalities and other governmental agencies provided by the PMC.
- B. Field Reconnaissance
- The Engineer shall conduct field reconnaissance and collect data including a photographic record (maintain in Engineer's office) of notable existing features.
- C. Develop Design Criteria Chart specific for project criteria for ML's, temporary ramps, retaining walls, etc.

**2) Roadway**

The purpose of this task is to prepare the roadway design and develop the final drawings, using the CADD standards, as provided by the PMC and required by FBGPTRA, which will be included in the contract documents for construction. The following tasks describe the work to be performed:

- A. Geometric Design – using the approved schematic provided, refine the horizontal and vertical alignments and typical sections to meet project requirements. A roll plot of the refined geometric design will be submitted at a scale of 1"=200'.
- B. Typical section sheets shall be developed. Sections will be prepared for all existing and proposed main lanes, ramps, and structures, as necessary to provide a thorough understanding to the contractor of the work intended. Typical section information shall include the following:
  1. Specific station limits
  2. Profile Grade Line location
  3. Tollway center line
  4. Widths of travel lanes
  5. Width of shoulders
  6. Pavement section design
  7. Longitudinal joint locations

8. Pavement cross slopes
  9. Traffic barriers
  10. Mow strips
  11. Ditch side slopes
  12. Sodding/seeding limits
  13. Structures including retaining walls
  14. Riprap
  15. Limits of embankment and excavation
  16. The proposed pavement design and roadway section width information will be provided by FBGPTRA, except for any detours.
  17. Typical Section number.
- C. Separate plan and profile sheets will be prepared for mainlanes (northbound and southbound together), frontage roads, cross streets and ramps to a scale of 1"=100' horizontal and 1"=10' vertical on 11"x17" format sheets.
1. The plan view shall contain, at a minimum, the following design elements:
    - a. Calculated roadway center lines/base lines (PGL's) for the mainlanes, ramps, cross streets, and frontage roads, as needed. Horizontal control point information shall be shown.
    - b. Lane and pavement width dimensions.
    - c. Proposed structure locations, lengths and widths.
    - d. Direction of traffic flow on all roadways. Lane lines and/or arrows indicating the number of lanes shall also be shown.
    - e. Control of access line, ROW lines and easements, as required, (data to be provided by PMC).
    - f. Limits of riprap, block sod, and seeding.
    - g. Existing utilities and structures (data to be provided by PMC).
    - h. Benchmark location (data to be provided by the PMC).
    - i. Radii callouts, curb location, guard rail, guard fence, crash safety items, as required.
    - j. Superelevation data, as required.
    - k. Typical section number.
  2. The profile view shall contain the following design elements:
    - a. Calculated profile grade including grade, vertical curve data, and "K" values shall be shown.
    - b. Existing natural ground profile at profile grade line.
    - c. Existing and proposed elevations.

- d. Proposed ditch flowline, as required, including grade and PI data.
  - e. Existing natural ground, as required, at the ROW.
- D. Roadway detail plan sheets will be prepared that are associated with the roadway construction. Roadway detail sheets will be developed for special details that may be needed to define, detail, or clarify construction items for the contractors' understanding. These plan sheets may include, but are not limited to:
  - 1. Miscellaneous Roadway Details
  - 2. Removal Layouts (to be included on Roadway P&P sheets)
  - 3. Alignment Data Sheets
- E. Design cross sections should be prepared at a maximum interval of 100 feet for determining final earthwork and other bid item quantities. The cross sections shall be prepared at the beginning and end stations and at even 100-foot stations. Each cross-section shall include, but is not limited to:
  - 1. Centerline location and station
  - 2. Proposed ground line
  - 3. Roadway side slopes
  - 4. Elevations at centerline, edges of pavement, and tops of curb
  - 5. Existing ground line
  - 6. Roadway cross-slopes
  - 7. Existing and/or proposed ROW limits
  - 8. Cut and fill quantities at each cross-section
  - 9. Offset/elevation callouts for grade breaks, such as ditch high banks, flowlines and berms adjacent to the roadway.
- F. Pavement Design developed by the PMC will be incorporated for this project.

**3) Drainage**

The purpose of this task is to prepare drainage plans and details, including:

- A. The drainage calculations should be prepared to provide for the ultimate six-lane tollway section. At a minimum the drainage items to be provided shall include the drainage area maps showing the final drainage areas and inlet and storm sewer calculations for revised storm sewer flow elements. All drainage designs shall be prepared in accordance with the findings presented in the Drainage Impact Study (to be provided by PMC, if available). The proposed tasks are listed below:
  - 1. Coordinate through PMC with local agencies affected, such as TxDOT, Fort Bend County Drainage District, to keep them informed of the progress and results of project.
  - 2. Conduct field trips to the project site to investigate and confirm data and assumptions and assess general drainage conditions as needed.

3. Review previous plans and drainage reports prepared by others which relate to drainage in the project area (to be provided by the PMC).
4. Prepare drainage area maps for proposed improvements within the project limits.
5. Design all drainage structures including open ditch drainage, storm sewer, inlets, manholes, subsurface drainage at retaining walls, bridge deck drainage systems, and inlets/internal drainage piping where required on structures.
6. Design and analyze the storm sewer system (including the existing system) utilizing the WINSTORM program and incorporate output to plan set.
7. Design and analyze the roadside ditches using Flowmaster or similar spreadsheet analysis program and incorporate results into the plans set on the roadway plan and profile sheets.
8. Prepare storm sewer plan/profile drawings and special plan details, where required, for storm sewer system, laterals, junction boxes, outfall structures, etc. Identify and resolve potential utility conflicts during project design. Median and temporary ramp drainage will be included on the storm sewer plan/profile sheets. No separate culvert layouts will be required for this project. Drawings will be prepared on 11"X 17" sheet at horizontal scale of 1"=100' and vertical scale of 1"=10'.

C. Storm Water Pollution Prevention Plans (SW3P)

1. Develop SW3P, based on latest NPDES and any Fort Bend County requirements, on separate sheets (may be double banked) but in conformance with the TCP, to minimize potential impact to receiving waterways. The SW3P shall include text describing the plan, quantities, type, phase and locations of erosion control devices and any required permanent erosion control measures.
2. EPIC sheets will not be developed by the Engineer. If required, they will be provided by the PMC.
3. Erosion is evident at the project's northern outfall. The PMC will address the erosion separately. If any assistance is needed from the Engineer, it will be paid for under a supplemental agreement.

4) **Traffic Signals, Signing and Striping**

The Engineer shall incorporate all PS&E elements for permanent traffic signals, signing and striping as provided by the corridor traffic engineering design consultants. The Engineer shall coordinate with the Traffic engineering design consultants through the PMC for the development of all traffic signal locations, and for signing and striping including temporary ramps.

A. Illumination

The Engineer shall incorporate all plans, specifications and estimates for illumination as provided by the Corridor Illumination Design Consultants. The Engineer shall coordinate with the PMC (and other Engineers as required) for overall temporary, interim, and final illumination strategies.

B. Tolling Systems

The Engineer shall coordinate with the PMC (and other Engineers as required) for final tolling strategies and designs. The Engineer shall incorporate all plans, specifications and estimates for permanent Tolling systems as provided by the Corridor Tolling Consultants.

**5) Utility Coordination**

The purpose of this task is to provide utility coordination the PMC including:

- A. Coordinate with the PMC during the identification of utility conflicts
- B. Prepare utility conflict list and submit to PMC at 30% submittal.

**6) Construction Sequencing and Traffic Control**

The purpose of this task is to prepare traffic control plans and details, including:

The traffic control work consists of preparation of Traffic Control Plans (TCP), specifications and general notes, and cost estimate for the various traffic control measures.

**A. General**

- 1. A TCP shall show the various construction sequences (phases) and steps with barricades, signing, striping, delineation, detours, temporary drainage, and any other devices used for control of traffic during construction.

**B. Manuals and Guidelines**

- 1. The following manuals will be used in the development of the TCP:
  - a. Texas Department Of Transportation (TXDOT) 2004 Standard Specifications For Construction and Maintenance Of Highways, Streets, And Bridges
  - b. Texas Manual On Uniform Traffic Control Devices, latest version, (TMUTCD)
  - c. AASHTO's "A Policy on Geometric Design of Highways and Streets", latest version

**C. Traffic Control Plans:**

- 1. Traffic control plan layouts will be prepared for the various phases and steps of the project according to the TMUTCD and the General Guidelines for Traffic Handling. Each phase of the TCP shall show the location of the traffic flow indicated by directional arrows. The construction areas will be clearly defined. All barricades, traffic barriers, concrete traffic barrier end treatments, pavement markings, signing (regulatory, warning, and guide), flaggers, temporary roadways, and drainage shall be shown on the plans. Features that are existing or under construction, such as, roadways, retaining walls, bridges, drainage structures, etc. shall also be shown.
- 2. Traffic control plan typical sections will be prepared for each stage of the construction sequence to delineate the position of the existing traffic with respect to the proposed construction and will be shown on each TCP layout sheet. Detour pavement design will be provided by FBGPTRA; roadway section width will be provided by the Engineer.
- 3. Where detours or temporary pavement are required, a separate phase shall be shown for this construction, with traffic handling, profiles and typical sections and temporary pavement markings only.
- 4. At a minimum, the following sheets are to be included in the TCP package:

- a. TCP Layouts (1"=100' Scale) – Number of Phases as required.
- b. TCP Overview with Narrative (if more than one phase)
- c. Typical Sections
- d. Detour Layouts for temporary Road Closures
- e. Quantities

**7) Retaining Walls**

The purpose of this task is to prepare retaining wall plans and details, including:

A. The retaining wall layout plans will include:

- 1. Layout Plan
  - a. Designation of reference line
  - b. Beginning and ending retaining wall stations
  - c. Offset from reference line
  - d. Horizontal curve data
  - e. Total length of wall
  - f. Indicate face of wall
  - g. All wall dimensions and alignment relations (alignment data as necessary)
  - h. Soil core hole locations
  - i. Inlet locations.
- 2. Elevation
  - a. Top of wall/coping elevations every 25 feet.
  - b. Existing and finished ground line elevations
  - c. Limits of measurement for payment
  - d. Type, limits, of guard rail and/or coping (as applicable).
  - e. Underdrain placement and outfalls
- 3. Foundation Studies
 

The Geotechnical PTM will perform the external stability analysis for retaining walls. The Engineer will evaluate the adequacy of the retaining wall footings based on geotechnical recommendations.
- 4. Design Details
  - a. Structural wall type, details and anchorage details of railing and coping.
  - b. Drainage requirements – troughs, inlets, drain pipes/junction boxes.



8) **Bridges**

The design of northbound and southbound overpass bridges will conform to the FBGPTRA aesthetic standards for the project. The bridges are anticipated to be 3-spans, with full-width abutments to accommodate future inside widening.

A. Bridge Layouts

1. Prepare bridge layout plans and elevations for all bridge locations in accordance with the latest edition of the TxDOT's *Bridge Design Manual*, *Bridge Division Operation and Planning Manual*, and *Bridge Detailer's Manual*. All bridge layouts shall be at 1"= 40' scale (11"x17" plan sheets).
2. The Engineer shall evaluate and prepare bridge typical sections for bridges that require hydraulic modeling, or require fast track construction and construction sequencing.

B. Final Design Calculations and Details

All highway bridge structures shall be designed for HL 93 loading. All bridge design shall be in conformance with the latest edition of the TxDOT's *Bridge Design Manual*, *Bridge Division Operation and Planning Manual*, *Bridge Detailer's Manual*, and AASHTO LRFD *Bridge Design Specifications*, 4th Edition with the current interim. Final design calculations and final detail drawings for each structure will be provided in notebook format upon submission of structural review to the PMC.

C. Bridge Quantities Summary

Quantities for each bridge will be provided. These quantities will be incorporated onto summary sheets to be included in the plan set as part of the individual bridge plans.

9) **General Notes and Specifications**

- A. Coordinate with the PMC for the selection of general notes and specifications applicable to the design section.
- B. Coordinate and combine general notes and specifications with the other program team members. Prepare final general notes documents and specification list in Microsoft Word format.
- C. The PMC will supply standard general notes and specifications for use by the Engineer. The Engineer will modify the notes and specifications to conform to the specific requirements for the section.

10) **Standard Drawings**

- A. Select standard drawings applicable to the project from those provided by PMC. All standards should be obtained in an electronic format and comply with all CADD standards set forth in the PMP.
- B. Coordinate and combine standard drawings from other program team members. Prepare final set standard drawings for submittal.

11) **Quantity Take-Offs and Quantity Summaries**

- A. Quantities will be determined and included on summary sheets. The quantities will be included in tables and organized according to the bid item codes that will be used for construction. Quantities should be organized by item per sheet and totaled for the item

and the project. Quantity calculations should be organized and easily verified by the PMC. Sample calculations should be prepared for each submittal for review by the PMC. Calculations should be organized by item, clear and concise, and in an electronic format that can be transmitted via e-mail, if necessary.

- B. Coordinate and combine quantity take-offs (stand alone sheets) from other program team members into overall project summary sheets for plans.

**12) Construction Cost Estimate**

- A. An estimate of the construction costs will be prepared based on plan quantities in standard TxDOT bid format at the 90%, 95% and final submittal stages of the project. More detailed and refined quantities will be updated for each successive submittal. All estimates shall be in Microsoft Excel format.
- B. The PMC will provide uniform pay items for this corridor and the latest bid prices.
- C. The Engineer will incorporate quantities from other PTM's.

**13) Miscellaneous Drawings**

- A. Title Sheet - Include a vicinity map of the project limits, project title and signature blocks.
- B. Index Sheet(s) – At the 90%, 95% & final submittal stages of the project an Index Sheet will be prepared of the sheets and standard drawings to be used on this project. All the sheets in the plan set will be numbered continuously including standard drawings.
- C. Project Layout Sheets – Prepare a small-scale plan view plot (1"=200', double stacked) of the project showing/summarizing the alignment data, horizontal control, and the vertical control. Provide benchmark data and bore hole locations.
- D. Develop miscellaneous details as required to fully describe the intent of the plans.

**14) Preparation and Submittal of PS&E**

- A. Provide submittals for the design, including bridge design, for interim progress reviews by FBGPTRA at the 30%, 90% and final completion stage. Incorporate plan sheets and submittals prepared by other PTM's for this project. All submittals will follow the PMP for content.
  - 1. The 30% submittal shall include five (5) sets of legible 11"x17" construction drawings, and electronic file of the drawings in Microstation V8 format.
  - 2. The 90% submittal shall include five (5) complete sets of legible 11"x17" construction drawings, two (2) specification lists, construction cost estimate, and electronic file of the drawings in Microstation V8 format.
  - 3. The 95% submittal shall include five (5) complete sets of legible 11"x17" construction drawings, two (2) specification lists, construction cost estimate, and electronic file of the drawings in Microstation V8 format.
  - 4. The final 100% complete (Bid Ready) submittal shall include an electronic file of the Bid Ready set of drawings in Microstation V8 format – for reproduction during the bidding period, five (5) complete sets of legible 11"x17" construction drawings, and one reproducible (mylar) set.

- B. Upon award of construction contract, provide electronic files of the conformed set of the Contract Drawings in Microstation V8 format, and the Specifications in Microsoft Word, to FBGPTRA.

**15) Project Management and Section Lead Management Tasks**

The purpose of this task is to provide the overall management of this design contract. Project files will be set up and overall coordination of the team and contact with FBGPTRA, PMC and other Program Team Members will be maintained.

- A. Provide general coordination with the Program Team Members concerning administrative and technical issues. Report and coordinate with PMC on any design issues and requests for information from other PTM's and subconsultants. Provide coordination with FBGPTRA's consultants for the insertion of plan sheets prepared under separate contract.
- B. Prepare and submit monthly progress reports and invoices to PMC for review and approval. The invoices will include the progress report and invoice. The progress report will list outstanding issues that need resolution, as well as, progress of the tasks and estimated completion dates for the work.
- C. Internal administration of the project files. At the completion of the work, the project files will be shipped to the PMC, if requested.
- D. Attend coordination and interim progress review meetings every month or as necessary, to be scheduled on an as-needed basis. Prepare and distribute meeting minutes within five working days after the meeting.

**Anticipated Design Schedule with 5 working day review by PMC:**

30% Submittal – March 16, 2011

90% Submittal – May 2, 2011

95% Submittal – May 31, 2011

Mylar Submittal – June 13, 2011

**ATTACHMENT A-1**  
**ADDITIONAL SERVICES**

**Fort Bend Grand Parkway Toll Road – Segment D**  
**Section 4**

There are no additional services included in the initial scope of work, and no additional services are to be performed without approval of FBGPTRA. Additional services, if and when required, will be at additional expense, authorized in writing, and performed at the rates described in Attachment B-1, Compensation for Additional Services.

**ATTACHMENT B  
COMPENSATION FOR SCOPE OF SERVICES**

**Grand Parkway Toll Road Segment D- Section 4  
Fee Schedule Summary**

<b>AECOM Summary</b>			
<b>Task Description</b>	<b>Number of Sheets</b>	<b>Burdened Labor</b>	
Total Labor Cost (Including Multiplier)			
Function Code 110: Route & Design Studies	0	\$8,737.35	
Function Code 160: Roadway Design Controls	85	\$166,704.69	
Function Code 163: Miscellaneous Roadway	47	\$49,550.96	
Function Code 164: Project Management & Admin	0	\$52,252.92	
Function Code 170: Bridge Design	50	\$98,077.41	
<b>Sub Total</b>	<b>182</b>	<b>\$375,323.33</b>	
Direct Expenses		\$2,499.90	
<b>AECOM Total</b>		<b>\$377,823.23</b>	

<b>Schaumburg &amp; Polk, Inc. Summary</b>			
<b>Task Description</b>	<b>Number of Sheets</b>	<b>Burdened Labor</b>	
Total Labor Cost (Including Multiplier)			
Function Code 161: Drainage	39	\$104,449.48	
Function Code 163: Miscellaneous Roadway	60	\$30,834.22	
Function Code 164: Project Management & Admin	0	\$25,256.76	
<b>Sub Total</b>	<b>99</b>	<b>\$160,540.46</b>	
Direct Expenses		\$1,505.00	
<b>Schaumburg &amp; Polk, Inc. Total</b>		<b>\$162,045.46</b>	

**GRAND TOTAL**                      **\$539,868.69**

**ATTACHMENT B  
COMPENSATION FOR SCOPE OF SERVICES**

**Grand Parkway Toll Road Segment D- Section 4**

Company Name: AECOM

Engineer's Estimate Worksheet																
Task Description	Sheet Count	Principal	Sr Project Manager	Project Manager	Sr Project Engineer	Project Engineer	Sr Tech Specialist /Planner	Technical Specialist /Planner	EIT	Sr Designer/ Sr CADD	Designer/ CADD	Admin/ Clerical	Total Labor Hours	Hours per Sheet	Raw Labor Cost	Burdened Labor Cost
Raw Labor Hour Rate	-	\$91.94	\$70.30	\$60.57	\$60.57	\$48.57	\$35.25	\$30.84	\$38.94	\$36.77	\$28.88	\$27.04				
Function Code 110: Route & Design Studies																
Data Collection & Field Reconnaissance			4	4	8	8	8		8				40	N/A	\$1,990.93	\$5,972.79
Develop Design Criteria Chart			2	4	2								8	N/A	\$504.02	\$1,512.06
Geotechnical Borings, Layout & Review			2		2				4				8	N/A	\$417.50	\$1,252.50
Sub Total (FC 110)	0	0	8	8	12	8	8	0	12	0	0	0	56		\$2,912.45	\$8,737.35
Sub Total Raw Labor Costs (FC 110)		\$0.00	\$662.40	\$484.56	\$726.84	\$389.36	\$282.01	\$0.00	\$467.28	\$0.00	\$0.00	\$0.00			\$2,912.45	
Sub Total Burdened Labor Costs (FC 110)		\$0.00	\$1,687.20	\$1,453.68	\$2,180.52	\$1,168.08	\$846.03	\$0.00	\$1,401.84	\$0.00	\$0.00	\$0.00				\$8,737.35

**Grand Parkway Toll Road Segment D- Section 4**  
Company Name: AECOM

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**ATTACHMENT B**  
**COMPENSATION FOR SCOPE OF SERVICES**

## Grand Parkway Toll Road Segment D- Section 4

Company Name: AECOM

Engineer's Estimate Work Sheet															
Task Description	Sheet Count	Principal	Sr Project Manager	Project Manager	Sr Project Engineer	Project Engineer	Sr Tech Specialist /Planner	Technical Specialist /Planner	EIT	Sr Designer/ Sr CADD	Designer/ CADD	Admin/ Clerical	Total Labor Hours	Hours per Sheet	Burdened Labor Cost
Raw Labor Hour Rate	-	\$275.82	\$210.90	\$181.71	\$181.71	\$146.01	\$105.75	\$92.53	\$116.82	\$110.31	\$56.84	\$81.12			
Function Code 163: Miscellaneous															
Traffic Control and Construction Sequencing	2			4	4	8			8		16		40	20	\$4,942.56
Traffic Control Plans	2		2	4	8	8			16	8	24		70	35	\$8,601.36
Summary of TOP Quantities	1			2	2	4			4		8		20	20	\$2,471.28
TCP Standards	30				8	4					23		31	1	\$3,355.55
Retaining Wall Plan & Profile	6		6	12	24	30			30	24	54		180	30	\$23,017.86
Summary of Retaining Wall Quantities	1			2	2	4					8		20	20	\$2,471.28
Retaining Walls Standards	4				1	4					3		4	1	\$441.63
Miscellaneous Details (TCP, Ret Wall, etc)	7			4	4	8			8		8		32	32	\$4,249.44
Sub Total (FC 163)	47	0	8	28	53	62	0	0	70	32	144	0			\$49,550.96
Sub Total Burdened Labor Costs (FC 163)		\$0.00	\$1,667.20	\$5,087.88	\$9,539.78	\$9,052.62	\$0.00	\$0.00	\$9,177.40	\$3,529.92	\$12,476.16	\$0.00	397		\$49,550.96



Company Name: AECOM

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## ATTACHMENT B

## Grand Parkway Toll Road Segment D- Section 4

Company Name: AECOM

Engineer's Estimate Work Sheet																	
Task Description		Sheet Count	Principal	Sr Project Manager	Project Manager	Sr Project Engineer	Project Engineer	Sr Tech Specialist /Planner	Technical Specialist /Planner	EIT	Sr Designer/ Sr CADD	Designer/ CADD	Admin/ Clerical	Total Labor Hours	Hours per Sheet	Raw Labor Cost	Burdened Labor Cost
Raw Labor Hour Rate		-	\$91.94	\$70.30	\$60.57	\$60.57	\$48.67	\$35.25	\$30.84	\$38.94	\$36.77	\$28.88	\$27.04				
Function Code 170: Bridge Design																	
W Airport Blvd NBML																	
Bridge Layouts	1			2	16	8					16	8		50	50	\$2,298.98	\$6,895.94
Bridge Sections	1				8						12	6		26	26	\$1,099.08	\$3,297.24
Boring Log Data	1				4	1				4	4	4		13	13	\$467.03	\$1,401.09
Quantities/Bearing Seat Elevations	1				2	8				12	8	4		34	34	\$1,387.46	\$4,162.38
Foundation Plan	1				1	3				2	2	6		16	16	\$604.82	\$1,814.46
Foundation Details	1				4	6				2	3	6		21	21	\$895.77	\$2,687.31
Abutment Plan and Elevations	2				2	24					0	24		50	25	\$1,992.02	\$5,947.02
Abutment Details	1				2	4					8	12		26	26	\$956.54	\$2,869.62
Multiple Overpass Interior Bents	2				8	16				16	12	20		72	36	\$2,905.16	\$8,715.48
Slab Plan	1				4	12				8		16		40	40	\$1,599.92	\$4,799.76
Framing Plan	1				4	8				8		12		32	32	\$1,289.72	\$3,869.16
Slab Sections	1				4	8				8		12		32	32	\$1,289.72	\$3,869.16
Beam Designs	1				2	2				4	4	4		16	16	\$636.84	\$1,910.52
Sub Total (FC 170)	15		0	0	2	57	100	0	0	64	71	134	0	428			
Sub Total Labor Costs (FC 170)			\$0.00	\$0.00	\$121.14	\$3,452.49	\$4,867.00	\$0.00	\$0.00	\$2,492.16	\$2,610.57	\$3,669.92	\$0.00	\$17,413.38			\$52,240.14
W Airport Blvd SBML																	
Bridge Layouts	1				1	8	4				16	8		37	37	\$1,559.17	\$4,677.51
Bridge Sections	1				8						12	6		26	26	\$1,099.08	\$3,297.24
Boring Log Data	1				2	1				4	4	4		15	15	\$588.17	\$1,764.51
Quantities/Bearing Seat Elevations	1				2	8				12	8	4		34	34	\$1,387.46	\$4,162.38
Foundation Plan	1				1	3				2	2	6		16	16	\$604.82	\$1,814.46
Foundation Details	1				4	6				2	3	6		21	21	\$895.77	\$2,687.31
Abutment Plan and Elevations	2				2	4				8		16		50	25	\$1,855.06	\$5,565.18
Abutment Details	1				2	4				8		8		26	26	\$1,005.46	\$3,016.38
Multiple Overpass Interior Bents	2				8	16				16	12	20		72	36	\$2,905.16	\$8,715.48
Slab Plan	1				2	6				4		8		20	20	\$799.96	\$2,399.88
Framing Plan	1				2	4				4		6		16	16	\$644.86	\$1,934.58
Slab Sections	1				2	4				4		6		16	16	\$644.86	\$1,934.58
Beam Designs	1				1	1				2	2	2		8	8	\$318.42	\$955.26
Sub Total (FC 170)	15		0	0	1	44	65	0	0	58	89	100	0	357			
Sub Total Labor Costs (FC 170)			\$0.00	\$0.00	\$60.57	\$2,665.08	\$3,163.55	\$0.00	\$0.00	\$2,258.52	\$3,272.53	\$2,888.00	\$0.00	\$14,308.25			\$42,924.75
Standards																	
Concrete Only														0	#DIV/0!	\$0.00	\$0.00
Concrete	20				3	6				4	3	8		24	1.2	\$970.84	\$2,912.52
Sub Total (FC 170)	20		0	0	0	3	6	0	0	4	3	8	0	24			
Sub Total Labor Costs (FC 170)			\$0.00	\$0.00	\$0.00	\$181.71	\$292.02	\$0.00	\$0.00	\$155.76	\$110.31	\$231.04	\$0.00	\$970.84			\$2,912.52
Standards																	
Sub Total (FC 170)	50		0	0	3	104	171	0	0	126	163	242	0	809			\$98,077.41
Sub Total Raw Labor Costs (FC 170)			\$0.00	\$0.00	\$181.71	\$6,299.28	\$8,322.57	\$0.00	\$0.00	\$4,906.44	\$5,993.51	\$6,988.96	\$0.00	32692			\$32,692.47
Sub Total Burdened Labor Costs (FC 170)			\$0.00	\$0.00	\$545.13	\$18,997.84	\$24,967.71	\$0.00	\$0.00	\$14,719.32	\$17,960.63	\$20,966.88	\$0.00	\$98,077.41			\$98,077.41

# **ATTACHMENT B** **COMPENSATION FOR SCOPE OF SERVICES**

## **Grand Parkway Toll Road Segment D- Section 4**

Company Name: AECOM

Direct Expenses	Quantities	UNIT	Unit Cost	Total Cost
Mileage (# of miles)*	600	mile	\$0.50	\$300.00
Courier Services (Deliveries)	10	each	\$25.00	\$250.00
Photocopies B/W (8-1/2 X 11)	300	each	\$0.10	\$30.00
Photocopies B/W (11 X 17)	3,000	each	\$0.20	\$600.00
Photocopies Color (8-1/2 X 11)	60	each	\$0.75	\$45.00
Photocopies Color (11 X 17)	60	each	\$1.00	\$60.00
Bond Paper Plot (Blue/Blackline)	6	linear foot	\$1.20	\$7.20
Blue/Blackline Prints (8-1/2 X 11)	6	sheet	\$0.15	\$0.90
Blue/Blackline Prints (11 X 17)	6	sheet	\$0.30	\$1.80
Blue/Blackline Prints (22 X 34)	6	sheet	\$1.25	\$7.50
Plots (B/W on Bond)	300	square foot	\$1.00	\$300.00
Plots (Color on Bond)	100	square foot	\$2.00	\$200.00
Plots (Color on Photographic Paper)	6	square foot	\$4.00	\$24.00
Mylar (11 X 17)	166	sheet	\$3.50	\$581.00
CD Archive	15	each	\$1.50	\$22.50
Aerial Photographs (1" = 500' scale)	1	each	\$70.00	\$70.00
<b>Sub Total (Direct Expenses)</b>				<b>\$2,499.90</b>

**ATTACHMENT B**  
**COMPENSATION FOR SCOPE OF SERVICES**

**Grand Parkway Toll Road Segment D- Section 4**

Company Name: Schaumburg & Polk, Inc.

Engineer's Estimate Worksheet												
Task Description	Sheet Count	Principal	Sr Project Manager	Project Manager	Sr Project Engineer	Project Engineer	Sr Tech Specialist /Planner	Technical Specialist /Planner	EIT	Sr Designer/ CADD	Designer/ CADD	Admin/ Clerical
Raw Labor Hour Rate	-	\$275.82	\$210.90	\$181.71	\$181.71	\$146.01	\$105.75	\$92.53	\$16.82	\$110.31	\$86.64	\$81.12
Function Code 161: Drainage												
Review/Exist Storm Sewer, Drainage and Coordination			4	8	12	12	12		12			
Summary of Drainage Quantities	1			2	2	4			4		8	
Overall Drainage Area Map	1			1	3	4			8		16	
Drainage Area Maps	6		12	12	24	48			48		96	
Drainage Plan and Profile Sheets	6		16	20	24	24	24		64	24	72	
Hydraulic Data (Winstorm or other)	2		4	8	24	24				4		
Lateral Sheets	2		8	8	16	24				24		
Miscellaneous Drainage Details Sheets	1		4	8	8	8				8		
Drainage Standards	20				5					15		
Sub Total (FC 161)	39	0	48	67	110	124	36	0	136	52	215	0
Sub Total Burdened Labor Costs (FC 161)		\$0.00	\$10,123.20	\$12,174.57	\$19,988.10	\$18,105.24	\$3,807.13	\$0.00	\$15,887.52	\$5,736.12	\$18,627.60	\$0.00
<b>Sub Total Burdened Labor Costs (FC 161)</b>												<b>\$104,449.48</b>

**Grand Parkway Toll Road Segment D- Section 4**  
Company Name: Schaumburg & Polk, Inc.

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**ATTACHMENT B  
COMPENSATION FOR SCOPE OF SERVICES**

**Grand Parkway Toll Road Segment D- Section 4**

Company Name: Schaumburg & Polk, Inc.

Engineer's Estimate Work Sheet															
Task Description	Sheet Count	Principal	Sr Project Manager	Project Manager	Sr Project Engineer	Project Engineer	Sr Tech Specialist /Planner	Technical Specialist /Planner	EIT	Sr Designer/ Sr CADD	Designer/ CADD	Admin/ Clerical	Total Labor Hours	Hours per Sheet	Burdened Labor Cost
Raw Labor Hour Rate	-	\$275.82	\$210.90	\$181.71	\$181.71	\$146.01	\$105.75	\$92.53	\$116.82	\$110.31	\$86.64	\$81.12			
Function Code 164: Project Management & Administration															
Project Management			16	16								9	41		\$7,011.84
Coordination/Progress Meeting with PMC			8									2	10		\$1,849.44
30% Plan Completion			4	4		8							16		\$2,738.52
90% Plan Completion			4	4		8							16		\$2,738.52
95% Plan Completion			4	4		8							16		\$2,738.52
100% Plan Completion			4	4		8							16		\$2,738.52
Coordination with AECOM			12	12								9	33		\$5,441.40
Sub Total (FC 164)	0	0	52	44	0	32	0	0	0	0	0	20	148		\$25,256.76
Sub Total Burdened Labor Costs (FC 164)		\$0.00	\$10,966.80	\$7,995.24	\$0.00	\$4,672.32	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$1,622.40			\$25,256.76

**ATTACHMENT B**  
**COMPENSATION FOR SCOPE OF SERVICES**

**Grand Parkway Toll Road Segment D- Section 4**

Company Name: Schaumburg & Polk, Inc.

Direct Expenses	Quantities	UNIT	Unit Cost	Total Cost
Mileage (# of miles)*	600	mile	\$0.50	\$300.00
Courier Services (Deliveries)	10	each	\$25.00	\$250.00
Photocopies B/W (8-1/2 X 11)	1000	each	\$0.10	\$100.00
Photocopies B/W (11 X 17)	2,000	each	\$0.20	\$400.00
Photocopies Color (8-1/2 X 11)	20	each	\$0.75	\$15.00
Photocopies Color (11 X 17)	20	each	\$1.00	\$20.00
Mylar (11 X 17)	120	sheet	\$3.50	\$420.00
<b>Sub Total (Direct Expenses)</b>				<b>\$1,505.00</b>

**ATTACHMENT B-1  
COMPENSATION FOR ADDITIONAL SERVICES**

**Maximum Loaded Salary Rates**

<b>Company: AECOM</b>	
<b>Labor / Staff Classification</b>	<b>Hourly Rate</b>
Principal	\$275.82
Sr Project Manager	\$210.90
Project Manager	\$181.71
Sr Project Engineer	\$181.71
Project Engineer	\$146.01
Sr Project Manager (RPLS)	\$145.80
Project Manager (RPLS)	\$142.56
Sr Tech Specialist /Planner	\$105.75
Technical Specialist /Planner	\$92.53
EIT	\$116.82
Sr Designer/ Sr CADD	\$110.31
Designer/ CADD	\$86.64
Admin/ Clerical	\$81.12
Land Title Abstractor	\$119.88
Sr Survey Tech	\$116.64
Survey Tech	\$113.40
4-Person Survey Crew	\$110.16
3-Person Survey Crew	\$106.92
2-Person Survey Crew	\$103.68

<b>Company: Schaumburg &amp; Polk, Inc.</b>	
<b>Labor / Staff Classification</b>	<b>Hourly Rate</b>
Principal	\$275.82
Sr Project Manager	\$210.90
Project Manager	\$181.71
Sr Project Engineer	\$181.71
Project Engineer	\$146.01
Sr Project Manager (RPLS)	\$145.80
Project Manager (RPLS)	\$142.56
Sr Tech Specialist /Planner	\$105.75
Technical Specialist /Planner	\$92.53
EIT	\$116.82
Sr Designer/ Sr CADD	\$110.31
Designer/ CADD	\$86.64
Admin/ Clerical	\$81.12
Land Title Abstractor	\$119.88
Sr Survey Tech	\$116.64
Survey Tech	\$113.40
4-Person Survey Crew	\$110.16
3-Person Survey Crew	\$106.92
2-Person Survey Crew	\$103.68



## Attachment C

The Engineer shall furnish certificates of insurance to the FBGPTRA evidencing compliance with the insurance requirements hereof. Certificates shall indicate name of the Engineer, name of insurance company, policy number, term of coverage and limits of coverage. The Engineer shall cause its insurance companies to provide the FBGPTRA with at least 30 days prior written notice of any reduction in the limit of liability by endorsement of the policy, cancellation or non-renewal of the insurance coverage required under this Agreement. The Engineer shall obtain such insurance from such companies having a Bests rating of B+/VII or better, licensed or approved to transact business in the State of Texas, and shall obtain such insurance of the following types and minimum limits:

- a. Workers' Compensation insurance in accordance with the laws of the State of Texas, or state of hire/location of Services, and Employers' Liability coverage with a limit of not less than \$1,000,000 each employee for Occupational Disease, \$1,000,000 policy limit for Occupational Disease; and Employer's Liability of \$1,000,000 each accident.
- b. Commercial General Liability insurance including coverage for Products/Completed Operations, Blanket Contractual, Contractors' Protective Liability Broad Form Property Damage, Personal Injury/Advertising Liability, and Bodily Injury and Property Damage with limits of not less than:

\$2,000,000	general aggregate limit
\$1,000,000	each occurrence, combined single limit
\$2,000,000	aggregate Products, combined single limit
\$1,000,000	aggregate Personal Injury/Advertising Liability
\$50,000	Fire Legal Liability
\$5,000	Premises Medical
- c. Business Automobile Liability coverage applying to owned, non-owned and hired automobiles with limits not less than \$1,000,000 each occurrence combined single limit for Bodily Injury and Property Damage combined.
- d. Umbrella Excess Liability insurance written as excess of Employer's Liability, with limits not less than \$2,000,000 each occurrence combined single limit.
- e. Professional Liability insurance with limits not less than \$2,000,000 each claim/annual aggregate.

The FBGPTRA and the FBGPTRA's Directors shall be named as additional insureds to all coverages required above, except for those requirements in paragraphs "a" and "e." All policies written on behalf of the Engineer shall contain a waiver of subrogation in favor of the FBGPTRA and the FBGPTRA's Directors, with the exception of insurance required under paragraph "e."