

EXHIBIT "E"
HIDALGO COUNTY
Professional Engineering Services
Agreement #C-CAP-2009-338-08-25
Work Authorization Form

WORK AUTHORIZATION NO. 1

THIS WORK AUTHORIZATION is made pursuant to the terms and conditions of Section I.A. of the **Agreement** made by and between the **HIDALGO COUNTY**, acting herein by and through the **Commissioner's Court**, hereinafter called the "**Owner**", and **SAM Engineering & Surveying, Inc.** professional engineers of **Pharr**, Texas, hereinafter called the "**Engineer**".

PART 1. SCOPE OF WORK

The purpose of this Work Authorization is for the Engineer to provide **Professional Engineering Services as per Attachment B** for **Aldamas I & II and Morningside South Subdivisions**.

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

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

PART 2. ESTIMATED COST

The estimated cost for services under this Work Authorization is **\$ 80,664.20**. This amount is based upon the costs outlined in the ***Estimated Cost Proposal*** attached hereto as ***ATTACHMENT "D"***.

PART 3. PAYMENT

Compensation and payment to the **Engineer** for the services established under this Work Authorization shall be made in accordance with Articles 05, 6, and 7 of the Agreement.

PART 4. FUNDING

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

Account No. _____

Requisition Number _____ (MUST BE INCLUDED AFTER CC APPROVAL)

PART 5. PERIOD OF SERVICE

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

PART 6. RESPONSIBILITIES AND OBLIGATIONS

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

PART 7. ACKNOWLEDGEMENT AND CONFIRMATION

Acknowledgement and confirmation by Hidalgo County Precinct No. 2, Commissioner Tito Palacios as to content and detail of this Work Authorization No. **1.**

HIDALGO COUNTY
COMMISSIONER PRECINCT NO. 2

BY: _____

PART 8. ACCEPTANCE AND APPROVAL

This Work Authorization is hereby accepted, approved by Hidalgo County Commissioners' Court on _____ as indicated below and effective as of ____ day of _____, 2009.

ENGINEER:
SAM Engineering & Surveying, Inc.

OWNER:
HIDALGO COUNTY

BY: _____

Samuel Maldonado, Principal

BY: _____

Juan D. Salinas III, County Judge

ATTEST:

By: Arturo Guajardo Jr., County Clerk

LIST OF ATTACHMENTS

- ATTACHMENT "A" - Services to be Provided by the Owner
- ATTACHMENT "B" - Services to be Provided by the Engineer
- ATTACHMENT "C" - Work Schedule
- ATTACHMENT "D1" - Estimated Cost Proposal

EXHIBIT “A”
Services to be Provided by the County

The following provides an outline of the services to be provided by the **Owner** in the development of the **Project** (as defined and more particularly identified in Exhibit “A” attached to this Agreement).

General

The **Owner** will provide to the **Engineer** the following:

- 1) Authorization to the Engineer to begin work.
- 2) Payment for work performed by the Engineer.
- 3) Assistance to the Engineer, as necessary, to obtain required data and information from other local, regional, and state agencies that the Engineer cannot easily obtain.
- 4) Provide any available relevant data that may on file concerning the Project.
- 5) Provide timely review and decisions in response to the Engineers request for information and/or submittals and deliverables.
- 6) Attend and participate in progress meetings as required and as coordinated and conducted by the Engineer.
- 7) Advertise and award, as assisted and recommended by the Engineer, construction Agreements for the PS&E developed by the Engineer.
- 8) Attend pre-bid and pre-construction conferences coordinated and conducted by the Engineer.
- 9) Review and approve monthly and final estimates, developed by the Engineer, for payment to the Contractor. Compensate and pay the Contractor for work performed as identified in the approved monthly and final estimates.
- 10) Provide assistance to Engineer where necessary and possible with Owner information/resources to ensure project is completed within timely/efficient basis.
- 11) Provide Engineer with Geotechnical Data of existing pavement thickness.

EXHIBIT “B”

Services to be Provided by the Engineer

The work to be furnished by the Engineer shall consist of management and engineering services for improvements in Hidalgo County Colonias approved by the State of Texas under the Third Call of Proposition Three funding. The work shall be developed in accordance with the Owner, TXDOT, and applicable design standards and in a format acceptable to the owner, and reviewing agencies.

The Engineer shall render specific management and engineering services for the development of the Project and fulfillment of this Agreement as follows:

- I. PRELIMINARY PHASE - GENERAL PROJECT MANAGEMENT AND ADMINISTRATION
- II. DESIGN PHASE – FINAL DESIGN AND PLANS, SPECIFICATIONS, AND ESTIMATES (PS&E) FOR COLONIA ACCESS
- III. CONSTRUCTION PHASE – CONSTRUCTION MANAGEMENT & SUPPORT & INSPECTIONS

I. PRELIMINARY PHASE SERVICES

GENERAL PROJECT MANAGEMENT

Services for GENERAL PROJECT MANAGEMENT by the Engineer will include the following:

1. Project/Program Schedule. See Exhibit “C”.
2. Coordination/Meetings. The Owner may require the Engineer to attend local public hearings, policy meetings and upon request attend Owner staff meetings. The Engineer shall assist the Owner, as requested, at meetings with the Texas Department of Transportation (TXDOT), or other necessary entities.

Planning & Assessment

The Engineer will provide the following:

- 1) Review, verify and gather data necessary to proceed with design of approved TXDOT Colonia Projects.
- 2) Perform interviews with each Precinct County Commissioner and staff to identify “present day” complaints, roadway and drainage histories and preliminary design information for the approved projects.
- 3) Obtain geotechnical data for pavement designs; determine subsurface conditions.
- 4) Develop pavement designs, including cost data, pavement material properties, and pavement drainage.
- 5) Identify preliminary alignments; develop typical sections.

- 4) Develop hydraulic design criteria in accordance with Hidalgo County/Local Municipal or TXDOT guidelines.
- 5) Verify FEMA FIRM zones and requirements.
- 6) Develop basic schematic layout of improvement to determine right of way requirements.

Environmental Document Preparation and Public Comment

Provide Owner assistance in gathering data necessary to complete the Environmental Review Record format established by Owner to satisfy TXDOT environmental requirements.

Right of Way Data

The Engineer shall provide utility and right of way data for each approved individual project as follows:

Utility Coordination/Inventory

- 1) The Engineer will develop utility layout sheets from schematics and incorporate utility information; identify all existing overhead and above ground utilities; identify all existing underground utilities; document all information on utility layout sheets; identify potential conflicts. The layout sheets will be reproducible drawings (11”X17”) with the following information:
 - a) Existing and/or proposed right of way lines
 - b) Benchmark data
 - c) Existing and proposed drainage system(s)
 - d) Location and size of utility (plan/profile view)
 - e) Limits of existing casing pipe
 - f) Name of the owner/company
- 2) The Engineer will coordinate utility adjustments with Owner and all affected utility owners as necessary.

Field Survey

The Engineer will provide the following:

- 1) Vertical and Horizontal Control. Establish and stake the Project control centerline (baselines) and offset for the Project or portions of the Project. Establish vertical control by looping all benchmark (BM) circuits and tie to monument permanent BM elevation. BM’s are to be set at 1,000 ft. maximum intervals using Global Positioning System (GPS) survey, and in a location that will be undisturbed by future construction.
- 2) Topography. Obtain topographic information surveyed for the length of the control centerline, as required; provide location (station and offset), size, height, and depth and/or length and description of topographic features; to include, but not limited to the following: driveways, signs, light poles, mail boxes, all fences (including metal beam guard fence and turndowns), utilities (type, owner, location, and depth), riprap, existing right of way lines, private property lines, county and/or city limits, etc.. Drainage elements to include:

- 3) Design Centerline. Establish and stake the design centerline.

Right of Way Map

Provide for the preparation of a project right-of-way map where right of way acquisition is necessary. Provide for the necessary right-of-way research, mapping, surveying and all services related to the development of a right-of-way map. Prepare parcel sketches and field notes of all parcels requiring acquisition. Revisions to be done promptly at no cost to the Owner.

II. DESIGN PHASE SERVICES

Final Design and Plans, Specifications & Estimates

The Engineer will develop the final design and prepare Agreement drawings, specifications and estimates for construction of the Project or portions of the Project as authorized by the Owner. These documents will be submitted to the applicable city, county, state, and/or federal agencies for approval.

All final plan sheets will be developed by the Engineer on 11" X 17" reproducible, 4 mil, double-matte, white, opaque film.

Recognizing that there will be several team members participating in the development of the overall Project, and taking into consideration that the Owner has a significant investment in the development of the Project, there is need for consistency in document development for the purpose of review and production to help facilitate an economically efficient product. All computer document files furnished to the Owner by the Engineer shall be furnished on a CD-ROM created utilizing DOS software. Retrieval documentation relating to file storage on the designated delivery media shall be prepared by the Engineer and provided to the Owner. It is the intent of the Engineer and this Agreement to secure computer files from all Project Team members that are composed of elements of the same precision, integrity, singularity, attributes.

The Engineer shall prepare graphic files that can be reviewed and plotted utilizing Micro-station /AutoCAD, software. The graphic files submitted must be compatible with Micro-station / AutoCad System without conversion or modification and must plot consistent with reproducible plots submitted.

Plan Sheets - Plan sheets developed by the Engineer will include, but not limited to, title sheet, typical sections, sequence of construction, estimates and quantity, plan-profile, channel details, roadway details, bridge and culvert details, hydraulic details, and standards.

Specifications -The Engineer shall use the June 1, 2004 Texas Department of Transportation Standard Specifications for Construction and Maintenance of Highways, Streets, and Bridges. Other specifications may be developed by the Engineer, but must incorporate, references to standard TXDOT requirements of design & testing procedures and Hidalgo County Subdivision Required Standards.

Estimates - The Engineer will prepare detailed cost estimates and proposals of authorized construction, which will include summaries of bid items and quantities based on the unit price system of bidding.

All plots and graphic media provided by the Engineer, as a result of this Agreement, shall be delivered to the Owner. Final payment for plan sheet documents and/or associated, applicable engineering files will not be made until the files furnished by the Engineer have been demonstrated to be useable in the formats described above and herein.

Services for FINAL DESIGN AND PLANS, SPECIFICATIONS AND ESTIMATES by the Engineer will include the following:

Roadway Design Controls

The Engineer will prepare the roadway design for the Project or portions of the Project as authorized by the Owner. The roadway design will be submitted to the applicable city, county, state, and/or federal agencies for approval.

Roadway design controls will include:

- 1) Geometric design – horizontal and vertical alignments, intersection geometrics; to be incorporated onto plan and profile sheets.
- 2) Geometric and grading design – development of typical roadway sections through horizontal and vertical alignment determination and roadway cross sections.
- 3) Grading design – existing and design cross sections, cut/fill quantities, slope stability analysis, embankment foundation stability and settlement analysis.
- 4) Earthwork Quantities – obtained from grading design.
- 5) Miscellaneous supplemental plan details.

Drainage

The Engineer will perform final hydrologic/hydraulic analysis and design for the proposed improvements of the Project or portions of the Project as authorized by the Owner.

Signing

The Engineer will determine location and type of warning, regulatory and guide signs as required by the Hidalgo County Subdivision Standards or local Municipal standards as applicable. All signing design will be based on the final proposed roadway design.

Permanent Pavement Markings

The Engineer with the Owner will evaluate the need for pavement markings and design all permanent pavement markings in accordance with the Hidalgo County Subdivision Standard or Local Municipal Standards as applicable. All such design will be based on the final proposed roadway design.

Miscellaneous

If required for the Project or portion of the Project approved by the Owner, the Engineer will provide the following miscellaneous roadway items:

Miscellaneous Drafting, Standards, and Details

- 1) The Engineer will prepare a title sheet indicating, at a minimum, project limits, project location map, name of owner and owner acknowledgement/acceptance, facility identification, specification reference, Engineer's seal, signature and date.
- 2) The Engineer will determine appropriate standard drawings to be incorporated into the plans, and sign/seal any modifications to any agency or industry approved standards.

- 3) The Engineer will develop any details to clarify any construction requirements of the plan drawings.

PS&E Supporting Documents

- 4) Specifications List and General Notes. The Engineer will prepare an applicable specification list, in TXDOT format, as well as any general notes that may be applicable to each PS&E submission.
- 5) Estimates. The Engineer will prepare detailed cost estimates and proposals of authorized construction, which will include summaries of bid items and quantities based, insofar as practicable, on the unit price system of bidding.
- 6) Agreement Time Determination Statement. The Engineer will determine the time required for construction of the project, outlining phases of construction and appropriate rates of production and construction for bid items determined to be in the critical path for construction of the PS&E submittal.
- 7) Additional documents. Right of Way Certification, material testing and sampling table.

III. CONSTRUCTION PHASE SERVICES

Construction Management and Support

The Engineer will provide engineering and support services for and during the construction of the Project or portions of the Project approved by the Owner. Specific services for CONSTRUCTION MANAGEMENT AND SUPPORT by the Engineer will include the following:

Construction Bidding

- 1) The Engineer will furnish to the Owner the necessary copies of approved plans, specifications, notices to bidders, and proposals as prepared under PS&E.
- 2) The Engineer will coordinate and conduct a Pre-Bid Conference for prospective bidders.
- 3) The Engineer will assist Owner on the tabulation of bids, recommendations to the Owner as to the proper action on all bid proposals received, and the preparation of formal Agreement documents for the award of each construction Agreement.

Construction Contract Administration

- 4) In general, the Engineer will provide the management and engineering support/data required for consultation and advisement to the Owner and act as the Owners representative as provided in the General Condition of the Construction Agreement.
- 5) The Engineer will coordinate and conduct a pre-construction conference.
- 6) Defects and Deficiencies. The Engineer will use his best efforts to protect the Owner against defects and deficiencies in the work of the Contractor. The Engineer will promptly notify the Owner of any such defect or deficiency, and take all steps possible to require the Contractor to correct the defect or deficiency.

- 7) Contractor Payment. The Engineer will take measurements and calculate quantities, in accordance with the construction Agreement specifications, of those items of work accepted and conforming to the construction Agreement specifications, for the preparation of the monthly and final estimates for payment to the Contractor.
- 8) The Engineer will provide Project site inspection of the authorized construction Agreement(s) as follows:
 - a) Project Engineer. The Engineer will provide visits by the Project Engineer or a competent representative of the Engineer to the site of construction for the purpose of monitoring the Contractor's progress and conformance to the construction plans and specifications.
 - b) Resident Engineer and/or Construction Inspector(s). The Owner may request the Engineer to furnish the service of a Resident Engineer and/or Construction Inspector(s) for continuous on site inspection construction to the monitor/inspect the Contractor's daily progress and conformance to PS&E specifications. See Article 5 for special services compensation details.

Miscellaneous Technical Activities

- 9) Shop Drawings. The Engineer will review and check all shop or working drawings furnished by the Contractor.
- 10) Control of Materials & Equipment. The Engineer will provide inspection of all materials and equipment furnished/used by the Contractor as follows:
 - a) Review and record all laboratory, shop and mill tests of materials and equipment for compliance with the construction Agreement specifications.
 - b) Observe and/or perform Project record testing and/or independent assurance testing as outlined in the construction Agreement specifications.
- 11) Change Orders. When applicable the Engineer will prepare the engineering data, including plan sheet drawings, specifications, and estimates, for the preparation of construction Agreement change orders, which may be required due to actual field conditions encountered or new requirements directed by the Owner.
- 12) As Built Drawings. The Engineer will develop as built drawings to depict the work as actually constructed. The Owner will be furnished five (5) set of prints.

EXHIBIT “C”

Work Schedule

A detailed work schedule for each **Work Authorization**, identified and more particularly described in Article 7 of this Agreement, shall be prepared by the **Engineer** to be submitted and approved by the Owner in writing for each **Work Authorization**. The work schedule will provide specific work sequence and definite review times by the **Owner** and the **Engineer** of the work performed.

The **Engineer** will diligently pursue the completion of each **Work Authorization** as defined by the milestones and deliverable due dates outlined in each **Work Authorization**'s associated work schedule.

The **Engineer** will inform the **Owner** (in reasonable advance of the delay) should the **Engineer** encounter delays that would prevent the performance of all work in accordance with the established work schedule.

EXHIBIT “D1”
Fee Breakdown

For and in consideration of the *Services* attached to this Agreement and to be rendered by the **Engineer**, the **Owner** shall pay the **Engineer** the **Fee** as defined in Article 5.1 of this Agreement, and as more particularly identified as follows:

Basic Services Fee	=	<u>\$ 80,664.20</u>
PHASE I	=	40% of the <i>Service Fee</i> - \$ 32,265.68
PHASE II	=	40% of the <i>Service Fee</i> - \$ 32,265.68
PHASE III	=	20% of the <i>Service Fee</i> - \$ 16,132.84

Morningside South	CSJ: 3C1080900	\$ 33,142.82
Aldamas I & II	CSJ: 3C1080937	\$ 47,521.38