AMENDMENT
To the
PROFESSIONAL SERVICES CONTRACT (04-062)
Between
CITY OF COLLEGE STATION and MALCOLM PIRNIE, INC.

Project Number: 3838-028, 3838-043, and 3838-044

A **Contract** was executed on March 10, 2004, between the City of College Station [**City**], having its principal place of business at 1601 Graham Road, College Station, Texas 77845, and Malcolm Pirnie, Inc. [**Contractor**], having its principal place of business at 104 Corporate Park Drive, White Plains, New York 10602, and having an office at 12221 Merit Drive, Suite 1050, Dallas, Texas 75251.

Under the Contract, Contractor provides certain professional engineering services related to Engineering Design and Construction Management of Water Production Facilities Capital Improvements [**Project**] in College Station [**Site**], Texas [**State**].

City and Contractor now desire to amend the Contract to include the amended Services as described below.

In consideration of the mutual promises in the Contract, City and Contractor agree to amend the Contract as the following:

1. **Article I – Scope of Services.** Exhibit "A" for the Project is supplemented with the Additional Scope of Services as attached herein as Exhibit "A1".

2. **Article II – Payment.** Amend the not to exceed amount from "five hundred forty one thousand six hundred eighty five" to "one million fifty two thousand two hundred seventy seven", a net increase of five hundred ten thousand five hundred ninety two dollars ($510,592).

3. **Article III – Time of Performance**. In Section 3.01, amend the time of completion from "August 1, 2005" to "August 1, 2006". Exhibit "E" for the Project is supplemented with the schedule for amended work as attached herein as Exhibit "E1".

   In Section 3.08, amend the construction cost from "$1,558,000" to "4,510,000".

4. **Exhibit "B" – Payment Terms**. Amend the payment amounts for program management, preliminary design, final design, bidding and construction as follows:

Item	Prior Amounts	Amount of Amendment	Total
❑ Phase 100 – Emergency Response Plan	$ 44,340	$ -0-	$44,340
❑ Phase 200 – Dowling Road Pump Station			
○ Chemical Feed Bldg	$305,118	$ -0-	$305,118
○ Security Improvements	$ -0-	$145,795	$145,795
❑ Phase 300 – Emergency Generators / Security			
○ System Assessment / Generator Procurement	$129,868	$ -0-	$129,868
○ Design, Bid and Construction	$ -0-	$248,427	$248,427
❑ Phase 400 – Drainage Facilities			
○ Drainage Assessment	$62,359	$ -0-	$62,359
○ Design, Bid and Construction	$ -0-	$116,370	$116,370

Other Provisions. Except as amended herein, all other provisions, terms and conditions in the Contract shall remain in full force and effect.

Execution Authority. This Amendment to the Contract is a valid and authorized undertaking of City and Contractor. The representatives of City and Contractor who have signed below have been authorized to do so.

IN WITNESS WHEREOF, the parties hereto have made and executed this Amendment to the Contract as of this date:

_____, 2004.

CITY OF COLLEGE STATION, TEXAS

By _____

RON SILVIA

Title Mayor

MALCOLM PIRNIE, INC.

By _____

Title Vice President

Witness _____

ATTEST:

_____

Connie Hooks, City Secretary

APPROVED:

_____

Thomas E. Brymer, City Manager

_____

Jeff Kersten, Finance and Strategic Planning Director

_____

City Attorney

EXHIBIT "A1"

SCOPE OF SERVICES

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200. DOWLING ROAD PUMP STATION MODIFICATIONS AND SECURITY DESIGNS

Malcolm Pirnie, Inc. (ENGINEER) will perform professional engineering services to conduct preliminary design, final design, bidding, and construction phase services for various miscellaneous modifications and design of security measures at the Dowling Road Pump Station (PROJECT).

A. BID PACKAGE

The scope of services and fee is based on incorporating these improvements with the design, bidding and construction phase services for the Chemical Feed & Storage Facilities work, described in the original contract.

B. DETAILED TASK DESCRIPTIONS

ENGINEER will perform Engineering Services for Design of the PROJECT as detailed in the following tasks.

Task 200.1 – Architectural and Structural Evaluation and Design

Evaluation and comparison of architectural features for the new chlorine feed and storage facilities and existing building to determine the architectural "approach" for the site and to provide a similar architectural concept to match the City's Carter's Creek Wastewater Treatment Plant buildings (includes a comparison of potential costs, discussions with the City, and a comparison of roof design options and costs). Architectural and Structural detailed design for improvements to the existing building exterior (to include a CMU wainscot veneer around the building and improvements to the building's main entrance canopy); addition of a new CMU screen wall to "screen" the base of the existing antenna tower and electrical equipment adjacent to the existing building.

Task 200.2 – Civil / Site Landscape Design

Civil / Site detailed design for landscape improvements at the front entrance area of the existing building (limited to the area along the front face of the building).

Task 200.3 – Additional Evaluations

Conduct evaluation / comparison of gaseous chlorine to liquid hypochlorite systems, research of bulk liquid chlorine storage versus container storage and development of multiple site alternatives and orientation of chlorine facilities.

Task 200.4 – Replacement and Additional Chemical Injection Points Design

Detailed design for new fluoride and chlorine feed injection points at the existing site to replace the existing chemical feed manhole and to provide chlorine feed point at the pump station suction header. Modifications include re-routing of the existing fluoride feed yard piping to the new feed point. This task also includes modifications to remove the existing feed manhole and replace a segment of the pump station discharge piping at the existing feed location.

Task 200.5 – Security Measures at Dowling Road Pump Station

Detailed design, bidding assistance, and construction phase services for security improvements recommended at the Dowling Road Pump Station, as recommended in Technical Design Memorandum – Conceptual Security Design dated August 23, 2004.

Task 200.6 – Security Measures Design at Utility Service Center

Detailed design, bidding assistance, and construction phase services for security improvements recommended at the Utility Service Center, as recommended in Technical Design Memorandum – Conceptual Security Design dated August 23, 2004.

Deliverables

- Drawings and specifications at the 50%, 90% and final completion.
- Opinion of probable construction costs.

300. ELECTRICAL POWER GENERATION AND SECURITY DESIGNS

The City of College Station (OWNER) intends to add electrical power generation and security measures at their critical water production and wastewater treatment facilities. The electrical power generation will provide electrical power for times when electrical service is interrupted or to offset peak electrical demands. Malcolm Pirnie, Inc. (ENGINEER) will perform professional engineering services to design electrical improvements to incorporate generators. In addition, the design of security measures will be included, as recommended in Technical Design Memorandum – Conceptual Security Design dated August 23, 2004. The following is a list of the elements that form the basis of the scope of work and fee proposal.

Electrical Hookups for Engine Generators

- Electrical gear and accessories for hook-up of electrical generators for two groundwater well sites (No. 4 and 5); Sandy Point Pump Station; Dowling Road Pump Station; and Carters Creek Wastewater Treatment Plant.

Security Measures

- Security measures for six groundwater well sites; Sandy Point Pump Station; and Carters Creek Wastewater Treatment Plant.

A. BID PACKAGE

The scope of work and fee is based on the preparation and bidding of one construction contract.

B. PROJECT PHASES

The professional engineering services for the electric generator equipment specifications and procurement documents will be divided into the following phases:

- Final Design Phase
- Bid Phase
- Construction Phase

The individual tasks to be provided are described below.

C. FINAL DESIGN PHASE

ENGINEER will perform Final Design Services for the PROJECT as detailed in the following tasks.
Prepare six progress reports documenting progress made during the PROJECT, as well as any issues that require resolution.

Task 300.1 – Deliverable Review Workshops

Coordinate and attend deliverable review workshops to obtain and discuss OWNER review comments on design document submittals. These workshops are anticipated to occur at the 50, 90, and 100 percent design milestones. A total of three (3) review meetings is anticipated and accounted for in this amendment task. A summary will be prepared to document key decisions, agreed action items, and comments from each workshop.

Task 300.2 – Prepare Drawings and Specifications

Prepare detailed drawings for the Construction Contract to include civil and electrical design drawings for improvements related to the installation of generator units at two (2) of the OWNER's well sites, the Sandy Point Pump Station site, Dowling Road Pump Station site, and Carters Creek Wastewater Treatment Plant site. The drawings will also incorporate site access improvements and security provisions at all of the well sites, Sandy Point Pump Station site, and Carters Creek Wastewater Treatment Plant site. Drawings will be prepared in electronic format. The design will incorporate applicable Malcolm Pirnie and OWNER's standards. The basis of document preparation will be as delineated in the previously submitted electrical

power generation technical memorandum. Substantial deviations from the technical memorandum are not budgeted and will be considered an additional service.

Specifications for the Construction Contract will be prepared using the sixteen-division, modified three-part format of the Construction Specifications Institute. Front-end documents (Division 0) will be the OWNER's standard documents as modified by Malcolm Pirnie in the Special Conditions. The remaining technical specifications will be prepared by the ENGINEER using Malcolm Pirnie documents and the OWNER's standard requirements as applicable.

Meet with the OWNER to discuss operational issues and facility shut-down(s) for construction. Prepare a Maintenance of Operations specification section to define the time limitations and work sequence for constructing miscellaneous site improvements and installing the electrical power generation units while maintaining continuous operations.

At the 50 and 90 percent milestones submit five (5) half-size (11x17 inch) copies of the drawings and/or electronic version of documents to the OWNER for review. At the 50 percent milestone, five paper copies and/or one electronic copy of the Division 1 specifications will be furnished and table of contents delineating the remaining sections. At the 90 percent milestone, five copies of the complete specifications and/or one electronic copy will be submitted. It is anticipated that the OWNER will review the deliverables within two weeks after receipt for the 50 percent set and three weeks for the 90 percent set. The ENGINEER will provide detailed written confirmation of the changes resulting from the OWNER's review of the documents.

Task 300.3 – Opinion of Probable Construction Costs

Prepare an opinion of probable construction cost for the Construction Contract, which includes summaries of bid items and quantities as appropriate. Provide one electronic copy of the opinion of probable construction costs at the 50 and 90 percent design points and a final cost opinion of the anticipated construction cost prior to bid.

Task 300.4 – Quality Assurance and Control

All work products will receive an in-house quality review by at least one of Malcolm Pirnie's quality consultants designate. This includes review of the drawings and specifications at the 50 and 90 percent design milestones.

Task 300.5 – Progress Reports

Prepare monthly progress report documenting progress made on the PROJECT, as well as any decisions to be made and by whom and issues that require resolution to maintain progress.

Final Design Phase Deliverables

- Deliverable review workshop meetings with summary
- Drawings and specifications at 50 and 90 percent completion, as described above (5 copies of each)
- Opinion of probable construction cost at the 50 and 90 percent and final design milestones
- Progress reports

D. BID PHASE

ENGINEER will perform Bid Services for the Construction Contract as detailed in the following tasks following completion of Final Design Services.

Task 300.6 – Reproducible Contract Documents

Furnish one (1) set of reproducible bid packages, drawings, specifications for reproduction and distribution by the OWNER.

Task 300.7 – Bidding Assistance

Assist the OWNER in bidding the Construction Contract including: Furnish the necessary project description for the advertisement of the project by the OWNER. The OWNER will pay the cost of advertisement in newspapers and periodicals Document inquiries from prospective bidders. The necessary responses to the prospective bidders will be provided in the form of written addenda. Prepare addenda and submit to the OWNER for OWNER'S distribution to drawing holders. Two (2) addenda are anticipated. Preside at a pre-bid meeting for the Construction Contract at the OWNER'S facilities and subsequent tour of the PROJECT sites.

Task 300.8 – Bid Opening and Evaluation

Attend bid opening for the Construction Contract at the OWNER'S facilities. Evaluate bids and prepare letter of recommendation of award to the OWNER. One member of the ENGINEER'S team will attend the bid opening.

Task 300.9 – Prepare Formal Contract Documents

Assist the OWNER in the preparation of conforming Contract Documents for execution by the successful bidder of the Construction Contract.

Bid Phase Deliverables

- Reproducible sets of drawings and specifications for OWNER reproduction
- Advertisement description for the project
- Telephone memos of the bidder inquiries
- Addenda
- Recommendation of award
- Conforming copies of the Construction Contract Documents

E. CONSTRUCTION PHASE

Provide construction phase services including:

Task 300.10 – Notice to Proceed

Subsequent to execution of the Construction Contract Documents by the OWNER and the Construction Contractor, the OWNER will issue the Notice to Proceed to the Construction Contractor.

Task 300.11 – Preconstruction Submittals

Upon issuance of the Notice to Proceed, the ENGINEER shall receive and review Construction Contractor's preconstruction submittals including, but not limited to, lists of subcontractors, critical path schedules, schedule of values, progress and cash flow schedules, and submittal log. The ENGINEER will notify the Construction Contractor of any incomplete items or omissions and work with the Construction Contractor until a complete and correct set of preconstruction submittals has been accomplished.

Task 300.12 – Preconstruction Conference

The ENGINEER shall schedule and convene, in conjunction with the OWNER, the preconstruction conference for the Construction Contract at the OWNER'S facilities to discuss general and specific requirements for fulfilling the Construction Contract. The ENGINEER will explain the contract requirements related to site access, operational interfaces, reporting, schedule and cost management, lines of communication, quality control, and other administrative requirements. The ENGINEER will prepare an agenda at least one week in advance of the meeting, prepare a summary of the conference, and distribute the summary to all attendees.

Task 300.13 – Review Submittals and Shop Drawings

Submittals from the Construction Contractor will be received, logged, distributed to the OWNER, and reviewed by the ENGINEER. Applicable OWNER review comments, which are received in a timely fashion, will be combined with the ENGINEER'S review comments. These submittals will then be distributed back to the Construction Contractor and other recipients within twenty-one (21) calendar days

of ENGINEER'S receipt. These submittals shall include shop drawings and material and equipment samples. The ENGINEER will maintain a submittal log describing the current status of all the Construction Contractor's submittals. The ENGINEER will maintain a submittal file that will contain a copy of all interim and final submittals by the Construction Contractor. Should Construction Contractor's submittal require more than two reviews by the ENGINEER, further review by the ENGINEER of that submittal shall be compensated by the Construction Contractor for City to reimburse the ENGINEER for these additional services.

Task 300.14 – Interpretations and Clarifications

The ENGINEER shall issue all instructions of the OWNER to the Construction Contractor pertaining to the ENGINEER'S design; issue necessary interpretations and clarifications of the Construction Contract Documents; have authority, as the OWNER'S representative, to require special inspection or testing of the work; act as initial interpreter of the requirements of the Construction Contract Documents and judge the acceptability of the Work; and make decisions on all questions of the OWNER and the Construction Contractor relating to the acceptability of the work or the interpretation of the requirements of the Construction Contract Documents pertaining to the execution and progress of the work. Requests for Information, Requests for Field Alteration, and Field Alterations will be received, logged, and reviewed. Responses will be distributed to the Construction Contractor and copied to the OWNER within seven days of ENGINEER'S receipt.

Task 300.15 – Periodic Visits to the Construction Site

The ENGINEER'S Design Staff shall make up to five (5) visits to the PROJECT sites concurrent with construction progress meetings to observe, as an experienced and qualified design professional, the progress and quality of the executed work of the Construction Contractor and to determine, in general, if such work is proceeding in general accordance with the Construction Contract Documents. The ENGINEER'S efforts will be directed toward providing a greater degree of confidence for the OWNER that the completed work of the Construction Contractor will conform to the Construction Contract Documents, but the ENGINEER'S obligation shall not relieve the Construction Contractor of responsibility for performing the work in accordance with the Construction Contract Documents.

Task 300.16 – Review Construction Contractor's Schedule and Payment Requests

The ENGINEER shall receive and review the Construction Contractor's monthly Application for Progress Payment and progress schedules. The Contractor's payment schedule will be schedule constrained. By recommending any payment, the ENGINEER will not thereby be deemed to have represented that continuous or exhaustive examinations have been made by the ENGINEER to check the quality or quantity of the work or to review the means, methods, sequences, techniques, or procedures of construction or safety precautions or programs incident thereto, or that the ENGINEER has made an examination to ascertain how or for what purposes the Construction Contractor has used the monies paid on account of the contract price, or that title to any of the work, materials, or equipment has passed to the OWNER free and clear of any lien, claims, security interests or encumbrances, or that the Construction Contractor has completed his work exactly in accordance with the Construction Contract Documents. The recommendations of payment will constitute a representation to the OWNER that no substantial departure from the Construction Contract Documents or requirements exist. The ENGINEER will also review the Construction Contractor's progress schedule and payment schedule in accordance with the requirements of the Construction Contract Documents and request that the Construction Contractor makes any necessary adjustments.

Task 300.17 – Change Orders and Time Extensions

The ENGINEER shall develop, and provide to the OWNER and the Construction Contractor, all the change orders required for the PROJECT related to discrepancies in ENGINEER'S Construction Documents. The ENGINEER will provide the design engineering necessary to support the change orders. The ENGINEER will develop the necessary Construction Contract Documents required to support the change orders including construction drawings and specifications. The ENGINEER shall assist in telephone negotiations or coincident with scheduled progress meetings, on behalf of the OWNER, of any adjustments in the contract price that may result from the change orders. The OWNER will make the final determination as to the acceptability of the contract price adjustment. The ENGINEER shall receive, from

the Construction Contractor, and review the Construction Contractor's requests for time extensions as required for the project. The ENGINEER will notify the Construction Contractor of any inconsistencies or incomplete items in the request and work with the Construction Contractor until a satisfactory request has been developed. The ENGINEER will transmit the request to the OWNER, with a recommendation for action, for the OWNER'S acceptance and approval.

Task 300.18 – Materials Testing

The ENGINEER will review the Construction Contractor's independent laboratory test results in accordance with Construction Contract requirements and report non-conforming results to the OWNER and Construction Contractor. The ENGINEER will provide recommendations for remedial action. The ENGINEER'S participation in this program does not relieve the Construction Contractor from providing his own quality control program to ensure delivered and installed materials meet the requirement of the Specifications.

Task 300.19 – Record Drawings

The ENGINEER shall prepare for the OWNER one set of full size (22 x 34 inch) Mylar record drawings for the Construction Contract showing the changes made during construction, including changes to electrical diagrams, schematics, and other design drawings. The ENGINEER shall also provide the OWNER with two sets of half-size blue-line prints and an electronic file copy of the record drawings on a CD-ROM disc in AutoCAD. The changes made by the ENGINEER on the drawings will be based on the marked-up prints, drawings, and other data furnished by the Construction Contractor to the ENGINEER.

Task 300.20 – O&M Manuals

The ENGINEER shall receive, from the Construction Contractor, and review the operation and maintenance (O&M) manuals on each equipment item as required by the Contract between the OWNER and the Construction Contractor. The ENGINEER will notify the Construction Contractor of any incomplete items or omissions and work with the Construction Contractor until a complete and correct set of O&M manuals have been assembled. The ENGINEER will transmit completed manuals, provided by the Construction Contractor, to the OWNER at the conclusion of the review process.

Task 300.21 – Substantial Completion and Final Inspection

The ENGINEER shall participate in an inspection with the OWNER for the Construction Contract to determine if the project is substantially complete and to determine if the work has been completed in general accordance with the Construction Contract Documents. The ENGINEER will issue a Certificate of Substantial Completion should the inspection determine that such an issuance is warranted. The ENGINEER will notify the Construction Contractor and the OWNER should the inspection discover that a Certificate of Substantial Completion is not warranted at the time of the inspection. The ENGINEER shall develop and provide to the OWNER for the Construction Contract a formal pre-final punch list developed from the observations made at the inspection for Substantial Completion. The ENGINEER will then participate in a final inspection with the OWNER and the Construction Contractor to determine whether the project is complete. ENGINEER will prepare a final punch-list of items to be completed or corrected by the Construction Contractor and conduct one follow-up inspection of the site. The ENGINEER shall receive, from the Construction Contractor, and review the Construction Contractor's Final Application for Payment. The ENGINEER will notify the Construction Contractor of any incomplete items or omissions and work with the Construction Contractor until the Construction Contractor has fulfilled all the requirements of the Construction Contract Documents. Upon completion of the project by the Construction Contractor in general accordance with the Construction Contract Documents, the ENGINEER will recommend final payment by the OWNER to the Construction Contractor. The OWNER will make the final determination as to the acceptability of the Construction Contractor's Final Application for Payment.

Task 300.22 – One Year Warranty Inspection

ENGINEER will participate in an inspection with the OWNER of the facilities to determine final acceptability of the work. Deficiencies will be delivered to the OWNER in writing and the ENGINEER will work with the Construction Contractor to resolve the deficiencies. An allowance of 24 hours has been allocated to this item.

Task 300.23 – Progress Meetings

ENGINEER will conduct up to five (5) progress meetings on an as needed basis to discuss the project progress and direction and specific technical aspects of the project. All meetings under this task will be conducted at the OWNER'S office. ENGINEER will prepare and distribute a meeting agenda to the OWNER and to ENGINEER'S project team at least five (5) working days prior to each of these meetings. Within five (5) working days after each meeting, ENGINEER will prepare and distribute meeting summary to the OWNER, the Construction Contractor, and to ENGINEER'S project team.

Task 300.24 – Project Documentation

ENGINEER will maintain project records, including but not limited to progress reports, memoranda, letters, change orders, shop drawings, partial payment requests from the Construction Contractor, RFI's, RFA's, Field Alterations, and field reports.

Construction Phase Deliverables

- Review of letters for list of subcontractors, schedule of values, progress schedule, and submittal log
- Agenda and meeting summary for preconstruction conference and progress meetings
- Shop drawing review letters
- Written response to RFI'S, RFO'S, and Field Orders
- Letter recommending partial payment requests
- Preparation of change orders
- Time extension requests
- Non-conformance letters
- One mylar, two sets of prints, and CD-ROM electronic file of record drawings
- Construction Contractor's O&M Manual review letters
- O&M Manual prepared by the Contractor and reviewed by the ENGINEER
- Substantial completion punch list and final punch list
- Certificate of substantial completion
- Recommendation for final payment

F. ADDITIONAL SERVICES

All services requested of the ENGINEER by the OWNER during the PROJECT that are not specifically described in the scope of work shall be provided by the ENGINEER as Additional Services.

400. WELL SITE NO. 1-6 & DOWLING PS DISCHARGE & DRAINAGE DESIGNS

Water from the existing City of College Station (OWNER) water production facilities is discharged from the system as necessary for various maintenance activities and rainfall events. Malcolm Pirnie, Inc. (ENGINEER) will perform professional engineering services to design drainage improvements, as recommended in Technical Design Memorandum – Discharge and Drainage Evaluation Memorandum. The following is a list of the elements that form the basis of the scope of work and fee proposal.

Well Site No. 1-6 & Dowling PS Discharge & Drainage improvements

- Detention facilities at groundwater wells No. 1 through 6 and discharge piping to Lake Bryan.
- Detention facilities at Dowling Road Pump Station

A. BID PACKAGE

The scope of work and fee is based on the preparation and bidding of one construction contract.

B. PROJECT PHASES

The professional engineering services for the drainage pipeline and detention facilities design will be divided into the following phases:

- Final Design Phase
- Bid Phase
- Construction Phase

The individual tasks to be provided are described below.

C. FINAL DESIGN PHASE

ENGINEER will perform Final Design Services for the PROJECT as detailed in the following tasks.
Prepare six progress reports documenting progress made during the PROJECT, as well as any issues that require resolution.

Task 400.1 – Kickoff Meeting

Attend a kickoff meeting with the OWNER at the OWNER's offices to discuss the PROJECT, identification of deliverables, schedule, discussion of additional data requirements, and project goals and objectives. Prepare an agenda in advance of the conference and a summary after the conference to document substantive comments

Task 400.2 – Deliverable Review Workshops

Coordinate and attend deliverable review workshops to obtain and discuss OWNER review comments on design document submittals. These workshops are anticipated to occur at the 50, 90, and 100 percent design milestones. A total of three (3) review meetings is anticipated and accounted for in this amendment task. A summary will be prepared to document key decisions, agreed action items, and comments from each workshop.

Task 400.3 – Prepare Drawings and Specifications

Prepare detailed drawings for the Construction Contract to include civil design drawings for discharge and drainage improvements at the OWNER's well sites and Dowling Road Pump Station site. Drawings will be prepared in electronic format. The design will incorporate applicable Malcolm Pirnie and OWNER's standards. The basis of document preparation will be as delineated by the recommended alternatives described in the previously submitted technical memorandum. Substantial deviations from the technical memorandum are not budgeted and will be considered an additional service.

Specifications for the Construction Contract will be prepared using the sixteen-division, modified three-part format of the Construction Specifications Institute. Front-end documents (Division 0) will be the OWNER's

standard documents as modified by Malcolm Pirnie in the Special Conditions. The remaining technical specifications will be prepared by the ENGINEER using Malcolm Pirnie documents and the OWNER's standard requirements as applicable.

Meet with the OWNER to discuss operational issues and facility shut-down(s) for construction. Prepare a Maintenance of Operations specification section to define the time limitations and work sequence for constructing drainage discharge pipeline.

At the 50 and 90 percent milestones submit five (5) half-size (11x17 inch) copies of the drawings and/or electronic version of documents to the OWNER for review. At the 50 percent milestone, five paper copies and/or one electronic copy of the Division 1 specifications will be furnished and table of contents delineating the remaining sections. At the 90 percent milestone, five copies of the complete specifications and/or one electronic copy will be submitted. It is anticipated that the OWNER will review the deliverables within two weeks after receipt for the 50 percent set and three weeks for the 90 percent set. The ENGINEER will provide detailed written confirmation of the changes resulting from the OWNER's review of the documents.

Task 400.4 – Opinion of Probable Construction Costs

Prepare an opinion of probable construction cost for the Construction Contract, which includes summaries of bid items and quantities as appropriate. Provide one electronic copy of the opinion of probable construction costs at the 50 and 90 percent design points and a final cost opinion of the anticipated construction cost prior to bid.

Task 400.5 – Regulatory Approval

Coordinate the review of drawings and specifications with TCEQ personnel. This includes transmitting one set of specifications and 22 x 34 inch set of drawings, and one copy of previously prepared technical memorandum to TCEQ, answering questions via telephone which may arise during the review process, and providing supplemental information to support the design.

Task 400.6 – Quality Assurance and Control

All work products will receive an in-house quality review by at least one of Malcolm Pirnie's quality consultants designate. This includes review of the drawings and specifications at the 50 and 90 percent design milestones.

Task 400.7 – Progress Reports

Prepare monthly progress report documenting progress made on the PROJECT, as well as any decisions to be made and by whom and issues that require resolution to maintain progress.

Final Design Phase Deliverables

- Deliverable review workshop meetings with summary
- Drawings and specifications at 50 and 90 percent completion, as described above (5 copies of each)
- Opinion of probable construction cost at the 50 and 90 percent and final design milestones
- One set of final drawings, specifications, and technical memorandum to the TCEQ
- Progress reports

D. BID PHASE

ENGINEER will perform Bid Services for the Construction Contract as detailed in the following tasks following completion of Final Design Services.

Task 400.8 – Reproducible Contract Documents

Furnish one (1) set of reproducible bid packages, drawings, specifications, and geotechnical reports for reproduction and distribution by the OWNER.

Task 400.9 – Bidding Assistance

Assist the OWNER in bidding the Construction Contract including: Furnish the necessary project description for the advertisement of the project by the OWNER. The OWNER will pay the cost of advertisement in newspapers and periodicals Document inquiries from prospective bidders. The necessary responses to the prospective bidders will be provided in the form of written addenda. Prepare addenda and submit to the OWNER for OWNER'S distribution to drawing holders. Two (2) addenda are anticipated. Preside at a pre-bid meeting for the Construction Contract at the OWNER'S facilities and subsequent tour of the PROJECT sites.

Task 400.10 – Bid Opening and Evaluation

Attend bid opening for the Construction Contract at the OWNER'S facilities. Evaluate bids and prepare letter of recommendation of award to the OWNER. One member of the ENGINEER'S team will attend the bid opening.

Task 400.11 – Prepare Formal Contract Documents

Assist the OWNER in the preparation of conforming Contract Documents for execution by the successful bidder of the Construction Contract.

Bid Phase Deliverables

- Reproducible sets of drawings and specifications for OWNER reproduction
- Advertisement description for the project
- Telephone memos of the bidder inquiries
- Addenda
- Recommendation of award
- Conforming copies of the Construction Contract Documents

E. CONSTRUCTION PHASE

Provide construction phase services for the Well Site No. 1-6 & Dowling PS Discharge and Drainage improvements including:

Task 400.12 – Notice to Proceed

Subsequent to execution of the Construction Contract Documents by the OWNER and the Construction Contractor, the OWNER will issue the Notice to Proceed to the Construction Contractor.

Task 400.13 – Preconstruction Submittals

Upon issuance of the Notice to Proceed, the ENGINEER shall receive and review Construction Contractor's preconstruction submittals including, but not limited to, lists of subcontractors, critical path schedules, schedule of values, progress and cash flow schedules, and submittal log. The ENGINEER will notify the Construction Contractor of any incomplete items or omissions and work with the Construction Contractor until a complete and correct set of preconstruction submittals has been accomplished.

Task 400.14 – Preconstruction Conference

The ENGINEER shall schedule and convene, in conjunction with the OWNER, the preconstruction conference for the Construction Contract at the OWNER'S facilities to discuss general and specific requirements for fulfilling the Construction Contract. The ENGINEER will explain the contract requirements related to site access, operational interfaces, reporting, schedule and cost management, lines of communication, quality control, and other administrative requirements. The ENGINEER will prepare an agenda at least one week in advance of the meeting, prepare a summary of the conference, and distribute the summary to all attendees.

Task 400.15 – Review Submittals and Shop Drawings

Submittals from the Construction Contractor will be received, logged, distributed to the OWNER, and reviewed by the ENGINEER. Applicable OWNER review comments, which are received in a timely

fashion, will be combined with the ENGINEER'S review comments. These submittals will then be distributed back to the Construction Contractor and other recipients within twenty-one (21) calendar days of ENGINEER'S receipt. These submittals shall include shop drawings and material and equipment samples. The ENGINEER will maintain a submittal log describing the current status of all the Construction Contractor's submittals. The ENGINEER will maintain a submittal file that will contain a copy of all interim and final submittals by the Construction Contractor. Should Construction Contractor's submittal require more than two reviews by the ENGINEER, further review by the ENGINEER of that submittal shall be compensated by the Construction Contractor for City to reimburse the ENGINEER for these additional services.

Task 400.16 – Interpretations and Clarifications

The ENGINEER shall issue all instructions of the OWNER to the Construction Contractor pertaining to the ENGINEER'S design; issue necessary interpretations and clarifications of the Construction Contract Documents; have authority, as the OWNER'S representative, to require special inspection or testing of the work; act as initial interpreter of the requirements of the Construction Contract Documents and judge the acceptability of the Work; and make decisions on all questions of the OWNER and the Construction Contractor relating to the acceptability of the work or the interpretation of the requirements of the Construction Contract Documents pertaining to the execution and progress of the work. Requests for Information, Requests for Field Alteration, and Field Alterations will be received, logged, and reviewed. Responses will be distributed to the Construction Contractor and copied to the OWNER within seven days of ENGINEER'S receipt.

Task 400.17 – Periodic Visits to the Construction Site

The ENGINEER'S Design Staff shall make up to five (5) visits to the PROJECT sites concurrent with construction progress meetings to observe, as an experienced and qualified design professional, the progress and quality of the executed work of the Construction Contractor and to determine, in general, if such work is proceeding in general accordance with the Construction Contract Documents. The ENGINEER'S efforts will be directed toward providing a greater degree of confidence for the OWNER that the completed work of the Construction Contractor will conform to the Construction Contract Documents, but the ENGINEER'S obligation shall not relieve the Construction Contractor of responsibility for performing the work in accordance with the Construction Contract Documents.

Task 400.18 – Review Construction Contractor's Schedule and Payment Requests

The ENGINEER shall receive and review the Construction Contractor's monthly Application for Progress Payment and progress schedules. The Contractor's payment schedule will be schedule constrained. By recommending any payment, the ENGINEER will not thereby be deemed to have represented that continuous or exhaustive examinations have been made by the ENGINEER to check the quality or quantity of the work or to review the means, methods, sequences, techniques, or procedures of construction or safety precautions or programs incident thereto, or that the ENGINEER has made an examination to ascertain how or for what purposes the Construction Contractor has used the monies paid on account of the contract price, or that title to any of the work, materials, or equipment has passed to the OWNER free and clear of any lien, claims, security interests or encumbrances, or that the Construction Contractor has completed his work exactly in accordance with the Construction Contract Documents. The recommendations of payment will constitute a representation to the OWNER that no substantial departure from the Construction Contract Documents or requirements exist. The ENGINEER will also review the Construction Contractor's progress schedule and payment schedule in accordance with the requirements of the Construction Contract Documents and request that the Construction Contractor makes any necessary adjustments.

Task 400.19 – Change Orders and Time Extensions

The ENGINEER shall develop, and provide to the OWNER and the Construction Contractor, all the change orders required for the PROJECT related to discrepancies in ENGINEER'S Construction Documents. The ENGINEER will provide the design engineering necessary to support the change orders. The ENGINEER will develop the necessary Construction Contract Documents required to support the change orders including construction drawings and specifications. The ENGINEER shall assist in telephone negotiations or coincident with scheduled progress meetings, on behalf of the OWNER, of any

adjustments in the contract price that may result from the change orders. The OWNER will make the final determination as to the acceptability of the contract price adjustment. The ENGINEER shall receive, from the Construction Contractor, and review the Construction Contractor's requests for time extensions as required for the project. The ENGINEER will notify the Construction Contractor of any inconsistencies or incomplete items in the request and work with the Construction Contractor until a satisfactory request has been developed. The ENGINEER will transmit the request to the OWNER, with a recommendation for action, for the OWNER'S acceptance and approval.

Task 400.20– Soils and Materials Testing

The ENGINEER will review the Construction Contractor's independent laboratory test results in accordance with Construction Contract requirements and report non-conforming results to the OWNER and Construction Contractor. The ENGINEER will provide recommendations for remedial action. The ENGINEER'S participation in this program does not relieve the Construction Contractor from providing his own quality control program to ensure delivered and installed materials meet the requirement of the Specifications.

Task 400.21 – Record Drawings

The ENGINEER shall prepare for the OWNER one set of full size (22 x 34 inch) Mylar record drawings for the Construction Contract showing the changes made during construction, including changes to electrical diagrams, schematics, and other design drawings. The ENGINEER shall also provide the OWNER with two sets of half-size blue-line prints and an electronic file copy of the record drawings on a CD-ROM disc in AutoCAD. The changes made by the ENGINEER on the drawings will be based on the marked-up prints, drawings, and other data furnished by the Construction Contractor to the ENGINEER.

Task 400.22 – O&M Manuals

The ENGINEER shall receive, from the Construction Contractor, and review the operation and maintenance (O&M) manuals on each equipment item as required by the Contract between the OWNER and the Construction Contractor. The ENGINEER will notify the Construction Contractor of any incomplete items or omissions and work with the Construction Contractor until a complete and correct set of O&M manuals have been assembled. The ENGINEER will transmit completed manuals, provided by the Construction Contractor, to the OWNER at the conclusion of the review process.

Task 400.23 – Substantial Completion and Final Inspection

The ENGINEER shall participate in an inspection with the OWNER for the Construction Contract to determine if the project is substantially complete and to determine if the work has been completed in general accordance with the Construction Contract Documents. The ENGINEER will issue a Certificate of Substantial Completion should the inspection determine that such an issuance is warranted. The ENGINEER will notify the Construction Contractor and the OWNER should the inspection discover that a Certificate of Substantial Completion is not warranted at the time of the inspection. The ENGINEER shall develop and provide to the OWNER for the Construction Contract a formal pre-final punch list developed from the observations made at the inspection for Substantial Completion. The ENGINEER will then participate in a final inspection with the OWNER and the Construction Contractor to determine whether the project is complete. ENGINEER will prepare a final punch-list of items to be completed or corrected by the Construction Contractor and conduct one follow-up inspection of the site. The ENGINEER shall receive, from the Construction Contractor, and review the Construction Contractor's Final Application for Payment. The ENGINEER will notify the Construction Contractor of any incomplete items or omissions and work with the Construction Contractor until the Construction Contractor has fulfilled all the requirements of the Construction Contract Documents. Upon completion of the project by the Construction Contractor in general accordance with the Construction Contract Documents, the ENGINEER will recommend final payment by the OWNER to the Construction Contractor. The OWNER will make the final determination as to the acceptability of the Construction Contractor's Final Application for Payment.

Task 400.24 – Progress Meetings

ENGINEER will conduct up to five (5) progress meetings on an as needed basis to discuss the project progress and direction and specific technical aspects of the project. All meetings under this task will be

conducted at the OWNER'S office. ENGINEER will prepare and distribute a meeting agenda to the OWNER and to ENGINEER'S project team at least five (5) working days prior to each of these meetings. Within five (5) working days after each meeting, ENGINEER will prepare and distribute meeting summary to the OWNER, the Construction Contractor, and to ENGINEER'S project team.

Task 400.25 – One Year Warranty Inspection

ENGINEER will participate in an inspection with the OWNER of the facilities to determine final acceptability of the work. Deficiencies will be delivered to the OWNER in writing and the ENGINEER will work with the Construction Contractor to resolve the deficiencies. An allowance of 24 hours has been allocated to this item.

Task 400.26 – Project Documentation

ENGINEER will maintain project records, including but not limited to progress reports, memoranda, letters, change orders, shop drawings, partial payment requests from the Construction Contractor, RFI's, RFA's, Field Alterations, and field reports.

Construction Phase Deliverables

- Review of letters for list of subcontractors, schedule of values, progress schedule, and submittal log
- Agenda and meeting summary for preconstruction conference and progress meetings
- Shop drawing review letters
- Written response to RFI'S, RFO'S, and Field Orders
- Letter recommending partial payment requests
- Preparation of change orders
- Time extension requests
- Non-conformance letters
- One mylar, two sets of prints, and CD-ROM electronic file of record drawings
- Construction Contractor's O&M Manual review letters
- O&M Manual prepared by the Contractor and reviewed by the ENGINEER
- Substantial completion punch list and final punch list
- Certificate of substantial completion
- Recommendation for final payment

F. ADDITIONAL SERVICES

All services requested of the ENGINEER by the OWNER during the PROJECT that are not specifically described in the scope of work shall be provided by the ENGINEER as Additional Services.

Exhibit "E1"

Project Schedule

The Contractor shall complete the services in accordance with the following estimated schedule.

	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	*Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	May-06	Jun-06	July-06
Phase 200 ***Dowling Rd. PS Modifications and Security Designs***																						
Final Design	■	■																				
Bid/Award Services			■	■																		
Construction Phase					■	■	■	■	■	■	■	■	■	■	■	■	■					
Phase 300 ***Electric Power Generation & Security Designs***																						
Final Design	■	■	■	■																		
Bid/Award Services					■	■																
Construction Phase							■	■	■	■	■	■	■	■	■	■	■					
Phase 400 ***Well No. 1 to 6 and Dowling PS Discharge & Drainage Designs***																						
Final Design	■	■	■	■	■																	
Bid/Award Services						■	■															
Construction Phase								■	■	■	■	■	■	■	■	■	■	■	■	■	■	

*Final completion of all projects, except warranty services, by July 1, 2006.