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Where Values Make The Difference

**PURCHASING ITEM  
FOR  
COUNCIL AGENDA  
Memo No. CA09-043**

1. Agenda Item Number:

**23**

2. Council Meeting Date:

August 28, 2008

TO: **MAYOR & COUNCIL**

3. Date Prepared: July 28, 2008

THROUGH: **CITY MANAGER**

4. Requesting Department: Municipal Utilities

5. **SUBJECT:** Award a project agreement for the Surface Water Treatment Plant Asset Management Program, Project No. WA0821-201, to Carollo Engineers, in an amount not to exceed \$194,104.

6. **RECOMMENDATION:** Staff recommends Council award a project agreement for the Surface Water Treatment Plant Asset Management Program, Project No. WA0821-201, to Carollo Engineers, in an amount not to exceed \$194,104.

7. **BACKGROUND/DISCUSSION:** An expansion of Chandler's Surface Water Treatment Plant (SWTP) was completed in April 2008. The SWTP capacity was increased from 45 million gallons per day (MGD) to 60 MGD. Much of the existing plant infrastructure was not modified during the expansion and is over twenty years old. This program will provide an assessment of the condition of SWTP assets, determination of equipment/process criticality and replacement cost estimates, and development of a multi-year SWTP Capital Improvement Plan (CIP).

8. **EVALUATION PROCESS:** The consultant selection process was conducted in accordance with established City policies and procedures. On May 22, 2007, staff received statements of qualifications from twenty-two (22) firms to provide water and wastewater facility design services. The selection committee reviewed the qualifications and selected five (5) firms for recommendation of contract award. The selection committee consisted of the following members:

- John Knudson, Senior Engineer, Municipal Utilities
- Tim Krawczyk, Engineer Assistant, Contract Administration
- Doug Toy, Senior Engineer, Municipal Utilities
- Ray Dubois, Water Distribution Superintendent, Municipal Utilities
- John Pinkston, Wastewater Facilities Superintendent, Municipal Utilities
- Dennis Mittlestedt, Resident

Council approved the selection of Carollo Engineers on September 6, 2007.

**9. FINANCIAL IMPLICATIONS:**

Cost: \$194,104  
 Savings: None  
 Long Term Costs: None  
 Fund Source:

Acct. No.:	Fund Name:	Program Name:	CIP Funded:	Amount:
603.3820.0000.6814.9WA209	Water SDF	Water Treatment Plant Expansion	FY 08/09	\$194,104

10. **PROPOSED MOTION:** Move that Council award a project agreement for the Surface Water Treatment Plant Asset Management Program, Project No. WA0821-201, to Carollo Engineers, in an amount not to exceed \$194,104, and authorize the Mayor to sign the contract documents.

**ATTACHMENTS:** Location Map, Project Agreement

**APPROVALS**

**11. Requesting Department**

  
 Robert Mulvey, Assistant Municipal Utilities Director

**13. Department Head**

  
 Dave Siegel, Municipal Utilities Director

**12. City Engineer**

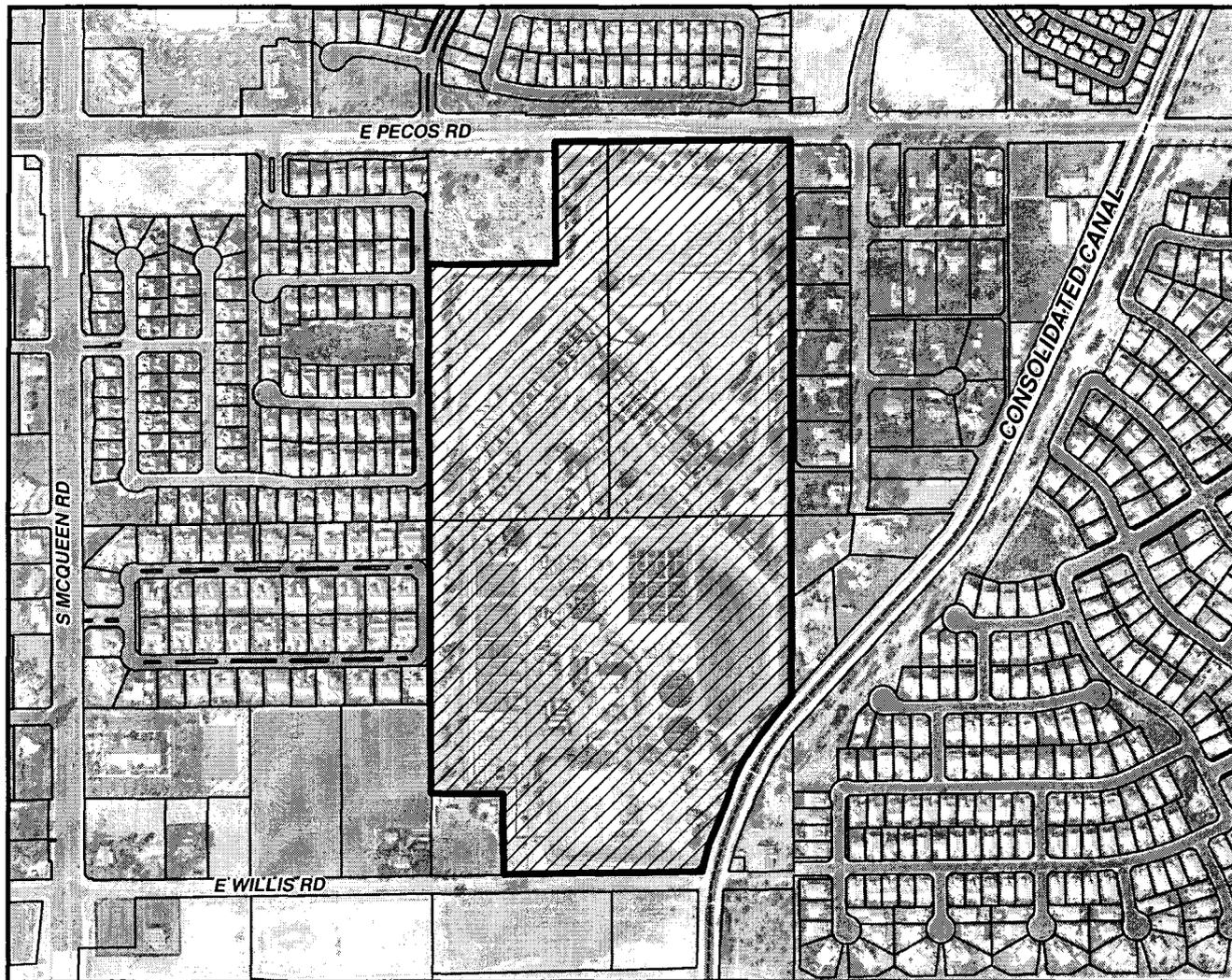
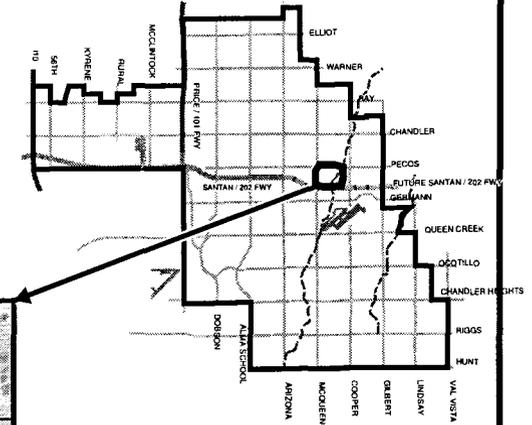
  
 Sheina Hughes, Assistant Public Works Director/  
 City Engineer

**14. City Manager**

  
 W. Mark Pentz



# **SURFACE WATER TREATMENT PLANT (SWTP) ASSET MANAGEMENT PROGRAM PROJECT NO. WA0821-201**



**MEMO NO. CA09-043**

 **PROJECT AREA**



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

**AGREEMENT NO: WA0821-201**

This AGREEMENT is made this 7<sup>th</sup> day of AUGUST 2008, 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 Surface Water Treatment Plant Asset Management Program, Project Number WA0821-201. The scope of work consists of developing the asset management program framework for the City's Surface Water Treatment Plant, 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 Ninety Eight Thousand Five Hundred Thirty Four Dollars (\$198,534) determined and payable as set forth in Annual Contract EN0718-101 and Exhibit B attached hereto and made a part hereof by reference.

**ARTICLE 3. CONTRACT TIME**

The contract time is one hundred eighty days and Annual Consultant agrees to complete all work within One Hundred Eighty (180) 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 7<sup>th</sup> day of AUGUST, 2008.

CITY OF CHANDLER

FOR THE ANNUAL

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

By: [Signature]  
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

ATTEST: City Attorney By: [Signature]

BY: [Signature]  
TITLE: PARTNER

City Clerk

## **EXHIBIT A SCOPE OF WORK**

The purpose of this project is to develop the Asset Management Program (AMP) framework for the City's Surface Water Treatment Plant (SWTP). The work to be performed for the project consists of the following four types of services:

- Project Management Services
- Program Planning and Visioning
- Asset Inventory and Condition Assessments
- Project Prioritization and CIP Development
- Deliverables

The following assumptions are considered inclusive to this Scope of Services:

1. The City of Chandler (City) shall provide the available record drawings for the Surface Water Treatment Plant.
2. The City shall provide additional relevant information in accordance with Task 2.1.

### **Task 1: PROJECT MANAGEMENT Services**

ANNUAL CONSULTANT shall perform various project management and monitoring activities throughout the Project duration as delineated in the following tasks.

#### **1.1 Project Plan**

ANNUAL CONSULTANT shall develop and review with the City a comprehensive Project Plan delineating the roles and responsibilities of the Project Team, including the interaction of ANNUAL CONSULTANT staff with City personnel throughout the duration of the Project. The Project Plan shall identify the specific roles and responsibilities regarding both communication and workflow, as related to data collection, field investigations, facility assessment coordination, and other Project requirements.

#### **1.2 Project Management**

ANNUAL CONSULTANT shall direct the activities of the project team members, regularly monitor the progress of the work and the budget, prepare progress and activity reports, communicate with the City staff on technical issues and problems encountered, schedule updates, monitor and update the project schedule, and perform other management activities in accordance with the Project Plan developed under Task 1.1.

#### **1.3 Project Progress Meetings**

ANNUAL CONSULTANT shall hold a maximum of three (3) project progress meetings with City staff to discuss project status. The progress meetings shall review efforts completed to date, provide project progress updates, and gather continued direction and feedback from the City. ANNUAL CONSULTANT shall prepare and distribute agendas prior to and notes following each meeting. Additional project meetings shall be conducted with selected City staff as defined herein.

### **Task 2: PROGRAM PLANNING AND visioning**

#### **2.1 Review Existing Information**

ANNUAL CONSULTANT shall review existing database(s), work order management system, maintenance management system, asset management studies, reports, plans, available bid tabulations, and other relevant information to assess the overall availability and condition of the City's current asset data associated with the SWTP. ANNUAL CONSULTANT shall also review and evaluate the City's existing policies, standards, goals, and mission statement by collecting and reviewing all pertinent information, including reports, memos, strategic plans, and all other relevant information from City.

#### **2.2 Visioning Coordination Workshop**

ANNUAL CONSULTANT shall conduct a Visioning Coordination Workshop with selected City personnel to better understand and further enhance the overall strategic vision of the City's existing asset management program and systems, and to confirm the criteria, features, required needs, and recommended guidelines for the performance and condition of assets. The vision shall further define and/or reinforce the level of service goals, business practices, risk management objectives, and financial objectives of the City for use in establishing future guidelines

for optimizing the annual capital improvement project (CIP) process. The issue of centralization of data and data access without compromising security concerns shall also be addressed. This forum shall provide the setting for general education, discussion, and feedback on desired asset management features.

### **2.3 Refine Asset Guidelines**

ANNUAL CONSULTANT shall review and refine the guidelines for parameters such as condition, level of service (LOS), risk, criticality, and vulnerability for all capital assets. These guidelines shall be based on the City's existing policies and standards, as well as the enhanced vision for assets developed in Task 2.2.

### **2.4 Identify Supplemental Information Needs**

ANNUAL CONSULTANT shall identify the supplemental information needs of the City's various departmental groups to support the ongoing development of the asset management program. These supplemental information needs may include, but not necessarily be limited to, the following:

- Existing Computerized Maintenance Management System (CMMS) software
- Existing asset and CIP databases
- Existing GIS databases

### **2.5 Develop Summary Memorandum**

ANNUAL CONSULTANT shall prepare a Draft Memorandum on Asset Management Program (AMP) Vision, Asset Guidelines and Supplemental Information Needs summarizing the results of Task 2. Contents of this Draft Memorandum shall be reviewed with the City in a workshop, and comments received shall be incorporated and finalized for inclusion as a chapter into the overall Summary Report, in accordance with Task 5 herein.

*Deliverable: Draft Memorandum on Asset Management Program (AMP) Vision, Asset Guidelines, and Supplemental Information Needs*

## **TASK 3: asset inventory and condition assessments**

ANNUAL CONSULTANT shall conduct an asset inventory and condition assessment of the SWTP facilities as defined herein.

### **3.1 Develop Asset Inventory**

ANNUAL CONSULTANT shall obtain and review relevant reports, plans, bid tabulations, and CMMS database information for the selected SWTP facility assets. Assets shall then be inventoried and catalogued. ANNUAL CONSULTANT shall conduct supplemental interviews with selected SWTP personnel, as necessary, to further identify the selected assets and refine the asset inventory.

ANNUAL CONSULTANT shall develop an asset classification system specific to the SWTP. This classification system shall be customized for the City's selected assets, based on functional processes and/or systems, and the assets catalogued accordingly. The inventory list shall be crosschecked with the assets identified in the field as part of Task 3.2.

NOTE: For the asset inventory and classification system, the non-proprietary *Water/Wastewater Asset Manager* (WAM) software developed by ANNUAL CONSULTANT shall be utilized for internal data management. Output from the WAM software shall then be incorporated with the *GBA Master Series* enterprise asset management system (EAMS) selected by the City. ANNUAL CONSULTANT shall work with applicable City staff as necessary regarding appropriate EAMS field development and data compatibility.

### **3.2 Perform Condition Assessment**

ANNUAL CONSULTANT shall provide an Asset Assessment Team consisting of discipline specialists (structural, civil/process, mechanical, and electrical/instrumentation) to conduct field conditional assessments of the selected assets. Field assessments shall include site inspection and evaluation of remaining useful service and economic lives, condition, risk, vulnerability, criticality, and other parameters for selected assets. Import of photos for

selected assets (as applicable) shall also be completed to further document the existing condition of the assets, as well as to generate a “baseline” for evaluating depreciation and conducting future assessments.

### **3.3 Risk Determination**

Upon completion of the asset inventory and field condition assessment effort, ANNUAL CONSULTANT shall populate the results of the asset assessments into the WAM software, including asset condition and other supplemental information. Determination of criticality [consequence of failure] and vulnerability [likelihood of failure] rankings shall be completed based on the information obtained during the condition assessments and the City staff’s knowledge of the operational procedures. The asset-specific criticality and vulnerability rankings shall be used to calculate a corresponding risk factor for prioritization purposes.

### **3.4 Develop Replacement Costs**

ANNUAL CONSULTANT shall utilize and evaluate existing financial information, including historical costs, year of installation, and original ENR indices, to develop current and replacement costs for each asset. Replacement costs shall represent total project costs, and shall include contingencies for engineering and labor, as well as increased costs for escalation. This information shall be populated in the selected asset management software and database for the preliminary valuation.

### **3.5 Develop Summary Memorandum**

ANNUAL CONSULTANT shall prepare a Draft Memorandum on the SWTP Asset Inventory and Condition Assessment summarizing the results of the inventory and assessment for the SWTP per Task 3. Contents of this Draft Memorandum shall be reviewed with the City in a workshop, and comments received shall be incorporated and finalized for inclusion as a chapter into the overall Summary Report, in accordance with Task 5 herein.

*Deliverable: Draft Memorandum on the SWTP Asset Inventory and Condition Assessment*

## **TASK 4: Project Prioritization And CIP Development**

Based on the outcome of Tasks 2 and 3, ANNUAL CONSULTANT shall provide the City with an approach for prioritizing projects, considering the competing needs for funding between water and wastewater, as well as operations and treatment.

### **4.1 Project Prioritization**

#### **4.1.1 Establish Metrics and Drivers**

ANNUAL CONSULTANT shall determine the metrics and/or drivers to implement a renewal/replacement (R&R) project. These criteria shall determine priority for which assets should be repaired or replaced, and when the renewal/replacement should take place. These criteria may include but are not limited to regulatory drivers, cost, return-on-investment (ROI) analyses, and level of service (LOS) goals for the asset.

#### **4.1.2 Establish Ranking Criteria and CIP Decision-Making**

ANNUAL CONSULTANT shall establish ranking criteria to be used in the prioritization of R&R projects. These criteria may include timing for project implementation and risk of failure to implement the project. ANNUAL CONSULTANT shall also establish additional criteria to compare R&R projects for inclusion in the City’s annual capital improvement project (CIP) program. ANNUAL CONSULTANT shall prepare a Draft Memorandum on Recommended Project Prioritization Procedures.

*Deliverable: Draft Memorandum on Recommended Project Prioritization Procedures*

### **4.2 Development of CIP Guidelines**

#### **4.2.1 Optimize Annual CIP Process**

ANNUAL CONSULTANT shall identify the decisions to be made to evaluate and optimize the annual CIP process, based on the Vision Coordination Workshop, and develop a schedule identifying these decisions to provide timely development, review, and completion of the CIP. ANNUAL CONSULTANT shall also identify the roles and responsibilities of departmental groups to provide the necessary information for the decision-making process.

#### **4.2.2 Development 20-Year Replacement CIP**

ANNUAL CONSULTANT shall develop an annual CIP for the replacement of SWTP assets based on the results of Task 2. The CIP shall be developed for a 20-year planning horizon, and shall include prioritization of asset replacements based upon the results of the risk analyses. The CIP shall be limited to project replacement costs of the assets (based on the determined project costs including a City-approved annual escalation factor) and not repair costs.

#### **4.2.3 Develop CIP Guideline Document**

ANNUAL CONSULTANT shall develop a Draft CIP Guideline Document for City's preparation of the annual CIP. This document shall include a summary of the steps involved with each of the preceding tasks, and can be utilized as a guidebook for implementing the annual CIP.

*Deliverable: Draft CIP Guideline Document*

### **TASK 5: Deliverables**

#### **5.1 Draft Project Deliverables and Review Workshops**

ANNUAL CONSULTANT shall produce multiple draft project documents in hardcopy format for submittal to the City throughout the duration of the Project, as identified under the specific tasks herein. ANNUAL CONSULTANT shall submit ten (10) copies of each draft deliverable for City review and approval. Following submittal of each draft deliverable, ANNUAL CONSULTANT shall coordinate with City in a review workshop setting to review the contents of each draft deliverable and receive comments by City staff. A maximum of four (4) review workshops are anticipated.

#### **5.2 Final Project Deliverables**

Upon receipt of comments from workshops and/or written comments by City, ANNUAL CONSULTANT shall incorporate the final versions of draft memoranda into a *Surface Water Treatment Plant - Asset Management Program (AMP) Summary Report* for submittal and review by the City. ANNUAL CONSULTANT shall submit ten (10) final copies of the Summary Report to the City. Electronic version of the final Summary Report shall also be provided on CD-ROM to the CITY.

As previously identified, ANNUAL CONSULTANT shall coordinate with City staff as necessary to incorporate asset management data into the selected EAMS software/database.

**Deliverable: Draft and Final Surface Water Treatment Plant - Asset Management Program (AMP) Summary Report (and corresponding data integration)**

**EXHIBIT B  
FEE SCHEDULE**

DESIGN AND STUDY PHASE TASKS		Categories					Subtotals
		Senior Professional	Project Professional	Assistant Professional	Senior Technician	Clerical	
<i>Hourly Rates</i>		\$ 208.00	\$ 174.00	\$ 138.00	\$ 101.00	\$ 70.00	
<b>Task 1</b>	<b>Project Management Services</b>						
1.1	Project Plan	4	16	8		4	32
1.2	Project Management (6 mos)	12	24			12	48
1.3	Project Progress Meetings (3 total)	6	6	6			18
<b>Subtotal Task 1</b>		<b>22</b>	<b>46</b>	<b>14</b>	<b>0</b>	<b>16</b>	<b>98</b>
<b>Task 2</b>	<b>Program Planning and Visioning</b>						
2.1	Review Existing Information	2	4	16			22
2.2	Visioning Coordination Workshop	4	4	4			12
2.3	Refine Asset Guidelines		4	4			8
2.4	Identify Supplemental Information Needs		4	8			12
2.5	Develop Summary Memorandum	2	8	16		16	42
<b>Subtotal Task 2</b>		<b>8</b>	<b>24</b>	<b>48</b>	<b>0</b>	<b>16</b>	<b>96</b>
<b>Task 3</b>	<b>Asset Inventory and Condition Assessments</b>						
3.1	Develop Asset Inventory		8	40	24	16	88
3.2	Perform Condition Assessment		200	160			360
3.3	Risk Determination	4	16	40			60
3.4	Develop Replacement Costs	4	24	120		40	188
3.5	Develop Summary Memorandum	4	24	120		80	228
<b>Subtotal Task 3</b>		<b>12</b>	<b>272</b>	<b>480</b>	<b>24</b>	<b>136</b>	<b>924</b>
<b>Task 4</b>	<b>Project Prioritization and CIP Development</b>						
4.1	Project Prioritization	4	24	32		16	76
4.2	Development of CIP Guidelines	4	8	40		8	60
<b>Subtotal Task 4</b>		<b>8</b>	<b>32</b>	<b>72</b>	<b>0</b>	<b>24</b>	<b>136</b>
<b>Task 5</b>	<b>Deliverables</b>						
5.1	Draft Project Deliverables and Review Workshops (4 total)	8	8	8		8	32
5.2	Final Project Deliverables	4	16	32		4	56
<b>Subtotal Task 5</b>		<b>12</b>	<b>24</b>	<b>40</b>	<b>0</b>	<b>12</b>	<b>88</b>
<b>Total Labor Manhours</b>		<b>62</b>	<b>398</b>	<b>654</b>	<b>24</b>	<b>204</b>	<b>1,342</b>
<b>Total Labor Cost</b>		<b>\$12,896</b>	<b>\$69,252</b>	<b>\$90,252</b>	<b>\$2,424</b>	<b>\$14,280</b>	<b>\$189,104</b>
<b>OTHER DIRECT COSTS</b>							
1) Project mileage, travel, graphics and reproduction							\$ 5,000
<b>NOTES</b>							<b>Total Other Direct Costs \$ 5,000</b>
1) Assumes a 180 calendar day project duration.							
<b>TOTAL PROJECT COST</b>							<b>\$ 194,104</b>