



**PURCHASING ITEM
FOR
COUNCIL AGENDA
Memo No. CP15-112**

1. Agenda Item Number:
33
2. Council Meeting Date:
November 20, 2014

TO: MAYOR & CITY COUNCIL

3. Date Prepared: November 3, 2014

THROUGH: CITY MANAGER

4. Requesting Department: Municipal Utilities

5. SUBJECT: Project Agreement with Stantec Consulting Services, Inc., for design services for the Old Pecos Lift Station Force Main.

6. RECOMMENDATION: Staff recommends City Council award a Project Agreement to Stantec Consulting Services, Inc., for design services for Old Pecos Lift Station Force Main, pursuant to On-Call Water and Wastewater Services Contract No. EN1521.101, Project No. WW1503.201, in an amount not to exceed \$183,517.

7. BACKGROUND/DISCUSSION: The purpose of the Old Pecos Lift Station Force Main project is to deliver wastewater from the Old Pecos Lift Station service area to the newly completed West Chandler Force Main. The West Chandler Force Main is used to divert wastewater flows to the City's Ocotillo and Airport Water Reclamation Facilities rather than the Lone Butte Wastewater Treatment Plant (WWTP). The additional connection to the Old Pecos Lift Station will provide the City with delivery options. A previous study completed in September 2014, Project No. WW1401.101, by Stantec Consulting Services, Inc., identified this as the preferred design alternative.

The project scope of work includes design of the new force main piping and electrical upgrades, site survey, geotechnical investigation, cost estimating and permitting, and bid assistance.

8. EVALUATION: This project is being performed under the On-Call Water and Wastewater Services Contract, No. EN1521.101, to Stantec Consulting Services, Inc. The costs proposed for this project have been evaluated by Staff and are determined to be reasonable. The contract completion time is 270 calendar days following Notice to Proceed.

9. FINANCIAL IMPLICATIONS:

Cost: \$183,517
Savings: N/A
Long Term Costs: N/A
Fund Source:

<u>Account No.:</u>	<u>Fund Name:</u>	<u>Program Name:</u>	<u>CIP Funded</u>	<u>Amount:</u>
611.3910.6815.6WW196	Wastewater Bond	Collection System Facility Improvements	Yes	\$183,517

10. PROPOSED MOTION: Move City Council award a Project Agreement to Stantec Consulting Services, Inc., for design services for Old Pecos Lift Station Force Main, pursuant to On-Call Water and Wastewater Services Contract No. EN1521.101, Project No. WW1503.201, in an amount not to exceed \$183,517.

ATTACHMENTS: Project Agreement, Location Map

APPROVALS

11. Requesting Department



Kim Neill, Utility Operations Manager

13. Department Head



Dave Siegel, Municipal Utilities Director

12. Transportation & Development



Bob Fortier, Capital Projects Manager

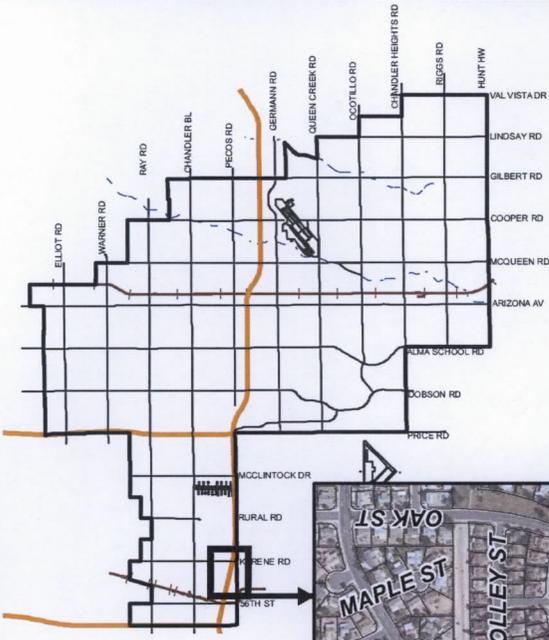
14. City Manager



Rich Dlugas

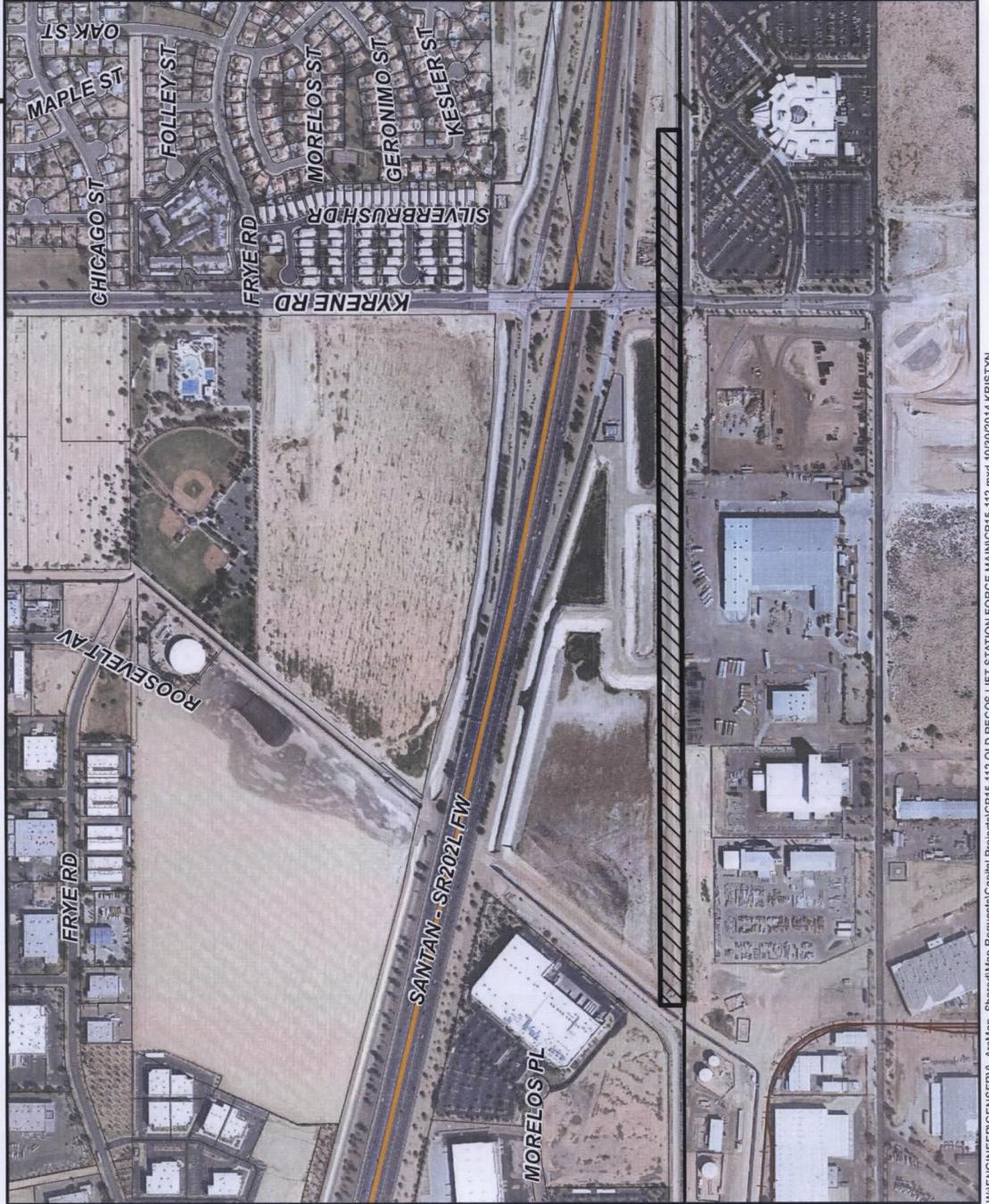


OLD PECOS LIFT STATION FORCE MAIN PROJECT NO. WW1503.201



MEMO NO. CP15-112

 PROJECT SITE



**PROJECT AGREEMENT
PURSUANT TO ANNUAL CONTRACT NO. EN1521.101**

PROJECT AGREEMENT NO: WW1503.201

This PROJECT AGREEMENT is made this ____ day of _____, 2014, by and between the City of Chandler, a municipal corporation (hereinafter referred to as "CITY") and Stantec Consulting, Inc., an Arizona corporation (hereinafter referred to as "Annual Consultant") and is a project agreement entered into pursuant to Annual Contract No. EN1521.101.

CITY and Stantec Consulting, Inc., in consideration of the mutual covenants herein set forth, agree as follows:

ARTICLE 1 - DESCRIPTION OF WORK:

This project is Old Pecos Lift Station Force Main, Project Number WW1503.201. The scope of work consists of design services for Old Pecos Lift Station Force Main, all as more particularly set forth in Exhibit A 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 One Hundred Eighty Three Thousand Five Hundred Seventeen Dollars (\$183,517) determined and payable as set forth in Annual Contract EN1521.101 and Exhibit B attached hereto and made a part hereof by reference.

ARTICLE 3 - CONTRACT TIME:

The contract time is Two Hundred Seventy calendar days and Annual Consultant agrees to complete all work within Two Hundred Seventy (270) calendar days of the date CITY issues a Notice to Proceed.

ARTICLE 4 - GENERAL:

This Project Agreement is entered into pursuant to Annual Contract No. EN1521.101 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 Project Agreement on the day and year first written above.

This Project Agreement will be effective on this _____ day of _____, 2014.

CITY OF CHANDLER

FOR THE ANNUAL:

MAYOR DATE:

By: Ms. Brady
Title: Jr. Associate

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

ADDRESS FOR NOTICE
Ms. Maria Brady
Stantec Consulting Services, Inc.
8211 S. 48th St.
Phoenix, AZ 85044

APPROVED AS TO FORM:

Phone: 602-438-2200

City Attorney By: [Signature]

ATTEST:

City Clerk

EXHIBIT A SCOPE OF WORK

ANNUAL CONSULTANT shall provide the following services related to Old Pecos Lift Station Force Main:

Task 1.0: Project Management

Task 1.1: Project Coordination

ANNUAL CONSULTANT shall provide project management services that include planning, organizing, staffing, and coordinating the work efforts of the team members and sub consultants. In addition, ANNUAL CONSULTANT shall be responsible for preparing monthly status reports, invoices, and meetings with City project managers, quality control, and project delivery.

Task 1.2: Project Meetings

It is anticipated that ANNUAL CONSULTANT's Project Manager and Design Manager, if applicable, will meet with City staff on six separate occasions, including:

- 1) Kickoff meeting
- 2) Design Report review
- 3) Coordination Meeting with ADOT
- 4) 60-percent deliverable
- 5) 90-percent deliverable
- 6) 100-percent deliverable and bid-assistance coordination

The purpose of these meetings is to review the project status, budgets, schedule, and performance issues. One meeting with ADOT is included during the 60% design phase so that their requirements are met to obtain an *Encroachment Permit* for construction on their property. ANNUAL CONSULTANT shall also provide assistance with bidding services and attend one pre-bid meeting as outlined under *Task 3.8: Bidding Services*.

Task 1.3: Quality Assurance / Quality Control (QA/QC)

Engineering quality assurance and control will be incorporated through review by senior professional staff at key points in the project.

Task 2.0: Preliminary Design

Finalize the Draft Technical Memo renaming it as a Design Report to include the hydraulic analysis of connecting the Old Pecos Lift Station Force Main to the Kyrene Pump Station Force Main.

Task 2.1: Design Report

- 1) Confirm the calculated peak-hour factor and I/I rates from the Old Pecos Lift Station from flow records that will be provided by the City.
- 2) Review Kyrene Lift Station and force main as-builts and Design Report to determine expected pressure and flows in the force main at the proposed connection point with the Old Pecos force main.
- 3) Verify pressures at varying flows in the Kyrene force main by reading from a new gauge (to be installed by the City) at the existing air relief valve near the proposed connection point.
- 4) Determine pumping head required at the Old Pecos Lift Station for varying flows and pressures at the connection with the Kyrene Lift Station force main.
- 5) Determine effects to pumping at the Kyrene Lift Station due to the added flow from the Old Pecos Lift Station in the force main.
- 6) Size new Old Pecos force main to provide adequate flushing velocity.
- 7) Size new pumps for the Old Pecos Lift Station.
- 8) Recommend safety features to prevent backflow from the Kyrene Lift Station to the Old Pecos Lift Station such as a new check valve near the force main connection point and reverse flow alarms.
- 9) Discuss if and what electrical upgrades are necessary at the Old Pecos Lift Station due to the new pumps.
- 10) Complete the Design Report with revised opinion of probable costs and estimated construction schedule.

Task 2.2: Electrical Upgrades Evaluation

ANNUAL CONSULTANT will determine if electrical upgrades are necessary to the Old Pecos Lift Station due to the new pumps. If electrical upgrades are necessary, ANNUAL CONSULTANT will identify the specific components that will require upgrades. Electrical design will be per the allowance *Task 3.9*.

Task 2.3: Existing Document Review

- 1) Obtain and review property ownership, right-of-way and easement locations along the proposed construction corridor.
- 2) Obtain and review utility maps to identify the locations of existing utilities along the proposed construction corridor.
- 3) Obtain and review existing geotechnical reports (if available) within the proposed construction corridor from ADOT and the City of Chandler.

Task 2.4: Survey

ANNUAL CONSULTANT shall prepare a topographic survey for a 100-foot strip along the proposed construction corridor to include spot elevations, contours, depiction of apparent existing utilities, drainage features, existing improvements and facilities, and major vegetation. The survey will also include internal details of the Kyrene Lift Station vault (as far as this is practicable, without confined space entry). ANNUAL CONSULTANT shall set two permanent control points at convenient locations to support construction.

Task 2.5: Geotechnical Investigation Report (allowance item)

This task will be performed by subconsultant Speedie and Associates if existing geotechnical report(s) are not available or adequate for the project area.

Up to five (5) test borings will be drilled to adequately determine subsoil conditions and provide samples for laboratory testing. Sufficient laboratory tests will be conducted to properly classify the soils encountered and provide data for engineering design.

The data obtained from field and laboratory testing will be examined and a report will be prepared presenting all data obtained, together with conclusions and recommendations including:

- 1) Groundwater conditions, if any, to the depths which will influence design and/or construction of the proposed development.
- 2) Suitability of site soils for use as compacted fill and preferred earthwork methods, including clearing, stripping, excavation and construction of engineered fill.
- 3) Local excavation and trenching conditions and stability considerations.
- 4) Potential corrosiveness of subsoil materials.

Task 3.0: Engineering Design

The purpose of this task is to prepare final construction drawings, specifications, a construction schedule and an opinion of probable construction cost. Deliverables for this task will include design reviews at 60 and 90 percent-complete and final construction documents. ANNUAL CONSULTANT shall create drawings in AutoCAD using company and Chandler drawing standards.

For the 60 percent submittal ANNUAL CONSULTANT shall prepare:

- Design development drawings
- Preliminary technical specifications
- Preliminary process control descriptions
- Construction schedule
- *Preliminary Opinion of Probable Construction Cost*

For the 90 percent submittal ANNUAL CONSULTANT shall prepare:

- Detailed design drawings
- Technical specifications
- Process control descriptions
- Revised construction schedule
- *Opinion of Probable Construction Cost*

For the 100 percent submittal ANNUAL CONSULTANT shall prepare:

- Contract documents (plans and specifications) sealed and signed by State of Arizona registered engineers
- *Final Opinion of Probable Construction Cost*

Task 3.1: Civil Design

ANNUAL CONSULTANT shall prepare required design drawings for the proposed force main. The plan and profile sheets shall be 1"=20' on full size (24"x36") drawings. The sheets will include property, right-of-way and easement boundaries, and existing utility locations.

Task 3.2: Mechanical Design

ANNUAL CONSULTANT shall prepare required design drawings for mechanical improvements, including new pumps for the Old Pecos Lift Station, replacing the pumps' discharge piping, lift station bypass plans, and a new check valve and valve vault at the force main connection point.

Task 3.3: Structural Design

This task includes valve vault design near Old Pecos Lift Station for flow split valving to Kyrene force main or to Lone Butte WWTP, and valve vault design for check valve and connection to Kyrene force main. Structural design and calculations will be completed by subconsultant JT Engineering. Drafting and coordination of structural design will be by ANNUAL CONSULTANT.

Task 3.4: Instrumentation and Controls (I&C)

I&C design will include new reverse flow alarms. It is assumed that the pumps will be controlled by wet well level as they are now and there will not be any control changes.

Task 3.5: Specifications

ANNUAL CONSULTANT shall complete the specifications in accordance with the City's general conditions for construction using the CSI format based upon the sample specification(s) provided by the City.

Task 3.6: Opinions of Probable Cost

ANNUAL CONSULTANT shall prepare a *Preliminary Opinion of Probable Construction Cost* at the 60 percent design level and an *Opinion of Probable Construction Cost* at the 90 percent design level.

Task 3.7: Permitting

ANNUAL CONSULTANT shall assist the City in preparing an *Approval to Construct* permit from the Maricopa County Environmental Services Department and a building permit from the City's Planning and Development Department. ANNUAL CONSULTANT will coordinate during design and submit 90% contract documents to ADOT to obtain an *Encroachment Permit*.

Task 3.8: Bidding Services

ANNUAL CONSULTANT shall attend one pre-bid meeting to answer contractor questions during the meeting and will respond to other design inquiries during the bidding period. It is assumed that Contractor inquiries will be routed through the City and the consultant will respond directly to the City. It has been assumed that the City will communicate directly with all contractors. ANNUAL CONSULTANT shall also support the City in the evaluation of qualified bid submittals.

Task 3.9: Electrical Design (allowance item)

If electrical upgrades are necessary at the Old Pecos Lift Station per *Task 2.2*, ANNUAL CONSULTANT shall prepare required technical specifications and design drawings for electrical improvements. Possible upgrades include a new transformer, service entrance section, variable frequency drives, conduits, cables and standby generator set. ANNUAL CONSULTANT shall prepare a one-line diagram for the purpose of identifying pump station power distribution layout, motor control, preliminary demand & connected electrical loads and utility service requirements.

Responsibilities of the City

The following are responsibilities of the City staff during the project:

- Make available pertinent data affecting design including but not limited to flow data from the Old Pecos and Kyrene Lift Stations, design documents for the Kyrene Lift Station, and design documents for the Kyrene force main.
- Install new pressure gauge at existing air valve on the Kyrene force main. Assist ANNUAL CONSULTANT by operating the Kyrene Lift Station at varying flows while the new pressure gauge is monitored.
- Pay all permit fees.
- Reproduce bidding documents.
- Distribute bidding documents to prospective bidders.

Assumptions and Exemptions

The proposed fee for the above engineering design and coordination services is based upon the following assumptions:

1. It is assumed existing geotechnical investigations are available for the proposed construction corridor. An allowance for a new Geotechnical Investigation Report is included in the fee proposal if needed.
2. It is assumed the design of the Kyrene Road crossing will be open cut while maintaining access to the Gila River Indian Community casino.
3. Approval of construction permits, as-built certifications and construction management are not included in this scope. If requested, ANNUAL CONSULTANT can prepare a separate proposal for these services.

Deliverables

Deliverables, as applicable, shall be per the City of Chandler "Civil Engineering Improvement Plans Submittal Form & Requirements".

ANNUAL CONSULTANT shall provide four (4) sets of full-size plans (24"x36") for the 60 percent submittal and three (3) sets of full-size plans for the 90 percent submittal to the City.

ANNUAL CONSULTANT shall modify the contract documents to reflect all agreed-upon final review comments from the City and shall submit three (3) copies of the final bid documents including full size drawings and technical specifications stamped and signed by a State of Arizona registered Professional Engineer. ANNUAL CONSULTANT will also provide, via ftp site, a digital PDF copy of the plans and specifications and any associated AutoCAD drawings as requested by the City.

Schedule

Upon receiving a formal Notice to Proceed, ANNUAL CONSULTANT will commence. If the City would like to expedite the completion the contract documents and to have it bid, and we will work with the City to attempt to meet your schedule. The completion date for the deliverables will conform tentatively to the schedule shown below:

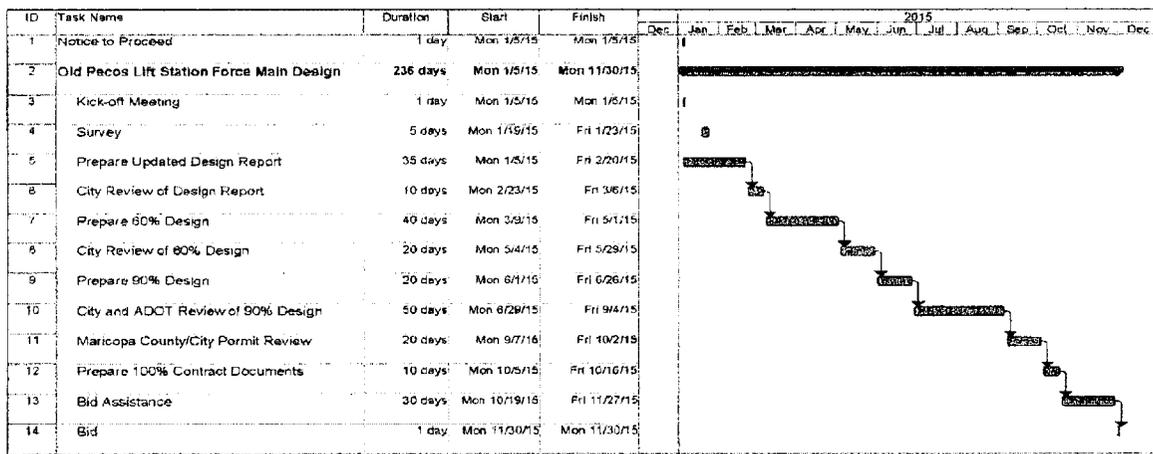


EXHIBIT B FEE SCHEDULE

TASK NO.	TASK DESCRIPTION	PERSONNEL AND RATE							TOTAL LABOR HOURS	TOTAL LABOR COST	
		Principal Level I	Project Manager Level I	Engineer Level III	Engineer Level VI	Engineer Level IV	Technician (CAD Tech) Level IV	Surveyor			Admin Assistant
		\$185	\$185	\$185	\$155	\$140	\$210	\$145	\$90		
1.0	Project Management										
1.1	Project Coordination	4	24						8	38	\$5,460
1.2	Project Meetings (6 meetings included)	8	24	4	4	4				44	\$7,400
1.3	QA/QC	4			40					44	\$7,340
	Subtotal - Project Management	16	48	4	44	4	0	0	8	124	\$20,200
2.0	Preliminary Design										
2.1	Design Report	2	80				8		4	94	\$14,830
2.2	Electrical Upgrades Evaluation			1	20					21	\$3,485
2.3	Existing Document Review		4			20			4	28	\$3,840
2.4	Survey					4	12	40	2	58	\$7,870
	Subtotal - Preliminary Design	2	84	1	20	24	20	40	10	201	\$30,025
3.0	Engineering Design										
3.1	Civil Design		40		80		160			280	\$37,400
3.2	Mechanical Design		32			24	40			96	\$13,040
3.3	Structural Design (Structural Calcs Sub Contracted)		4				24			28	\$3,300
3.4	Instrumentation and Controls		4	4	13		28			49	\$6,625
3.5	Specifications	2	100	2	12				32	148	\$22,260
3.6	Opinion of Probable Costs		16	1	8	8			2	35	\$5,455
3.7	Permitting		24							24	\$3,960
3.8	Bidding Services		16			8			2	26	\$3,950
	Subtotal - Engineering Design	2	236	7	113	40	282	0	36	686	\$95,990
	TOTAL LABOR HOURS	20	368	12	177	68	272	40	54	1011	
	TOTAL LABOR COST	\$3,700	\$60,720	\$2,220	\$28,205	\$9,520	\$25,420	\$5,800	\$5,130		\$148,215

TASK NO.	SUBCONSULTANT AND EXPENSE DESCRIPTIONS	Unit	Total Unit	Cost/Unit	TOTAL
3.3	J.T. Engineering; Structural Calculations	LS	1	\$ 1,500	\$ 1,500
2.0, 3.0	Printing, Reproduction	LS	1	\$ 900	\$ 900
1.0, 2.0 and 3.0	Mileage and Vehicle Expense	LS	1	\$ 600	\$ 600
	TOTAL SUBCONSULTANT AND EXPENSE COST				\$ 3,000

TASK NO.	ALLOWANCE ITEMS	Unit	Total Unit	Cost/Unit	TOTAL
2.5	Specitic and Associates; Geotechnical Investigation Report	LS	1	\$ 5,550	\$ 5,550
3.9	Electrical Engineering Design Allowance	LS	1	\$ 13,830	\$ 13,830
1.0, 2.0 and 3.0	Owner's Allowance	% of Total	1	10%	\$ 14,922
	TOTAL ALLOWANCES				\$ 34,302

* Allowance items will only be used with prior approval by Municipal Utilities

TOTAL LABOR COST	\$148,215
TOTAL SUBCONSULTANT AND EXPENSE COST	\$3,000
TOTAL ALLOWANCES	\$34,302
TOTAL FEE	\$185,517