



Chandler · Arizona  
Where Values Make The Difference

**PURCHASING ITEM  
FOR  
COUNCIL AGENDA**  
Memo No. CA08-123

1. Agenda Item Number:

32

2. Council Meeting Date:

December 13, 2007

**TO: MAYOR & COUNCIL**

**3. Date Prepared:** November 26, 2007

**THROUGH: CITY MANAGER**

**4. Requesting Department:** Municipal Utilities

**5. SUBJECT:** Award a project agreement to Carollo Engineers for the Sewer Rehabilitation Design Services project, WW0805-201, in an amount not to exceed \$261,103.

**6. RECOMMENDATION:** Staff recommends that Council award a project agreement to Carollo Engineers for the Sewer Rehabilitation Design Services project, WW0805-201, in an amount not to exceed \$261,103.

**7. BACKGROUND/DISCUSSION:** The Wastewater Master Plan identified an on-going need to evaluate, prioritize, and repair sewer lines and manholes within the City's collection system. A Sewer Evaluation Study was conducted in November 2005 as part of the Master Plan project, which resulted in a multi-year sewer management program.

This project provides design services for the rehabilitation of major sewer interceptor pipelines and numerous manholes found to be in need of repair at various locations throughout the City of Chandler. This sewer rehabilitation project will be accomplished through design of appropriate repairs or replacement as recommended in the Sewer Assessment Study dated November 2005.

**8. EVALUATION PROCESS:** The consultant selection process was conducted in accordance with established City policies and procedures. Staff has reviewed the scope of work, billing rates, and total fee for this project, compared them to historical costs, and has determined that they are acceptable.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$261,103  
Savings: None  
Long Term Costs: None  
Fund Source:

Acct. No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
611.3910.0000.6817.7WW266	Wastewater Bond Fund	Sewer Assessment and Rehab	FY 06/07	\$234,579.19
611.3910.0000.6817.8WW266	Wastewater Bond Fund	Sewer Assessment and Rehab	FY 07/08	\$ 26,523.81

**10. PROPOSED MOTION:** Move that Council award a project agreement to Carollo Engineers for the Sewer Rehabilitation Design Services project, WW0805-201, in an amount not to exceed \$261,103, and authorize the Mayor to sign the contract documents.

**ATTACHMENTS:** Contract and Map

**APPROVALS**

**11. Requesting Department**

Robert Mulvey, Assistant Municipal Utilities Director

**13. Department Head**

Dave Siegel, Municipal Utilities Director

**12. City Engineer**

Sheina Hughes, Assistant Public Works Director/City Engineer

**14. City Manager**

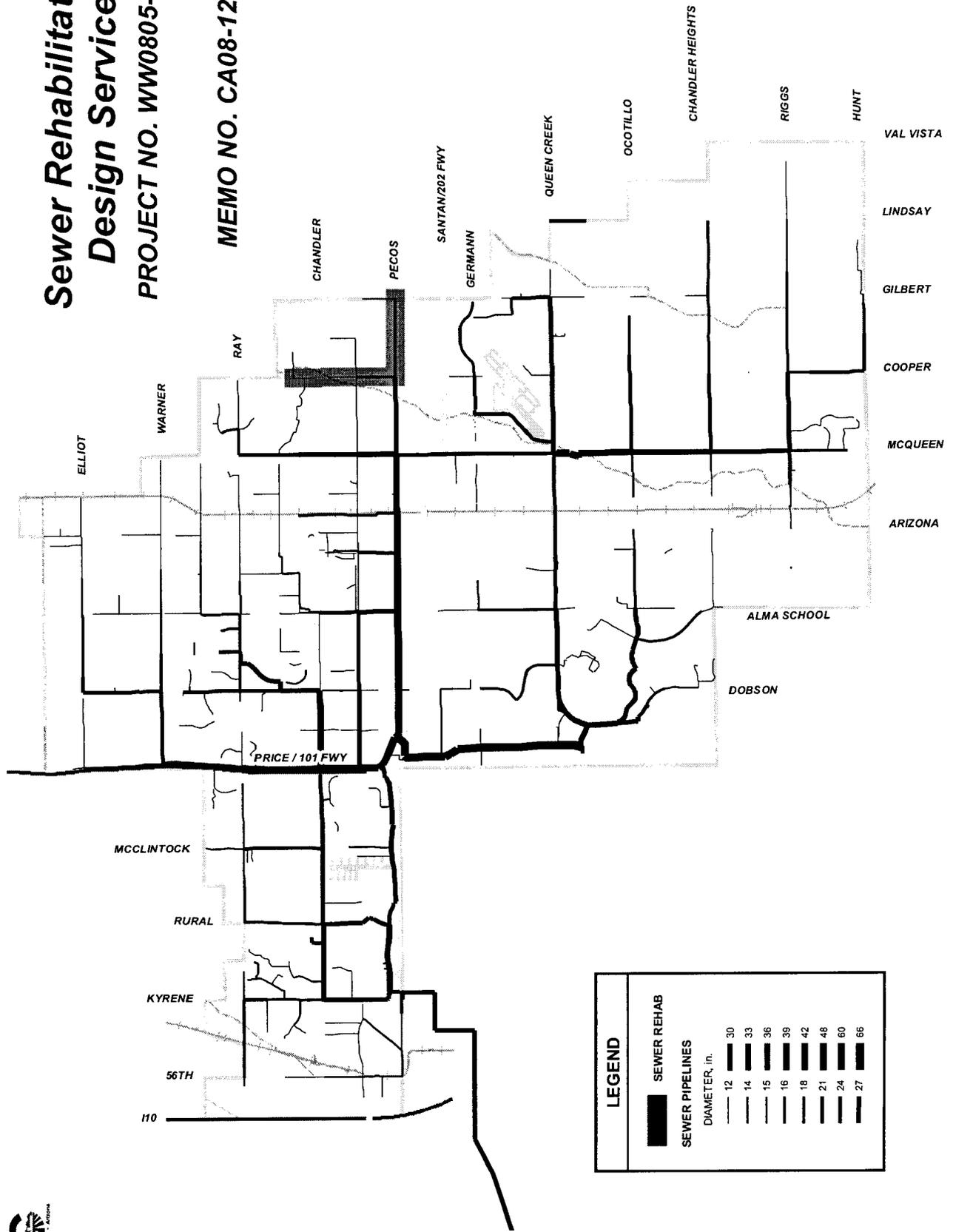
W. Mark Pentz



# Sewer Rehabilitation Design Services

PROJECT NO. WW0805-201

MEMO NO. CA08-123



**PROJECT AGREEMENT  
PURSUANT TO ANNUAL CONTRACT NO. EN0718-101**

**AGREEMENT NO: WW0805-201**

This AGREEMENT is made this \_\_\_\_\_ day of \_\_\_\_\_, 2007, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and **Carollo Engineers, a corporation in the State of Arizona** (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN0718-101.

CITY and **Carollo Engineers**, in consideration of the mutual covenants herein set forth, agree as follows:

**ARTICLE 1. DESCRIPTION OF WORK**

This project is Sewer Rehabilitation Design Service, Project Number WW0805-201. The scope of work consists of rehabilitating major sewer interceptor pipelines and numerous sewer manholes, all as more particularly set forth in Exhibit A and Exhibit B attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

**ARTICLE 2. CONTRACT PRICE**

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed Two Hundred Sixty One Thousand One Hundred Three Dollars (\$261,103) determined and payable as set forth in Annual Contract EN0718-101 and Exhibit C attached hereto and made a part hereof by reference.

**ARTICLE 3. CONTRACT TIME**

The contract time is Three Hundred Sixty Five days and Annual Consultant agrees to complete all work within Three Hundred Sixty Five (365) days of the date CITY issues a Notice to Proceed.

**ARTICLE 4. GENERAL**

This Project Agreement is entered into pursuant to Annual Contract No. EN0718-101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on this \_\_\_\_\_ day of \_\_\_\_\_, 2007.

CITY OF CHANDLER

FOR THE ANNUAL:

\_\_\_\_\_  
DEPARTMENT HEAD/DESIGNEE      DATE:

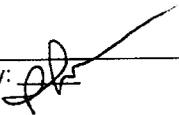
By: \_\_\_\_\_  
Title: \_\_\_\_\_

ADDRESS FOR NOTICE  
City of Chandler  
P.O. Box 4008, Mail Stop 407  
Chandler, AZ 85244-4008  
480-782-3307

ADDRESS FOR NOTICE  
Mr. Rob Buss  
Carollo Engineers  
3033 N. 44<sup>th</sup> St., Ste. 101  
Phoenix, AZ 85018

APPROVED AS TO FORM:

Phone: 602-263-9500  
Fax: 602-265-1422

\_\_\_\_\_  
City Attorney By: 

ATTEST:

\_\_\_\_\_  
City Clerk

**PROJECT AGREEMENT  
PURSUANT TO ANNUAL CONTRACT NO. EN0718-101**

**AGREEMENT NO: WW0805-201**

This AGREEMENT is made this 30<sup>th</sup> day of November 2007, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and **Carollo Engineers, a corporation in the State of Arizona** (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN0718-101.

CITY and **Carollo Engineers**, in consideration of the mutual covenants herein set forth, agree as follows:

**ARTICLE 1. DESCRIPTION OF WORK**

This project is Sewer Rehabilitation Design Service, Project Number WW0805-201. The scope of work consists of rehabilitating major sewer interceptor pipelines and numerous sewer manholes, all as more particularly set forth in Exhibit A and Exhibit B attached hereto and incorporated herein by reference.

The Annual Consultant shall not accept any change of scope, or change in contract provisions, unless issued in writing, as a contract amendment and signed by the Contract Administrator.

**ARTICLE 2. CONTRACT PRICE**

CITY shall pay Annual Consultant for completion of the Work in accordance with the Contract Documents a fee not to exceed Two Hundred Sixty One Thousand One Hundred Three Dollars (\$261,103) determined and payable as set forth in Annual Contract EN0718-101 and Exhibit C attached hereto and made a part hereof by reference.

**ARTICLE 3. CONTRACT TIME**

The contract time is Three Hundred Sixty Five days and Annual Consultant agrees to complete all work within Three Hundred Sixty Five (365) days of the date CITY issues a Notice to Proceed.

**ARTICLE 4. GENERAL**

This Project Agreement is entered into pursuant to Annual Contract No. EN0718-101 and the terms and conditions contained therein are incorporated herein by reference as if set forth in full.

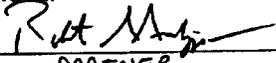
IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day and year first written above.

This Agreement will be effective on this 30<sup>th</sup> day of November, 2007.

CITY OF CHANDLER

FOR THE ANNUAL:

DEPARTMENT HEAD/DESIGNEE      DATE:

By:  11-30-07  
Title: PARTNER

ADDRESS FOR NOTICE  
City of Chandler  
P.O. Box 4008, Mail Stop 407  
Chandler, AZ 85244-4008  
480-782-3307

ADDRESS FOR NOTICE  
Mr. Rob Buss  
Carollo Engineers  
3033 N. 44<sup>th</sup> St., Ste. 101  
Phoenix, AZ 85018

APPROVED AS TO FORM:

Phone: 602-263-9500  
Fax: 602-265-1422

City Attorney By: \_\_\_\_\_  
ATTEST:

BY:  11/30/07

City Clerk

TITLE: PARTNER

## **EXHIBIT A SCOPE OF WORK**

ANNUAL CONSULTANT shall provide the following services:

### **Sewer Rehabilitation Design Services**

#### **GENERAL PROJECT DESCRIPTION**

The City of Chandler (CITY) proposes to rehabilitate major sewer interceptor pipeline(s) and numerous sewer manholes found to be in need of immediate attention. This rehabilitation will be accomplished through design of appropriate repairs or replacement, as recommended in the Sewer Assessment Study dated November 2005.

- ANNUAL CONSULTANT shall utilize the CITY'S existing GIS for project mapping and sewer information.
- Site-specific surveying and engineering geotechnical information will not be required for the design phase of the project.
- This scope does include county (MCESD) review fees.
- The CITY shall provide technical specifications from previous projects that are appropriate for this rehabilitation design work.
- The CITY shall provide front-end documents and arrange for printing and distribution of Drawings and Specifications during the Bid Phase.

The ANNUAL CONSULTANT shall produce bid packages for no more than three (3) noncontiguous segments of major sewer interceptor pipelines.

#### **REHABILITATION DETAILED DESIGN**

##### **1.0 PROJECT MANAGEMENT**

###### **1.1 Project Management**

ANNUAL CONSULTANT shall provide project management services to include preparing progress and activity reports, meeting with and collaborating with the CITY on technical issues and problems encountered, schedule updates, proposed changes in scope or schedule, and other management activities. This task also includes directing the activities of the ANNUAL CONSULTANT through progress meetings, as well as interaction with reviewing agencies and the CITY. Included under this task are project progress meetings. It is assumed there will be up to 6 progress meetings to be held at the CITY offices on McQueen Road and Germann Road.

##### **2.0 PROJECT DEVELOPMENT**

Under this task the CITY with assistance from the ANNUAL CONSULTANT shall identify candidate projects for rehabilitation. This is in conjunction with a priority listing developed to maximize the quality of work for the pre-established budget.

###### **2.1 PRE-DESIGN PHASE**

###### **2.1.1 Data Collection**

The purpose of this task is to collect information about the CITY'S sewer system that may affect the recommendations made in the Sewer Assessment Study dated November 2005. Examples of data include, but are not restricted to:

- Record drawings of existing infrastructure provided by CITY, if available
- Sewer Capital Improvement Projects since November 2005
- Sewer Capital Improvement Projects slated for 2008
- Sewer System Repairs or Replacements
- Logs of Customer Complaints (Odor, vermin, etc.)
- Inspections of the Sewer System, either completed by the CITY or other agent
- Transportation Capital Improvement Projects

### **2.1.2 Identification of Candidate Projects**

After the ANNUAL CONSULTANT has collected the appropriate data discussed in the previous section, further analysis will lead to the identification of candidate projects.

### **2.1.3 Project Development Workshop**

With coordination from the City, the ANNUAL CONSULTANT will schedule a Project Development Workshop to present the candidate projects to the CITY. In addition, the ANNUAL CONSULTANT will deliver an initial prioritization of the projects and their associated preliminary construction costs.

## **3.0 DETAILED DESIGN PHASE**

Detailed design will be performed under this task, resulting in a Bid Schedule, Drawings and Technical Specifications only. The ANNUAL CONSULTANT will use standard Technical Specifications and Typical Details, CITY and Maricopa Association of Governments (MAG) Specifications and Details where appropriate. The ANNUAL CONSULTANT will also provide a construction cost estimate under this task.

### **3.1 BASIS OF DESIGN REPORT**

The basis of design report may include the following materials:

- GIS maps of the selected candidate projects with or without the aerial background,
- Still-frame pictures of examples or other important details of the sewer system from the CCTV inspections,
- Record drawings courtesy of the CITY
- CCTV inspection CDs with reports

### **3.2 FIELD VERIFICATION OF CONDITIONS**

Varied field conditions can greatly affect construction costs, feasibility and scheduling of a project. Therefore the ANNUAL CONSULTANT will review existing pipeline and manhole inspection information and may arrange for current inspections of sewer pipelines and associated manholes to verify the present field conditions. (Current inspections are defined as cleaning, CCTV inspection and documentation of specific sections of sewer pipelines and manholes.)

### **3.3 50% DRAWINGS AND SPECIFICATIONS**

The CITY will provide review and comments of the 50 percent submittal. The ANNUAL CONSULTANT will review the comments and meet with the CITY to discuss the comments. Based on the outcome of the meeting, the ENGINEER will incorporate comments accordingly.

### **3.4 90% DRAWINGS AND SPECIFICATIONS**

Following receipt of 50 percent submittal review comments, the ANNUAL CONSULTANT will prepare 90 percent documents to confirm inclusion of 50 percent review comments.

### **3.5 FINAL DESIGN**

Final documents (Drawings and Technical Specifications) will then be prepared and delivered to the CITY. The ANNUAL CONSULTANT will also prepare and deliver a final construction cost estimate for the project.

### **3.6 DELIVERABLES**

The deliverables for this portion of this task are:

- 50% Design - Six (6) copies of Drawings and Specifications
- 90% Design - Six (6) copies of Drawings and Specifications
- Final Design - One (1) set of sealed Mylar Drawings, one (1) set of sealed Technical Specifications, Divisions 1 through 16, and a final construction cost estimate for the project. The CITY will provide their standard front-end documents, bidding and contract documents.

## **4.0 QUALITY ASSURANCE / QUALITY CONTROL**

Prior to submitting Drawings and Specifications to the CITY, the ANNUAL CONSULTANT will perform an internal review of the documents appropriate for their level of percent complete. It is anticipated that a formal, internal QA/QC check will be performed prior to submitting the 90% complete submittal to the CITY.

## **5.0 PERMITTING AND DESIGN REVIEW**

Under this task, the ANNUAL CONSULTANT will submit the Drawings and Technical Specifications to the CITY'S Development Services Department and incorporate review comments into the design. Significant review comments will be communicated to the CITY for resolution, and all comments will be transmitted to facilitate communication. The ANNUAL CONSULTANT will also assist the CITY in applying for an Approval to Construct from the Maricopa County Environmental Services Department (MCESD). All review comments will be incorporated into the design, and communicated to the CITY. Fees required by MCESD are included in this proposal.

## **6.0 BID PHASE SERVICES**

The scope of services includes attendance at the Pre-Bid conference, preparation of Addenda, if required, attendance at Bid Opening conference, and assistance to the CITY in evaluation of bids received.

## **7.0 ESTIMATED MANHOURS AND COSTS**

The Estimate of Man-hours and Costs associated with completion of the Scope of Work is provided in Exhibit B.

## **8.0 PRELIMINARY PROJECT SCHEDULE**

The preliminary project schedule duration is 6 months. ANNUAL CONSULTANT shall provide a graphical display of the schedule utilizing the critical path method that is acceptable and agreed upon by the City.

## **EXHIBIT B SCOPE OF WORK**

ANNUAL CONSULTANT shall provide the following services:

### **Sewer And Manhole Rehabilitation Construction Phase Services**

#### **GENERAL PROJECT DESCRIPTION**

The City of Chandler (CITY) proposes to rehabilitate sewer interceptor pipelines and manholes at various locations throughout the CITY. The exact location and extent of the rehabilitation will be defined in the Design Phase of the project as detailed in Exhibit A.

- Site-specific surveying and engineering geotechnical information will not be required for the design phase of the project.
- The ANNUAL CONSULTANT shall produce bid packages for no more than three (3) noncontiguous segments of major sewer interceptor pipelines.
- The ANNUAL CONSULTANT shall not provide a resident engineer or full-time inspection during the construction phase.
- The ANNUAL CONSULTANT shall provide periodic site visits (average one day per week) during the construction phase.
- Duration of construction is assumed to be twelve (12) months. Man-hours and associated costs are based on a twelve (12) month construction duration.

The following list details the major tasks associated with Sewer and Manhole Rehabilitation Construction Phase Services:

Task 100 – Project Management

Task 200 – Office Engineering Services

Task 300 – Post Construction Services

#### **PROJECT MANAGEMENT**

##### **General Project Management**

ANNUAL CONSULTANT shall perform project management necessary to monitor progress of the various elements of this project.

The ANNUAL CONSULTANT shall monitor progress on the construction activities monthly and compare the progress to the project schedule mutually agreed to by the CITY, ANNUAL CONSULTANT, and CONTRACTOR.

#### **OFFICE ENGINEERING SERVICES**

##### **Coordination with MCESD**

The ANNUAL CONSULTANT shall complete the necessary Approval of Construction and Permit to Operate applications, if required, and shall coordinate the review and approval process with the CITY and Maricopa County Environmental Services Department (MCESD). The CITY will pay all necessary review fees associated with this project.

##### **Responses to Requests for Information and Change Work Proposals**

Questions and concerns that arise during construction will be documented using the Request for Information (RFI) format. The ANNUAL CONSULTANT shall review and respond in writing to the RFIs. Design team members will provide input such that decisions made in design are incorporated in the responses to RFIs generated during construction.

The ANNUAL CONSULTANT shall review and provide engineering support for Change Work Proposals submitted by the CONTRACTOR. The ANNUAL CONSULTANT shall provide recommendations to the CITY as to the appropriateness of the change work proposal and the course of action to be followed. The review will include:

1. Evaluate the impact of Change Work on design intent and project schedule.
2. Provide engineering services including calculations and sketches as required to facilitate performance.
3. Develop drawing revisions (if required).

**Shop Drawings Review**

The ANNUAL CONSULTANT shall review shop drawings and other submittals for conformance to the design intent and concept of the project and for compliance with the Contract Documents. Such reviews will not extend to means, methods, or sequences of construction, or to safety precautions and programs

**Periodic Site Visits**

The ANNUAL CONSULTANT shall make periodic site visits to inspect the CONTRACTOR'S work. It is anticipated that the ANNUAL CONSULTANT shall spend an average of one day per week on site for the duration of the construction period. The frequency and duration of the field inspection may vary based on the actual activity of construction.

**Post Rehabilitation CCTV Record**

The ANNUAL CONSULTANT shall coordinate the post installation video recording of the CIPP and rehabilitated manholes with the CONTRACTOR, and deliver the specified number of DVDs to the CITY. It will be the CONTRACTOR'S responsibility to hire and supervise the performance of a qualified CCTV contractor.

**POST CONSTRUCTION SERVICES****Project Closeout**

At the conclusion of the project, the ENGINEER shall prepare the CITY's copies of the CCTV post-construction condition of the rehabilitated sewer pipeline and manholes, reports generated by the CONTRACTOR during the CIPP installation process, and other documents required by the contract specifications. A Project closeout meeting will be conducted immediately following development of Final Payment that includes representatives of the ANNUAL CONSULTANT, CITY and CONTRACTOR to evaluate how the process can be improved for the next project.

**STANDARD OF CARE**

ANNUAL CONSULTANT shall be responsible to the level of competency and standard of care presently maintained by other practicing Professional Engineers performing the same or similar type of work at the time notice to proceed is issued. ANNUAL CONSULTANT and CITY mutually agree that standard of care, as applied to design professionals, shall be defined as the ordinary and reasonable care required and established by expert testimony of what a reasonable and prudent professional would have done under the same or similar circumstances.

ANNUAL CONSULTANT shall not be responsible for the means, methods, techniques, sequences, or procedures of construction selected by contractors or the safety precautions and programs incidental to the work of contractors and will not be responsible for Contractor's failure to carry out work in accordance with the Contract Documents.

ANNUAL CONSULTANT has no control over the cost of labor, materials, equipment, or services furnished by others, or over Contractor's methods of determining prices, or other competitive bidding or market conditions, practices, or bidding strategies. Cost estimates are based on the ANNUAL CONSULTANT'S opinion based on experience and judgment. ANNUAL CONSULTANT cannot and does not guarantee that proposals, bids, or actual project construction costs will not vary from cost estimates prepared by the ANNUAL CONSULTANT.

**EXHIBIT C  
FEE SCHEDULE**

DESIGN PHASE TASKS		Categories						Subtotals
		Sr. Professional	Project Professional	Professional	Assist. Professional	Sr. Technician	Clerical	
<b>REHABILITATION DETAILED DESIGN</b>								
<b>Task 1</b>	<b>Project Management</b>							
1.1	Project Management	4	40	40	0	0	0	84
	<b>Subtotal Task 1.0</b>	<b>4</b>	<b>40</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>84</b>
<b>Task 2</b>	<b>Design Development</b>							
2.1	Design Development	4	40	120	16	16	8	204
	<b>Subtotal Task 2.0</b>	<b>4</b>	<b>40</b>	<b>120</b>	<b>16</b>	<b>16</b>	<b>8</b>	<b>204</b>
<b>Task 3</b>	<b>Detailed Design</b>							
3.1	Basis of Design Report	2	24	80	24	24	8	162
3.2	Field Verification of Conditions	0	4	80	0	0	0	84
3.3	50% Drawings and Specifications	2	80	160	80	80	16	418
3.4	90% Drawings and Specifications	4	40	160	80	80	8	372
3.5	Final Drawings and Specifications	4	16	40	40	40	16	156
	<b>Subtotal Task 3.0</b>	<b>12</b>	<b>164</b>	<b>520</b>	<b>224</b>	<b>224</b>	<b>48</b>	<b>1192</b>
<b>Task 4</b>	<b>Quality Assurance/Quality Control</b>							
4.1	Quality Assurance/Quality Control	2	8	20	24	0	0	54
	<b>Subtotal Task 4.0</b>	<b>2</b>	<b>8</b>	<b>20</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>54</b>
<b>Task 5</b>	<b>Permitting and Design Review</b>							
5.1	Permitting and Design Review	0	2	8	8	4	2	24
	<b>Subtotal Task 5.0</b>	<b>0</b>	<b>2</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>24</b>
<b>Task 6</b>	<b>Bid Phase Services</b>							
6.1	Bid Phase Services	0	8	16	8	4	4	40
	<b>Subtotal Task 6.0</b>	<b>0</b>	<b>8</b>	<b>16</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>40</b>
<b>Total - Rehabilitation Design Phase - Man-Hours</b>		<b>22</b>	<b>262</b>	<b>724</b>	<b>280</b>	<b>248</b>	<b>62</b>	<b>1698</b>
<b>Subtotal - Labor Cost (Lump Sum)</b>		<b>\$ 4,380</b>	<b>\$ 44,710</b>	<b>\$ 12,111</b>	<b>\$ 36,277</b>	<b>\$ 23,510</b>	<b>\$ 4,114</b>	<b>\$ 225,103</b>
<b>Subtotal - Mileage, printing / reproduction / Misc.</b>								<b>\$ 3,000</b>
<b>DIRECT COST ALLOWANCES</b>								
2.)	Agency Review Fees (expedited reviews)							\$ 3,000
3.)	Field verification (sewer cleaning, TV inspection, field observation)							\$ 30,000
<b>NOTES</b>								<b>Total Direct Cost Allowances</b>
1.) Rehab design services do not include construction phase services.								
2.) Field survey services and geotechnical investigations are not included in this contract.								
3.) Field verification allowances are preliminary. City may request additional services based on selected rehabilitation projects. Final costs for field verifications will be developed based on actual work to be accomplished.								
<b>TOTAL REHAB DESIGN PROJECT COSTS</b>								<b>\$ 261,103</b>