

Project Name: RM 620 Safety Improvements PS&amp;E

**CONTRACT FOR ENGINEERING SERVICES**  
**SUPPLEMENTAL AGREEMENT NO. 5**  
**TO THE PROFESSIONAL SERVICES AGREEMENT**

STATE OF TEXAS

COUNTY OF WILLIAMSON

THIS SUPPLEMENTAL AGREEMENT to contract for engineering services is by and between Williamson County, Texas, a political subdivision of the State of Texas, (*the "County"*) and Half Associates, Inc. (*the "Engineer"*) and becomes effective when fully executed by both parties.

WHEREAS, the *County* and the *Engineer* executed a contract on **February 14, 2007**; Supplemental #1 on March 6, 2007; Supplemental #2 on August 5, 2008; Supplemental #3 on December 23, 2008; and Supplemental #4 on January 11, 2010.

WHEREAS, the not-to-exceed fee in Exhibit 1, Section 1, Item 1.1 as amended by Supplemental Agreement 4 limits the agreement to **\$1,330,925.85**; and,

WHEREAS, the “*Compensation Cap*” in Exhibit 1, Section 4, Item 4.3 as amended by Supplemental Agreement 4 limits the maximum amount payable under the agreement to \$1,385,000.00; and,

WHEREAS, the Hourly Rates in Exhibit II are limited to the rates noted; and,

WHEREAS, it has become necessary to amend the agreement,

## AGREEMENT

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

I. The not-to-exceed fee in Exhibit 1, Section 1, Item 1.1 is hereby increased from \$1,330,925.85 to \$1,935,145.85.

II. The Compensation Cap in Exhibit 1, Section 4, Item 4.3 is hereby increased from \$1,385,000.00 to \$2,000,000.00.

Project Name: RM 620 Safety Improvements PS&E\_\_\_\_\_

IN WITNESS WHEREOF, the *County* and the *Engineer* have executed this supplemental agreement in duplicate,

**ENGINEER:**

By: Michael A. Maya  
Signature

Michael A. Maya

Printed Name

Vice President

Title

12/8/2010

Date

**COUNTY:**

By: [Signature]  
Signature

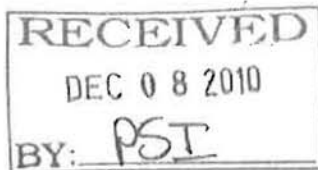
Printed Name

Title

12-16-10

Date

OK  
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Project Name: RM 620 Safety Improvements PS&E

**ATTACHMENT A**

**WORK AUTHORIZATION NO. 5**

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

**Part 1.** The *Engineer* will provide the following engineering services:

**Provide Professional Engineering Services for the production of Engineering Plans, Specifications and Estimates from west of Cornerwood Drive to east of Wyoming Springs Drive.**

**Part 2.** The maximum amount payable for services under this Work Authorization without modification is \$604,220.00.

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

**Part 4.** This Work Authorization shall become effective on the date of final acceptance of the parties hereto and shall terminate on June 30, 2011, unless extended by a Supplemental Work Authorization.

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

Project Name: RM 620 Safety Improvements PS&E

**ATTACHMENT A (con't.)**

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

ENGINEER:

Half Associates, Inc.

By: Michael A. Moya  
Signature

Michael A. Moya  
Printed Name

Vice President  
Title

12/8/2010  
Date

COUNTY:

Williamson County, Texas

By: [Signature]  
Signature

Dan A. Gattis  
Printed Name

County Judge  
Title

12-15-10  
Date

**LIST OF EXHIBITS**

Exhibit A - Services to be Provided by County

Exhibit B - Services to be Provided by Engineer

Exhibit C - Work Schedule

Exhibit D - Fee Schedule *(based on approved rates in PSA Exhibit II executed by Commissioners Court action)*

OK  
mm  
12/8/2010

## EXHIBIT A

### SERVICES PROVIDED BY THE COUNTY FOR

### ENGINEERING PLANS, SPECIFICATIONS & ESTIMATES FOR RM 620 SAFETY IMPROVEMENTS FROM CORNERWOOD DRIVE TO WYOMING SPRINGS DRIVE IN WILLIAMSON COUNTY

#### Informational Services by County

The County will make the following available to the Engineer:

- Provide completed (100%) plans (produced by others) and electronic files that represent the planned improvements to Great Oaks Drive and O'Connor Drive-including traffic signal plans.
- Latest Williamson County General notes and direction on the use of TXDOT General notes; include available karst feature and other environmental general notes
- Williamson County Title sheet example
- Review Engineer work progress, schedules, reports, preliminary/detailed plans, and cost estimates in a timely manner.

#### Coordination Services by County

- Advertise and publish legal notices to support the project letting
- Post and Maintain project information on the County website.
- Distribute / mail / advertise public meeting notices and newsletters
- Review Engineer work progress, schedules, reports, preliminary/detailed plans and cost estimates in a timely manner.
- Provide assistance with the acquisition of signatures for cover sheets. if the Engineer's efforts to acquire signatures is met with opposition
- Support project development with stakeholders such as agencies and the private sector.
- Provide/obtain permits not specifically identified in Exhibit B



## EXHIBIT B

### SERVICES PROVIDED BY THE COUNTY FOR

### ENGINEERING PLANS, SPECIFICATIONS & ESTIMATES FOR RM 620 SAFETY IMPROVEMENTS FROM CORNERWOOD DRIVE TO WYOMING SPRINGS DRIVE IN WILLIAMSON COUNTY

Highway : RM 620  
Limits : west of Cornerwood Drive  
To: east of Wyoming Springs Drive  
Project Length: Approximately 2.086 Miles

### INTRODUCTION

The following scope of work describes the services to be provided by Halff Associates Inc., **The Engineer**, for Williamson County, **The County**, for improvements to RM 620, from west of Cornerwood Drive to east of Wyoming Springs Drive in Williamson County. The length of the project is approximately 2.086 miles.

Project management services for the County will be provided by the County's Program Manager (Prime Strategies, Inc.), or its General Engineering Consultant (HNTB Corporation). The completion of Services is based upon the enclosed schedule, EXHIBIT C.

The Engineer shall develop plans, specifications and estimates (PS&E) for the reconstruction of RM 620 from an existing four/five-lane rural roadway to a four-lane urban roadway with shoulders and turn lanes meeting Texas Department of Transportation (TxDOT) Design Criteria. The proposed improvements will be developed within the right-of-way limits established during previous preliminary engineering studies.

The major elements of the work (PS&E development) include, plans development (title sheet, index of sheets, quantity summary tables, typical sections, project layout, traffic control plans by phase, construction narrative, roadway plan and profile sheets, removal plans driveway design and detail sheets, grading details, miscellaneous details, drainage hydraulic data sheets, drainage area maps, drainage plan and profiles and lateral profiles, water quality facilities, culvert layouts, signing and pavement marking sheets, and SW3P sheets). Other services provided by the Engineer include the development of an Engineer's Opinion of Probable Cost, the review and selection of standard Williamson County/TxDOT general notes and the inclusion of project specific general notes or special specifications, and bid phase services.

This scope and fee are based upon the accelerated schedule mandated by the County for final plan completion in February 2011. If the letting schedule is delayed significantly or additional submittals beyond the ones identified in this scope are required, additional budget may be required to complete the plans.

Construction plans developed will be based on the schematic design document that was developed and previously submitted on 11/12/2010 for this project. Supplemental may be necessary for significant changes to the proposed geometry.

**TASK 1 - PROJECT MANAGEMENT AND COORDINATION**

Engineer, in association with the Williamson County Road Bond Manager, herein referred to as "Program Manager", will be responsible for directing/coordinating all activities associated with redesigning RM 620 ("Project").

**1.1 - Monthly Progress Reports, Invoices, and Billings**

Engineer will adhere to Project schedule(s) and prepare Monthly Progress Reports. These Reports will include, but not be limited to:

- A. TASKS completed during the reporting period.
- B. TASKS/Objectives planned for upcoming periods.
- C. Problems encountered and the actions to remedy them.
- D. Overall Project status, including a tabulation of TASK percentage complete, management schedule indicating Project development progress, and supporting documentation.

Engineer and sub-consultant invoices will be submitted to the Program Manager. A copy of the monthly progress report will be submitted to the GEC.

**Deliverables**

- Progress Report (2 copies per Invoice/Billing). One to Program Manager, one to GEC
- Invoices (1 copy per Billing).

**1.2 - Project Coordination/Administration**

Develop and maintain effective communication between Engineer, Program Manager, and other entities. Engineer will oversee preparation of documents and manage Project activities:

- A. Coordination. Correspondence and coordination will be handled through, and with the concurrence of, the Program Manager/GEC.
- B. Lines of Communication. Communications between the Engineer and the County is via the Program Manager/GEC unless otherwise directed by the Program Manager or County. Engineer shall designate one Texas Registered Professional Engineer as the Project (Services) Manager responsible for Project management and all Program Manager Communications.
- C. Administration. The Engineer will manage Project activities (including documenting emails and phone and conference calls, maintain project files for the length of the project, and scheduled/unscheduled meetings), direct Engineer's team/staff correspondence with County, and assist the County in preparing responses to Project-related internal/external inquiries.
- D. Project Meetings. Approximately 8 meetings involving Engineer are forecasted with external parties:
  - 1) Program Manager/GEC (4 meetings);
  - 2) TXDOT (3 meetings);
  - 3) other consulting firms including private developer's engineer (1 meetings); and

When time and circumstances allow, Engineer will discuss as necessary any known meeting agendas with the Program Manager prior to each meeting to ensure that released information is appropriate and correct. Project data collected will not be released to any non-County office and/or the public at-large without Program Manager approval. Engineer will document all Project-related meetings attended by the Engineer and will forward meeting minutes to the GEC unless meeting minutes are provided by another party. Engineer will maintain an



- ongoing, functional Catalogue of attendee names, dates, locations, names/telephone numbers/addresses, and all matters discussed.
- E. Project Quality Assurance/Quality Control. The Engineer will provide quality assurance and quality control (QA/QC). Each scheduled submittal to The County shall receive QA/QC, as schedule allows.
- F. Release of Information. The Engineer will post computer files and project information on the County web-based file transfer system at milestone plan submissions as required and at the request of the County and/or representatives.
- G. Document Printing and Distribution. Engineer will be responsible for printing copies of all draft and final documents, reports, etc. produced for the Project unless otherwise defined by a specific Task described herein. Copies may be double-sided as agreed to by GEC. The County office will be responsible for distribution of draft and final documents (excluding minutes) to agencies and organizations and when responding to public inquiries.

## **TASK 2 – UTILITY COORDINATION/SUBSURFACE UTILITY ENGINEERING**

Halff Associates, Inc. shall perform all Subsurface Utility Engineering (SUE), Utility Adjustment Coordination, and Utility Engineering services for approximately seven (7) utilities as listed below:

- AT&T – Telephone/Fiber Optic Cable
- Grande Communications –Fiber Optic Cable/Cable TV
- Time Warner Cable –Fiber Optic Cable/Cable TV
- ATMOS - Gas
- ONCOR – Electric Distribution
- City of Round Rock –Water
- Brushy Creek MUD – Water/Wastewater

The work to be performed by the Engineer under this contract shall consist of providing engineering services required for SUE, Utility Adjustment Coordination, and Utility Engineering on RM 620 from Cornerwood Drive to Wyoming Springs Road. The existing utility file will be referenced into the current roadway design sheets to create a test hole location work plan. Based on the review of existing utilities and proposed roadway design sheets, approximately 20 test holes will be required. A sketch of the area to be included for the proposed test hole locations "Level A" will be provided prior to the start of the work and must be approved by the County. It is not anticipated that traffic control will be required for the QL A work requested.

These services include SUE, utility adjustment coordination, and utility engineering activities including but not limited to, meeting and contact with all utilities on the project, initial project notifications, preparation of existing utility layouts, providing progress reports, preparation of contact lists, preparation and review of reimbursable utility agreements/permits, review of conflicts between the utilities and the proposed project, resolutions of all utility conflicts, creation of a utility conflict list, creation of a utility tracking report, review of all of the proposed utility adjustments, and recommendations for the proposed locations of the utility adjustments. The above list of services is general in nature and should not be considered inclusive to the engineer's responsibilities, as listed in the following scope.

Limitations: Final utility plans are for design purposes only and reflect subsurface utilities conditions at the time the information is/was collected. Existing utility locations depicted on the plans are not for construction purposes. Contractor shall call "One Call" before excavating as required by law.



## 2.1 – Responsible Parties

- A. **Utility Coordinator (UC):** Herein referred to as the provider performing services in a non-engineering capacity.
- B. **Engineer:** Herein referred to as the provider performing services in a professional engineering capacity. This person shall be a registered Professional Engineer.

## 2.2 – Subsurface Utility Engineering (SUE) including utility investigations subsurface and above ground prepared in accordance with AASHTO standards and Utility Quality Levels as follows.

- A. Utility Quality Levels are defined in cumulative order (least to greatest) as follows
  1. Quality Level D - Existing Records: Utilities are plotted from review of available existing records.
  2. Quality Level C - Surface Visible Feature Survey: Quality level "D" information from existing records is correlated with surveyed surface-visible features. Includes Quality Level D information.
  3. Quality Level B - Designate: Two-dimensional horizontal mapping. This information is obtained through the application and interpretation of appropriate non-destructive surface geophysical methods. Utility indications are referenced to established survey control. Incorporates quality levels C and D information to produce Quality Level B.
  4. Quality Level A - Locate (Test Hole): Three-dimensional mapping and other characterization data. This information is obtained through exposing utility facilities through test holes and measuring and recording (to appropriate survey control) utility/environment data. Incorporates quality levels B, C and D information to produce Quality Level A.
- B. Designate (Quality Level B). Designate means to indicate the horizontal location of underground utilities by the application and interpretation of appropriate non-destructive surface geophysical techniques and reference to established survey control. Designate (Quality Level B) Services are inclusive of Quality levels C and D.
  1. The Engineer shall:
    - a. Verify the designating work completed June 2007 performed by Halff along RM 620. Designate, record and mark the horizontal location of the existing utility facilities that were installed after June 2007 using non-destructive surface geophysical techniques. No storm sewer facilities are to be designated unless authorized by the County. A non-water base paint, utilizing the APWA color code scheme, must be used on all surface markings of underground utilities.
    - b. Correlate utility owner records with designating data and resolve discrepancies using professional judgment. A color-coded composite utility facility plan with utility owner names, quality levels, line sizes and subsurface utility locate (test hole) locations, if applicable will be prepared and delivered to the County. It is understood by both the Engineer and the County that the line sizes of designated utility facilities detailed on the deliverable are from the best available records and that an actual line size is normally determined from a test hole vacuum excavation. A note must be placed on the designate deliverable only that states "lines sizes are from best available records". All above ground appurtenance locations must be included in the deliverable.
    - c. Clearly identify all utilities that were discovered from quality levels C and D investigation, but can not be depicted in quality level B standards. These utilities must have a unique line style and symbology in the designate (Quality Level B) deliverable.
- C. Subsurface Utility Locate (Test Hole) Service (Quality Level A). Locate means to obtain

precise horizontal and vertical position, material type, condition, size and other data that may be obtainable about the utility facility and its surrounding environment through exposure by non-destructive excavation techniques that ensures the integrity of the utility facility. Subsurface Utility Locate (Test Hole) Services (Quality Level A) are inclusive of Quality Levels B, C, and D. Perform up to sixteen (16) test holes.

1. The Engineer shall:

- a. Review requested test hole locations and advise the County in the development of an appropriate locate (test hole) work plan relative to the existing utility infrastructure and proposed highway design elements.
- b. Coordinate with utility owner Inspectors as may be required by law or utility owner policy.
- c. Neatly cut and remove existing pavement material, such that the cut not to exceed 0.10 square meters (1.076 square feet) unless unusual circumstances exist.
- d. Measure and record the following data on an appropriately formatted test hole data sheet that has been sealed and dated by the Engineer:
  - i. Elevation of top and/or bottom of utility tied to the datum of the furnished plan.
  - ii. Identify a minimum of two benchmarks utilized. Elevations shall be within an accuracy of 15mm (.591 inches) of utilized benchmarks.
  - iii. Elevation of existing grade over utility at test hole location.
  - iv. Horizontal location referenced to project coordinate datum.
  - v. Outside diameter of pipe or width of duct banks and configuration of non-encased multi-conduit systems.
  - vi. Utility facility material(s).
  - vii. Utility facility condition.
  - viii. Pavement thickness and type.
  - ix. Coating/Wrapping Information and condition.
  - x. Unusual circumstances or field conditions.
- e. Excavate test holes in such a manner as to prevent any damage to wrappings, coatings, cathodic protection or other protective coverings and features.
- f. Be responsible for any damage to the utility during the locating process. In the event of damage, the Engineer shall stop work, notify the appropriate utility facility owner, County, and appropriate regulatory agencies. The regulatory agencies include, but are not limited to the Texas Railroad Commission and the Texas Commission on Environmental Quality. The Engineer will not resume work until the utility facility owner has determined the corrective action to be taken. The Engineer shall be liable for all costs involved in the repair or replacement of the utility facility.
- g. Back fill all excavations with appropriate material, compact backfill by mechanical means, and restore pavement and surface material. The engineer shall be responsible for the integrity of the backfill and surface restoration for a period of three years. Install a marker ribbon throughout the backfill.
- h. Furnish and install a permanent above ground marker directly above center line of the utility facility.
- i. Provide complete restoration of work site and landscape to equal or better condition than before excavation. If a work site and landscape is not appropriately restored, the Engineer shall return to correct the condition at no extra charge to the County.
- j. Plot utility location position information to scale and provide a comprehensive utility plan sign and sealed by the responsible Engineer.

**2.3 – Utility Adjustment Coordination** including utility coordination meetings with Individual utility

companies, communication and coordination with utilities, and preparation of utility agreement assemblies including utility agreements and permits.

- A. The Utility Coordination Consultant (UC) shall perform utility coordination and liaison activities with involved utility owners, their consultants, TxDOT, and the County to achieve timely project notifications, formal coordination meetings, conflict analysis and resolution.
- B. The Utility Coordination Consultant (UC) shall determine which utilities will conflict with highway construction or the "Utility Accommodation Rules" (UAR), and make the utility company aware of these conflicts. The UC shall assist the utility companies in the preparation of required agreements associated with the funding of adjustments and the occupation of state right of way;
  1. Utility Agreement Assemblies: A packaged agreement consisting of a Utility Joint Use Acknowledgement, Standard Utility Agreement, Plans on 11x17 sheets, Statement of contract work form, Affidavit form and copy of recorded easement, schedule of work and various attachments as detailed in the UAR.
    - a. Utility Agreements (5 estimated for this project): If a utility is located within an easement, the utility company may have a compensable interest. The utility company must furnish a copy of their easement to the UC. The UC shall determine whether or not a compensable interest exists and the owner's degree of eligibility. The UC shall assist the utility company with adjustment plans and cost estimate for these adjustments. The UC shall review plans to ensure compliance with UAR and to ensure that the proposal will not conflict with highway construction. The UC will submit a copy of the easement, plans, and estimate to by letter recommending approval (3 copies of each). The utility should be reimbursed all cost incurred within their easement limits for replacement in kind.
    - b. Permits (2 estimated for this project): For this project, all Non-Reimbursable Utility Adjustments shall be submitted by permit with the form "Notice of Proposed Installation". The UC will furnish the appropriate form to the utility company and assist them with adjustment plan preparation. The utility company should submit the permit and adjustment plans to the UC for review. The UC shall review plans to ensure compliance with UAR and to ensure that the proposal will not conflict with highway construction. The UC will submit the permit to TxDOT by letter recommending approval.
  2. The UC will submit three (3) executed copies of the Utility Agreement assemblies, which include the appropriate Forms (use Williamson County approved Utility Agreement form), a copy of the recorded easement Deed, plans, and estimate by letter recommending approval (3 copies of each). The utility should be reimbursed eligible costs incurred within their easement limits for replacement in kind." The transmittal should also provide a description of the work being done as well as the estimated cost and schedule of work.

**2.4 - Utility Engineering** including the identification of utility conflicts, compliance with the UAR, and resolution of utility conflicts. The Engineer shall coordinate all activities with the County, or their designee, to facilitate the orderly progress and timely completion of the utility coordination phase.

A. Coordination of engineering activities include:

1. Utility Layout: The Engineer shall maintain a utility layout in MicroStation format. This layout shall include all existing utilities which are to remain in place or be abandoned, and all adjusted utilities. This layout will be utilized to monitor the necessity and evaluate alternatives. The engineer will utilize the layout of existing utilities and make a determination of the following;
  - a. Facilities in conflict with the proposed project that are to be relocated.
  - b. Facilities to be abandoned in place.



- c. Facilities to remain in service and in place as a result roadway design adjustments and meeting the current UAR.
- d. The Engineer shall be responsible for determining if there are additional facilities, not shown in the SUE documents, which require relocation. The Engineer shall coordinate this information with the County immediately upon discovery.
- B. Public & Individual Meetings with Utility Companies as required to facilitate utility conflict identification and resolution (approximately 4 public meetings).
  1. Progress Meetings (4 estimated for this project): Meet with the County periodically to coordinate the work effort and resolve problems and prepare a written report of such meetings. The meetings will review:
    - a. Activities completed since the last meeting
    - b. Problems encountered.
    - c. Late activities.
    - d. Activities required by the next progress meeting.
    - e. Solutions for unresolved and/or anticipated problems.
    - f. Information or items required from other agencies/consultants.
- C. Review of Utility's Proposed Adjustments
  1. Evaluate Alternatives: The ENGINEER will evaluate alternatives in the adjustment of utilities balancing the needs of both the County and the Utility.
  2. Review Estimates and Schedules: The ENGINEER will review the utility adjustment estimates for reasonableness of cost and the timely scheduling of the adjustment.
  3. Review Plans for compliance with Utility Accommodation Rules and proposed location data. The responsibility for quality and accuracy of Utility adjustment plans will remain with the Utility Company.
- D. Prepare a Proposed Utility Layout in MicroStation format that can be overlaid on the base file and determine the following:
  1. All facilities conflicts have been resolved.
  2. All stakeholders have concurred with the various alignments.
  3. Establish the sequence of construction for all utility relocation work, whether it is included as a part of the project Construction or not.
  4. Determine which utilities will be built as part of the contract.
  5. Determine which facilities will be relocated prior to construction.

**Deliverables:**

- Existing Utility Layout & electronic files on CD in MicroStation format
- Test Hole Data Sheets & electronic files on CD in MicroStation format
- Utility Tracking Report (UTR)-submitted every two weeks
- Utility Assembly Packages (estimated # reimbursable and # permits)
- Draft Proposed Relocation Utility Layout & electronic files on CD in MicroStation format
- Approved Proposed Relocation Utility Layouts & electronic files on CD in MicroStation format
- Easements of Record Spreadsheet
- Master Utility Contact List
- Review Comments Form
- Utility Design Review Submittal Log
- Utility Completion Checklist
- Utility Clearance Certification Letters
- Meeting minutes (delivered electronically) for approximately 8 meetings

**TASK 3 – RIGHT-OF-WAY DATA**



### **3.1 – Temporary Construction Easements**

- A. Determine temporary construction easements for driveway reconstruction, as necessary.
- B. Develop temporary construction easement for driveway reconstruction detail sheets to be provided to County officials for use in obtaining driveway construction easement agreements. The detail sheet shall consist of a plan view of the driveway and include existing ROW lines and anticipated width and depth of construction easement for driveway reconstruction. This item is limited to the development of nineteen (19) detail sheets.
- C. Determine temporary construction easements. This task is related to non-driveway locations. This is limited to two (2) construction easements.

The Engineer will not provide ROW strip maps or other legal instruments with this work authorization. The Engineer will not meet with individual property owners concerning construction easements.

### **TASK 4 – FIELD SURVEYING**

Field surveying is not included in this work authorization.

### **TASK 5 – ROADWAY DESIGN**

The Engineer will develop the following roadway construction plan sheets.

#### **5.1 – Miscellaneous Plans**

- A. Title Sheet (Williamson County format)
- B. Detailed Index of Sheets
- C. Project Layout sheets at a scale of 1"=200'

#### **5.2 – Roadway Plans and Geometry**

- A. Existing Typical Sections
- B. Proposed Typical Sections
- C. Roadway Plan and Profile Sheets at 1"=50' Horizontally-per Williamson County Plan Production Manual
- D. Survey Control Plan Sheets
- E. Horizontal Alignment Data Sheets
- F. Superelevation Data Sheets
- G. Removal Plans

#### **5.3 –Grading and Details**

- A. Develop and plot design cross sections for RM 620 at 50 even foot stations for final pavement conditions. Cross sections will be plotted on plan sheets and included as part of the final plan set.
- B. Intersection layouts for 5 intersections
- C. Driveway Detail Sheets
- D. Driveway Profile Sheets
- E. Miscellaneous Roadway Detail Sheets

### **TASK 6 – DRAINAGE**

The Engineer will produce the following:

**6.1 – Culvert and Channel Design**

- A. Culvert Hydraulic Data sheets for 10-year frequency storm event/100 year check
- B. Exterior Drainage Area Maps
- C. Culvert Layouts
- D. Prepare Box Culvert Supplement (BCS) plan sheet
- E. Drainage Grading Sheets

**6.2 – Storm Drain Design**

- A. Produce Interior Drainage Area Maps
- B. Calculate run-off to each inlet and produce hydraulic information using GEOPAK DRAINAGE software and TXDOT Drainage Design Criteria
- C. Storm Drain Calculations
- D. Produce runoff, inlet and storm drain data sheets
- E. Produce drainage plan and profile sheets
- F. Produce lateral profile sheets
- G. Devise temporary drainage facilities for the anticipated phased construction
- H. Special Shoring plan sheets
- I. Drainage Detail Sheets

**6.3 – SW3P and Erosion Control**

- A. Erosion Control plans with notes (assume four phased construction)
- B. Storm Water Pollution Prevention Plans (SW3P)
- C. Erosion Control Details
- D. EPIC

**6.4 – Water Quality-Horizontal Sand Filter Systems**

- A. Produce Water Quality Facility layouts (assume 3 sheets)
- B. Water Quality Detail sheets (assume 15 sheets)
- C. Produce Water Pollution Abatement Plan
- D. Coordination with TCEQ/Submittal of WPAP

**TASK 7 – SIGNING PAVEMENT MARKINGS AND SIGNALIZATION**

The Engineer will design the following miscellaneous roadway detail sheets:

**7.1 – Pavement Markings**

- A. Pavement Marking Plan Sheets

**7.2 – Small Signing**

- A. Small Sign Layouts
- B. Small Sign Details

### **7.3 – Signalization**

- A. Signalization-produce traffic signal plans for permanent mast arm signals at Cornerwood, Great Oaks, and Wyoming Springs. Traffic signals will include intersection illumination incorporated with the signal design.
- B. Coordination with TXDOT traffic signal reviewers
- C. Produce a maximum of two temporary traffic signal layouts in support of phased construction

## **TASK 8 – MISCELLANEOUS ROADWAY**

### **8.1 – Traffic Control Plan**

- A. Traffic Control Typical Sections
- B. Narrative overview for each stage of construction
- C. Advanced warning signs
- D. Traffic control plans-three (3) phases
- E. Develop conceptual detour layouts for application for side street closures

Cross section design for each phase of construction is not included in the scope of work.

### **8.2 – Retaining Walls**

For this project the retaining walls will be designed as concrete block retaining walls:

- A. Retaining wall layouts
- B. Retaining wall details-this item is limited to one (1) detail sheet.

Per the direction of the GEC, geotechnical borings and slope stability analyses are excluded from this scope so the plans & specifications will require this exploration and engineering work be done by the contractor.

### **8.3 – Quantity Estimates, Summary Tables, Construction Cost Estimates, & General Notes**

- A. Develop Quantity Estimates for the 45%, 90% and Final Plan Submittals
- B. Develop Construction Cost Estimates for 45%, 90% and Final Plan Submittal
- C. Develop Summary Quantity Tables for 90% and Final Plan Submittal.
- D. Develop General Notes from standard notes provided by the County and TXDOT. Edit general notes for specific project issues. Add project specific general notes. Prepare general notes for inclusion in the plans and manual (see 8.6).

### **8.4 – Standard Sheets**

- A. Select appropriate TXDOT Standard Sheets for inclusion in the plans. Prepare title blocks for summary sheets. Estimated 85 standard sheets
- B. Modified Standard Sheets-modified standard sheets are not included. Modified standard sheets can be provided with a supplemental agreement.

### **8.5 – Construction Timeline**

- A. Develop Construction Contract Timeline Determination using critical path methods using Microsoft Project or comparable scheduling program. Submit construction timeline at 45%, 90% and final submittal



**8.6 – Project Construction Manual**

- A. Develop Project Construction Manual. Submit with 90% and final submittal.
- B. The Engineer will coordinate with County for determining particular needs for developing applicable special provisions. Accelerated construction strategies in the and/or calculating road user costs is not included in this proposed scope of services
- C. The Engineer will coordinate with County to develop Project Construction Manual (PCM) in accordance with the Williamson County PS&E Road Bond manual

**8.7 – Bid Phase Services**

- A. The Engineer will provide assistance to County during the letting process and provide copies of the plans and PCM to the County.
- B. The Engineer will attend one (1) pre-bid meeting and at this meeting provide an overview of the project, and provide answers to contractor questions.
- C. The Engineer will answer contractor questions as needed and issue approved addendums as required during the bid process.
- D. Provide tabulation and review of bids received and submit a letter to the GEC recommending contract award to the lowest qualified bidder

**8.8 – Plan Submittal Requirements**

- A. 45% Submittal: 45% Submittal per Williamson County checklist
- B. 90% Submittal: 90% Submittal per Williamson County checklist
- C. 100% Submittal: 100% Submittal per Williamson County checklist



The following items are excluded from the proposed scope of services offered under this proposal:

1. Geotechnical testing for retaining walls or slope stability.
2. Field surveying.
3. Developing modified standard detail sheets.
4. Attending Value Engineering sessions.
5. Sidewalk design other than modifications of sidewalks disturbed due to construction activities.
6. Additional median breaks and/or driveways and turn lane revisions from the project schematic submitted on 11/12/2010.
7. Presentations/meetings with local organizations such as Chambers of Commerce, CAMPO, CAPMetro, City Councils, Williamson County Commissioners Court, civic/neighborhood groups.
8. Updating or further developing the adjacent property owners Project Mailing List.
9. Preparing and submitting the notice of intent (NOI) for SW3P activities to the TCEQ.
10. Performing public involvement (beyond tasks identified above).
11. Exposing and tying existing underground utilities/facilities (beyond tasks identified above).
12. Researching private drainage systems and incorporating into proposed drainage design.
13. Developing alternate facilities designs (i.e. steel superstructure and concrete superstructure for bridges, etc.).
14. Performing pavement corings to verify existing pavement thicknesses. Performing forensic pavement analyses.
15. Performing traffic impact studies (beyond tasks identified above).
16. Designing landscaping and irrigation/sprinkler facilities.
17. Designing hardscape (enhanced flatwork) facilities.
18. Designing noise abatement facilities.
19. Developing wetland, tree, etc. mitigation plans/designs.
20. Designing pavement structure drainage systems.
21. Designing storm water pump stations.
22. Coordinating design with FEMA. Preparing LOMR/CLOMR.
23. Designing public and/or franchised utility adjustments or systems.
24. Performing TDLR coordination or fees associated with TDLR reviews
25. Confirming and resetting project control monumentation if disturbed by others (i.e. utility companies, mowing operations, etc.).
26. Providing right-of-way acquisition services (i.e. property valuations, damages assessments, condemnation assistance/services, negotiations, relocation assistance, property management, serving as right-of-way agent, etc.).
27. Design of improvements/modifications to private facilities (i.e. sprinkler systems, security systems, parking facilities, temporary perimeter fences, etc.) to accommodate the proposed improvements.
28. Developing additional alternatives than previous studies; developing, revising or completing schematics for "build" alternatives east of Deep Wood Drive.
29. Iterating design tasks, or portions thereof, after a design issue consensus has been reached or due to receipt of instructions or information contrary to previous directives and information or due to revisions in design criteria.
30. Providing boundary survey services or other legal instruments for right-of-way acquisition or easements.

ANY ADDITIONAL SERVICES REQUIRED BEYOND THOSE SPECIFICALLY IDENTIFIED IN THIS PROPOSAL ARE BEYOND THE SCOPE OF SERVICES TO BE PROVIDED UNDER THIS PROPOSAL. ANY REQUIRED ADDITIONAL SERVICES WILL BE SEPARATELY IDENTIFIED AND NEGOTIATED AND SUCH ADDITIONAL SCOPE AND COMMENSURATE FEE WILL BE

**RM 620 SAFETY IMPROVEMENTS-PS&E  
FROM CORNERWOOD TO WYOMING SPRINGS**

**SCOPE OF SERVICES  
WORK AUTHORIZATION #5**

EXECUTED/AUTHORIZED UNDER A SUPPLEMENTAL AGREEMENT TO THIS PROPOSAL/CONTRACT.

Consultant/Engineer will provide all equipment, material, labor and supplies (except as shown on EXHIBIT A) necessary to accomplish the Project Tasks.

The work will be performed in accordance with, but not limited to, the following manuals and standards:

1. Standard Specifications for Construction of Highways, Streets, and Bridges, 2004 - TxDOT.
2. Bridges and Structures Operation and Planning Manual - TxDOT.
3. Bridges and Structures Hydraulic Manual - TxDOT.
4. Bridges and Structures Design Examples - TxDOT.
5. Standard Specifications for Highway Bridges - AASHTO.
6. TxDOT Roadway Design Manual.
7. TxDOT Environmental Manual.
8. A Policy on Geometric Design of Highways and Streets, 2004 AASHTO.
9. Highway Capacity Manual Special Report 209 - Texas Research Board (TRB)
10. Technical Advisory T6640.8A - FHWA.
11. Noise Guidelines - TxDOT.
12. Air Quality Guidelines - TxDOT.
13. Texas Manual on Uniform Traffic Control Devices - TxDOT.
14. Standard Highway Sign Designs for Texas - TxDOT.
15. Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals - AASHTO.
16. Utility Accommodation Policy - TxDOT.
17. Utility Manual - TxDOT.
18. Code of Federal Regulations, Title 23 - "Highway" - Federal Register.
19. Administrative Order No. 5-89 - Signing, Sealing and Dating of Engineering Documents. - TxDOT.
20. Administrative Circular No. 26-91 - Minimum Signing, Sealing and Dating Procedures for Department Engineering Documents - TxDOT.
21. Guide for the Development of Bicycle Facilities, 2002 - AASHTO.
22. Code of Federal Regulations, Title 49 - "Transportation" - Federal Register.
24. Right-of-Way Manual - TxDOT.
25. U.S. Army Corps of Engineers Wetland Delineation Manual of 1987.
26. Williamson County Road Bond Program Design Criteria, latest edition.

NOTES: (1) All designs shall be in accordance with the above references, except where variances are permitted in writing by the State or FHWA.

(2) Engineer is responsible for purchasing all reference items/manuals required to complete Project TASKS/Subtasks.

**RM 620 SAFETY IMPROVEMENTS-PS&E  
FROM CORNERWOOD TO WYOMING SPRINGS**

**SCOPE OF SERVICES  
WORK AUTHORIZATION #5**

Engineer/Consultant will perform the services to be provided under this agreement out of Engineer's/Consultant's office(s) as listed below:

Service

Office Location

Engineer

Halff Associates, Inc.

Work effort will be managed out of the Austin office located at:

4030 West Braker Lane, Suite 450  
Austin, TX 78759



**EXHIBIT C**

**SCHEDULE OF SERVICES PROVIDED BY ENGINEER FOR  
ENGINEERING PLANS, SPECIFICATIONS & ESTIMATES FOR RM 620 SAFETY  
IMPROVEMENTS FROM CORNERWOOD DRIVE TO WYOMING SPRINGS DRIVE  
IN WILLIAMSON COUNTY**

♦ Contract Execution/ Notice to Proceed	November 15, 2010
♦ Submit 45% Plans-Begin Plan Review	December 8, 2010
♦ Williamson County/TXDOT Review Completed on	December 22, 2010
♦ Submit 90% Plans-Begin Plan Review	January 24, 2011
♦ Williamson County/TXDOT Review Completed on	January 31, 2011
♦ Submit 100% Plans	February 18, 2011
♦ Submit final bid package for letting	April 1, 2011
♦ Letting Date	May 11, 2011



## EXHIBIT "D" - RM 620 SAFETY IMPROVEMENTS

EXHIBIT D - FEE SCHEDULE																
TASK/DESCRIPTION	SHEETS	PRINCIPAL	PROJECT MANAGER	SR PE	PE	E.I.T.	ENV SCIENTIST PM	ENV SCIENTIST SR	ENV SCIENTIST JR	CADD / GIS / VIS/TECH	SURVEY MANAGER RPLS	SURVEY TECH	SURVEY SUE CREW	CLERICAL /ADMIN	TOTAL MAN- HOURS	LABOR CHARGES
I. PROJECT MANAGEMENT AND COORDINATION																
1. MONTHLY PROGRESS REPORT, INVOICES AND BILLINGS (10)																
A. SUBMIT MONTHLY INVOICES AND BILLING STATUS			16											24	40	\$3,696
B. MONTHLY PROGRESS STATUS REPORTS			8											4	12	\$1,512
D. OVERALL PROJECT STATUS		12	12												24	\$4,296
2. PROJECT COORDINATION/ADMINISTRATION																
A. COORDINATION		10	24	8											42	\$7,012
C. ADMINISTRATION		16	12											8	36	\$5,392
D. PROJECT MEETINGS (8)			16	16										8	40	\$5,184
E. PROJECT O&OC		12	16	40	40										108	\$14,808
F. DATA TRANSFERS			4		16									16	36	\$3,120
G. DOCUMENT PRINTING/DISTRIBUTION			4		24	16								20	64	\$5,584
SUBTOTAL HOURS/COSTS																
		50	112	64	80	16								80	402	\$50,604
II. UTILITY COORDINATION/ SUBSURFACE UTILITY ENGINEERING																
2.2A QUALITY LEVEL B SUE					16						4	2	104		126	\$14,648
2.2B QUALITY LEVEL A: 16 LOCATES (TEST HOLES)					4						1		70		75	\$8,619
2.3B1a UTILITY AGREEMENTS				16	40									4	60	\$6,768
2.3B1b UTILITY PERMITS				16	40										56	\$6,800
2.4A UTILITY LAYOUT				2	8					16					26	\$2,230
2.4B MEETINGS WITH UTILITIES & COUNTY				40	40									4	84	\$10,008
2.4C REVIEW PS&E				24	60										84	\$9,000
2.4D PROPOSED UTILITY LAYOUT				2	8					16					26	\$2,230
SUBTOTAL HOURS/COSTS																
				100	216					32	5	2	174	8	537	\$61,203
III. RIGHT-OF-WAY DATA																
A. DETERMINE TCE FOR DRIVEWAYS																
B. DEVELOP TCE EXHIBITS FOR DRIVEWAYS	19					19				19					38	\$2,945
C. DETERMINE NON DRIVEWAY TCE	2					4				4					8	\$620
SUBTOTAL HOURS/COSTS																
						23				23					46	\$3,565
IV. FIELD SURVEYING																
SUBTOTAL HOURS/COSTS																
V. ROADWAY DESIGN																
1. MISCELLANEOUS PLANS																
A. TITLE SHEET	1				2	8									10	\$926
B. DETAILED INDEX OF SHEETS	2			2		12				4					18	\$1,594
C. PROJECT LAYOUT @ 1"=200 FEET	3				8	32				16					56	\$4,776
2. ROADWAY PLANS AND GEOMETRY																
A. EXISTING TYPICAL SECTIONS	1				4	12				8					24	\$2,036
B. PROPOSED TYPICAL SECTIONS	5		4	4	8					40					56	\$4,780

Exhibit D RM 620 Safety Improvements PS&amp;E v3.xls:

Haff Associates Inc.

## EXHIBIT " D " - RM 620 SAFETY IMPROVEMENTS

EXHIBIT D - FEE SCHEDULE																
TASK/DESCRIPTION	SHEETS	PRINCIPAL	PROJECT MANAGER	SR PE	PE	E.I.T.	ENV SCIENTIST PIA	ENV SCIENTIST SR	ENV SCIENTIST JR	CADD / GIS / VIS/TECH	SURVEY MANAGER RPLS	SURVEY TECH	SURVEY/ SUE CREW	CLERICAL / ADMIN	TOTAL MAN- HOURS	LABOR CHARGES
C ROADWAY PLAN AND PROFILE SHEETS 1"=50' HORIZONTAL	18		4		24	140				80					248	\$21,016
D SURVEY CONTROL PLAN SHEETS	1		2		4					8	2				16	\$1,546
E HORIZONTAL ALIGNMENT DATA SHEETS	2				4	8				8					20	\$1,684
F SUPERELEVATION DATA SHEETS	1		2		4										6	\$780
G REMOVAL PLANS	10			10	16	40				40					106	\$9,326
3 GRADING AND DETAILS																
A DESIGN CROSS SECTIONS	56				32	60				24					116	\$10,440
B INTERSECTION LAYOUTS	6				16	60				16					92	\$8,128
C DRIVEWAY TABULAR DETAIL SHEETS	3					20				16					36	\$2,832
D DRIVEWAY PROFILE SHEETS	5				16	40									56	\$5,296
E MISCELLANEOUS ROADWAY DETAIL SHEETS	2			8		24				16					48	\$4,264
SUBTOTAL HOURS/COSTS	117		12	24	138	456				278	2				908	\$79,424
VI. DRAINAGE DESIGN																
1 CULVERT AND CHANNEL DESIGN																
A CULVERT HYDRAULIC DATA SHEETS	1			10		24				12					46	\$4,266
B EXTERIOR DRAINAGE AREA MAPS	2			4		12				12					28	\$2,400
C CULVERT LAYOUTS	5	4	2	10	20	40				28					104	\$10,062
D BOX CULVERT SUPPLEMENT	1			4	4	8				8					24	\$2,224
E GRADING SHEETS	5			8		32				20					60	\$5,236
2 STORM DRAIN DESIGN																
A INTERIOR DRAINAGE AREA MAPS	20			8	16	40				20					84	\$7,716
B RUNOFF CALCULATIONS		2			16	40									58	\$5,676
C STORM DRAIN CALCULATIONS					30	60									90	\$8,610
D STORM DRAIN HYDRAULIC DATA SHEETS	28				2	8				16					26	\$1,998
E DRAINAGE PLAN AND PROFILE SHEETS	30		8	24	80	160				160					432	\$38,264
F DRAINAGE LATERAL PROFILE SHEETS	10			12	20	80				24					136	\$12,488
G TEMPORARY DRAINAGE DESIGN FOR PHASED CONSTRUCTION	5		8	24	24	36									92	\$10,416
H TEMPORARY SHORING SHEETS	3			4	16					16					36	\$3,388
I DRAINAGE DESIGN DETAILS & CUSTOM INLET & JUNCTION BOXES (2)	4		2	16	40					20					78	\$8,276
3 SW3P AND EROSION CONTROL PLANS																
A EROSION CONTROL PLANS	10				8	60				80					148	\$11,528
B SW3P PLAN SHEETS	4		2		2	16									20	\$1,866
C EROSION CONTROL DETAILS	2				2	16				8					26	\$2,166
D EPIC	1				6	12	4			4					26	\$2,518
3 WATER QUALITY-HORIZONTAL SAND FILTER																
A WATER QUALITY LAYOUTS (3 PONDS)	6			20	24	80				48					172	\$15,620
B WATER QUALITY DETAIL SHEETS	8			20	40	80				48					188	\$17,396
C WPAP		2	12	24	40	40									118	\$13,596
D COORDINATION WITH TCEQ/SUBMIT WPAP			16	30											46	\$6,738
SUBTOTAL HOURS/COSTS	137	8	50	218	390	844	4			524					2038	\$192,548
VII. SIGNING, PAVEMENT MARKINGS, SIGNALIZATION																
1 PAVEMENT MARKING PLAN SHEETS	10			4	24	60				40					128	\$11,164
2 SMALL SIGNS																
A SMALL SIGN LAYOUTS TO BE SHOWN ON PAVEMENT MARKING SHEETS					20	40				20					80	\$7,080



## EXHIBIT " D " - RM 620 SAFETY IMPROVEMENTS

EXHIBIT D - FEE SCHEDULE																
TASK/DESCRIPTION	SHEETS	PRINCIPAL	PROJECT MANAGER	SR PE	PE	E.I.T.	ENV SCIENTIST PM	ENV SCIENTIST SR	ENV SCIENTIST JR	CADD / GIS / VIS/TECH	SURVEY MANAGER RPLE	SURVEY TECH	SURVEY/ SUE CREW	CLERICAL / ADMIN	TOTAL MAN- HOURS	LABOR CHARGES
B SMALL SIGN DETAILS	1				4	20									24	\$2,204
3 SIGNALIZATION																
A TRAFFIC SIGNAL PLANS CORNERWOOD, GREAT OAKS, WYOMING SPRINGS INCLUDING SAFETY ILLUMINATION AT INTERSECTIONS	33		8	36	70	80				100					294	\$27,714
B COORDINATION WITH TXDOT SIGNAL REVIEWERS			4	20											24	\$3,372
C TEMPORARY TRAFFIC SIGNALS			4	24	40	80				80					228	\$20,752
SUBTOTAL HOURS/COSTS	44		16	84	158	280				240					778	\$72,286
VIII MISCELLANEOUS ROADWAY																
1 TRAFFIC CONTROL PLAN																
A TRAFFIC CONTROL TYPICAL SECTIONS	6			20	36	60				32					148	\$14,120
B NARRATIVE OVERVIEW OF EACH PHASE OF CONSTRUCTION	1			4	8	4									16	\$1,780
C ADVANCED WARNING SIGN LAYOUT	4			4	4	20				32					60	\$4,888
D TRAFFIC CONTROL PLANS BASED ON THREE PHASES	30		16	24	140	160				140					480	\$44,928
E DETOUR ROUTING LAYOUT FOR SIDE STREET CLOSURES	4				16	28									44	\$4,240
2 RETAINING WALLS																
A RETAINING WALLS LAYOUTS	6		2	40		60									102	\$11,016
B RETAINING WALL DETAILS	1			4		8				12					24	\$2,048
3 QUANTITIES, SUMMARY TABLES, CONSTRUCTION COST ESTIMATE																
A QUANTITY ESTIMATES (45%, 90%, & FINAL SUBMITTALS)	6				32	64									96	\$9,184
B CONSTRUCTION COST ESTIMATES (45%, 90%, & FINAL SUBMITTALS)			4	4	12	24									44	\$4,656
C SUMMARY QUANTITY TABLES	12					24				48					72	\$5,328
D GENERAL NOTES	5		2	4	16					4					26	\$2,920
4A SELECT AND PREPARE STANDARD DETAIL SHEETS (EST. 80 SHEETS)	80		2	8	4	20				20					54	\$4,960
5 DEVELOP CONSTRUCTION TIMELINE (90% AND FINAL SUBMITTAL)			4	16		8									28	\$3,536
6 PROJECT CONSTRUCTION MANUAL																
A DEVELOP PCM-90% AND 100%			2	4		16								8	30	\$2,620
B DEVELOP APPLICABLE SPECIAL PROVISIONS			2	4	20										26	\$3,096
C COORDINATE WITH WILCOGEC PCM			2	6											8	\$1,146
7 BID PHASE SERVICES																
A ASSIST DURING LETTING PROCESS					2									8	10	\$558
B ATTEND 1 PRE BID MEETING			4	4											8	\$1,212
C RESPOND TO CONTRACTOR QUESTIONS AND ISSUE ADDENDUMS			8		8	16									32	\$3,640
D PREPARE BID TABULATION AND RECOMMEND AWARD			2		8										10	\$1,224
SUBTOTAL HOURS/COSTS	157		50	146	306	512				288				16	1318	\$127,100
FEE SUMMARY																
I PROJECT MANAGEMENT AND COORDINATION		50	112	64	80	16								80	402	\$50,604
II UTILITY COORDINATION/ SUBSURFACE UTILITY ENGINEERING				100	216					32	5	2	174	8	537	\$61,203
III RIGHT-OF-WAY DATA						23				23					46	\$3,565
IV FIELD SURVEYING																
V ROADWAY DESIGN CONTROLS	117		12	24	138	456				276	2				908	\$79,424
VII DRAINAGE DESIGN	137	8	50	218	390	844	4			524					2038	\$192,548
VIII SIGNING, PAVEMENT MARKINGS, SIGNALIZATION	44		16	84	158	280				240					778	\$72,286
VIII MISCELLANEOUS ROADWAY	157		50	146	306	512				288				16	1318	\$127,100

EXHIBIT "D" - RM 620 SAFETY IMPROVEMENTS

EXHIBIT D - FEE SCHEDULE																	
TASK/DESCRIPTION		SHEETS	PRINCIPAL	PROJECT MANAGER	SR PE	PE	E.I.T.	ENV SCIENTIST PM	ENV SCIENTIST SR	ENV SCIENTIST JR	CAAD / GIS / VISTECH	SURVEY MANAGER RPLS	SURVEY TECH	SURVEY/ SUE CREW	CLERICAL / ADMIN	TOTAL MAN- HOURS	LABOR CHARGES
TOTAL HOURS		455	58	240	636	1288	2131	4			1383	7	2	174	104	6027	\$586,730
CONTRACT RATES (\$)			\$190.00	\$168.00	\$135.00	\$111.00	\$88.00	\$132.00	\$86.00	\$67.00	\$67.00	\$115.00	\$70.00	\$118.00	\$42.00		
BASE SALARIES & REIMB'S TOTAL			\$11,020	\$40,320	\$85,860	\$142,968	\$187,528	\$528			\$92,661	\$805	\$140	\$20,532	\$4,308		\$586,730
TOTAL BY CATEGORY			2%	7%	15%	24%	32%	0%			16%	0%	0%	3%	1%	100%	\$586,730
TOTAL FEE																	\$586,730
DIRECT EXPENSE DETAIL																	
	ITEM	NUM	PRICE	TOTAL													
	11" X 17" PAPER	16200	\$0.20	\$3,240													
	Utility Test Holes	16	\$400.00	\$6,400													
	WPAP Permit Application	1	\$6,500	\$6,500													
	Deliveries	20	\$15.00	\$300													
	MYLARS	500	\$1.00	\$500													
	MILEAGE	1100	\$0.50	\$550													
				\$17,490													