



# Staff Report

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**Agenda Item:**           **SOUTHWESTERN ENVIRONMENTAL CONSULTANTS, INC. (SEC) CHANGEORDERS (2) FOR THE WASTEWATER TREATMENT PLANT (WWTP) PROJECT**  
– Discussion and consideration on two (2) SEC, Inc. Change Orders for the Wastewater Treatment Plant Project.

**Meeting Date:**           April 24, 2012

**Prepared By:**           Wayne Debrosky, Utilities Director

**Background:**           The original 30% and 60% design plans and preliminary project budget contained budget lines for both project construction management (CM) and regulatory permitting. The funds in those lines were budgeted to either SEC, Inc. and/or Felix Construction based on the information available at the 30% design stage. These two (2) proposed change orders will clarify responsibilities for the CM of the project and officially designate budgetary line item funding for the project CM to SEC, Inc., and allows some of the monies originally identified for Regulatory Permitting to be used for CM. The two (2) proposed change orders clarify funding options and assign responsibility for the CM of the project that are different than the proposed responsibilities and funding as envisioned at the 30% design phase of the WWTP project. The net increase in cost for these two (2) change orders is \$7,251.00 and represents an increase, from \$20,000.00 to \$27,251.00, in the costs for geotechnical testing of the site.

**Recommendation:**   Staff recommends that the Council approve the two (2) Change Orders for SEC, Inc. concerning the Construction Management, and for clarification of the use of funds that were originally identified for construction management and project regulatory permitting.

**DRAFT**

April 9, 2012

Wayne Debrosky  
Town of Clarkdale  
15 N. Ninth Street  
Clarkdale, Arizona 86324

RE: **CLARKDALE WASTEWATER TREATMENT PLANT DESIGN**  
Proposal for Changes to scope of work for permitting (Change Order 2)

Dear Mr. Debrosky,

The purpose of this letter is to discuss a proposed adjustment to our contract dated 10/12/2011. Part of that contract was a time and materials budget of \$74,000 for permitting. This work has proceeded well and it appears that part of the budget may be available for other work. We have identified work not anticipated when we developed the original CM budget such as sludge removal process changes, review of options and other relevant work which were unforeseen at the preliminary stage. We would like to propose change the "scope of work" for the permitting section and to use that budget for construction administration work carried out by SEC.

Attached is a formal amendment to the changes based on Exhibit E of the contract.

If you have any questions, please do not hesitate to contact me at 928-282-7787, or project manager, Krishan Ginige at 928-282-7787 ext 1019.

Sincerely,

Luke A. Sefton, P.E., CFM  
Vice President

EXHIBIT E

DRAFT

CHANGE ORDER NO.: 02

Distribution:

TOWN	[ X ]
A/E	[ X ]
CM (If any)	[ ]
OTHER	[ ]

PROJECT: WWTP  
 OWNER: Town of Clarkdale  
 A/E: SEC, Inc

DATE: 4/9/2012

AGREEMENT DATED: 10/12/2011

CHANGES: The Agreement is changed as follows due to:  
Change in scope of work for the permitting as described in the attached letter dated 4/6/12 Re: Changes to scope of work for permitting

**Select the type of Change Order:**

**I. FUNDING CHANGE:**

Original Contract Amount	\$ 356,823.00
Net change by previously authorized Change Orders	\$ 179,171.40
Compensation prior to this Change Order	\$ 188,529.12
Compensation increase by this Change Order	\$ 0.00
New/Adjusted Contract Amount including this Change Order	\$ 535,994.40

**II. TIME EXTENSIONS:**

Original number of days to complete the contract	<u>18</u> Months
	(until March 2013, Due to APP)
Time extension requested	<u>0</u> Months
Total cumulative days to complete the contract	<u>18</u> Months

ACCEPTANCE STATUS: Not valid until signed by both Town and A/E.

\_\_\_\_\_  
 A/E  
 Name: \_\_\_\_\_  
 Date: \_\_\_\_\_

\_\_\_\_\_  
 Town of Clarkdale  
 Name: \_\_\_\_\_  
 Date: \_\_\_\_\_



- SINCE 1974 -

SOUTHWESTERN  
ENVIRONMENTAL  
CONSULTANTS, INC.

E-mail: [info@sec-landmgt.com](mailto:info@sec-landmgt.com)  
[www.sec-landmgt.com](http://www.sec-landmgt.com)

DRAFT

April 9, 2012

Wayne Debrosky  
Town of Clarkdale  
15 N. Ninth Street  
Clarkdale, Arizona 86324

RE: **CLARKDALE WASTEWATER TREATMENT PLANT DESIGN**  
Proposal for Construction Management and Preparation of record drawings  
Change Order 1

Dear Mr. Debrosky:

Southwest Environmental Consultants, Inc. (SEC) is pleased to formally submit a request for change order according to paragraph 3.1 of our contract with Town of Clarkdale signed by the Town on 10/12/2011. This Proposal is to extend the services for Construction Management (CM) and Preparation of record drawings (Civil/Electrical) for the new Wastewater Treatment Plant for the Town of Clarkdale.

### **PROJECT UNDERSTANDING**

The Town of Clarkdale wishes to design and build a new 350,000 gpd mechanical Wastewater Treatment Plant (WWTP) located at the existing Clarkdale Lagoon Plant. The new plant will be capable of producing A+ effluent and will replace the existing aerated lagoon plant which produces a Class B effluent. The project will also include consideration of an expansion to 1,050,000 gpd. Prior to building the new plant, the existing plant will be redesigned to allow for simultaneous operations during construction and a new effluent pump station will be built. The current Stabilization Pond will be dewatered and all the sludge removed to prepare the site for the new plant.

This proposal details the CM and Record keeping effort required for the completion of the new WWTP project. The design is based on using equipment from the Desert Oasis Treatment Plant located in Surprise, Arizona that is decommissioned and stored on site for use. The construction will be by Felix Construction and the work will be performed under a Job Order Contract. All work to be carried out using designs and drawings by SEC, which will be issued under two releases ; Phase I (Effluent Pump Station and bypass work), & Phase II (All remaining work).

Part of the work will be assisting the contractor in the management of solids in the lagoon and carrying out interim operation of the plant during construction. This includes evaluation of the treatment capabilities of the Aerated Lagoon which is partially filled with sludge and evaluating alternative options for sludge removal. This will be most important insuring the dewatering of the stabilization pond, at that time the Aerated Lagoon will need to treat

*Growth is inevitable...it's planning that makes the difference.*

incoming sewage and managing the flows from the stabilization pond. Work in support of this effort will be covered in Change Order 2.

### **KEY PERSONNEL**

Our in-house team provides a multidisciplinary approach to design solutions. Our positive reputation with various governmental entities locally in Northern Arizona is a testament to the success of the coordinated, multidisciplinary approach.

For this commitment, we have assembled a dynamic team of professionals that consist of: Luke Sefton, P.E., CFM, who will oversee all aspects of the project to ensure that SEC meets its contractual obligations and adequate resources are provided. Krishan Ginige, P.E., MS, will be the Project Manager and head the team. He will be responsible for on-going construction management, sub-consultant and staff coordination. He will be the engineer responsible for overall services and interface with other personnel within SEC and the contact for the Town of Clarkdale. Fred E. Goldman, Ph.D., P.E., as the Senior Design Engineer will work on design/permitting processes & CM work as needed. This effective team will be supported by Mark Farr, R.L.S., who will oversee all surveying needs, and William Kantor, P.E., who will provide structural engineering support as-needed. Soils engineering will be handled by Richard G. Kelley, P.E., Geotechnical Engineer of Engineering Technical Consultants (ETC). Site electrical will be overseen by Darwin Reynolds, P.E. with DARCor. Day to day site supervision will be carried out by a SEC team including Neil Johnson, Neil Wilson, Thushari Ginige, E.I.T. & Timothy Huskett.

### **PROJECT APPROACH**

The construction management will be to co-ordinate with the Town, Felix construction (and their sub contractors through Felix), regulatory agencies, and SEC and its sub consultants (DARCor & ETC). Preparations of Record Drawings include Civil/Mechanical, Geotechnical & Electrical.

The following categories outline the work needed for a successful completion of the project (based on available information).

#### **Construction Management**

- Progress meetings (assumed to be on a monthly basis)
- Interim site inspection
- Respond to RFI
- Issue Clarifications
- Issue Field Directives
- Review submittals
- Testing (the work will be coordinated through Felix construction)
- Review and finalization of contractor payment applications
- Prepare punch list and assist in project close-out.

Due to the uniqueness of this project the time required for above work is difficult to estimate. In similar projects we will have a supervisor present for all major activities and durations. This would be a substantial time involvement in our part. As this is a JOC and the Town has expressed the willingness to co-ordinate in the inspection, WIFA documentation and record keeping efforts, we may be able to reduce the time involvement in inspection. We have

estimated 2 hours per day for the duration of the project to complete the CM work (assumed to be 12 months).

#### **Preparation of Civil record drawings**

- Intermittent Site inspection/Observation
- Preparation of field observation reports
- Review and compile test reports
- Prepare Record Drawings
- Review contractors O&M manuals.
- Prepare project O&M Manual

#### **Geotechnical Testing (By ETC)**

Following major categories have been identified as necessary for geotechnical certification & the estimated durations based on the available information.

- Earth work testing (235 hrs)
- Concrete testing (30 hrs)
- Special inspection (50 hrs)
- Laboratory testing (57 hrs)

#### **Preparation of Electrical record drawings (By DARCor)**

- Coordination during construction
- Submittal/shop drawing reviews
- Respond to contractor RFI's/clarification requests
- Prepare field orders
- Underground site observations (two assumed)
- Underground Site observation reports
- Substantial completion walk-thru
- Prepare punch list and list of close-out req'ts
- Startup and commissioning (2-days)
- Final inspection and report
- Review O&M Manuals
- Prepare of record drawings
- Miscellaneous tasks

Inspection and as built certification is based on the construction sequence and the progress. We have anticipated 40 hrs for underground conduit inspection & 154 hrs for electrical inspection and As-built certification as identified above.

#### **As Built Surveying & Construction Staking**

Construction staking will cover the following and will be coordinated with Felix Construction:

- Establishing temporary site control points for construction (10 max)
- Control grids for all major concrete pads
- Inverts and control points for pipes
- BTU staking
- Pipes- construction stakes at ever 50' in straight runs, 25' in curvature and locations of all underground fittings
- Slope stakes and grade control stakes (max 50)

We have estimated 100 hrs to carry out the construction staking

Supplementary Surveying for preparation of record drawings- This work will be a supplement to the information provided by Felix. Following data will be collected as a part of surveying

- Inverts of pipes accessible from a manhole.
- Locations of major equipment
- Finish floor elevations for all buildings
- Final grading and drainage

We have estimated 100 hrs to carry out the Supplementary Surveying for preparation of record drawings staking

**OUT OF SCOPE WORK NOT ANTICIPATED IN CM & AS-BUILT CERTIFICATION PROPOSAL THAT MAY BE REQUIRED:**

1. Flood studies & Letter of Map Revision (LOMR).
2. Additional Bank protection
3. Headworks odor control
4. Borrow pits 1 & 2 are to be rough graded to eliminate any ponding. No detail grading plans, detention structures are anticipated at this time.
5. Additional work related to interim operations or sludge management will be covered under Change Order 2.
6. Application fees

The time required for above work is based on the progress of physical construction. It is estimated the time frame to complete the work would be 12 months from date of start of construction.

Due to the uncertainty in physical construction efficiency, and the uniqueness of this project the CM effort is a best guess estimate at 2 hrs per day for 12 months. RFI's or Directives due to unforeseen conditions will be accommodated under the permitting section to the limit of the budget (a separate letter will be forwarded to the Town to formalize this work).

SEC proposes to do the above mentioned CM work for hourly rates not to exceed a total of **\$179,171.40** without permission. SEC will inform the town when it reaches 80% of the budget but will not be able to work beyond the budget maximum without an adjustment to the budget. Following is a breakdown of the major work segments

Construction Management	67,600.00
Preparation of Civil record drawings	33,800.00
Geotechnical Testing (By ETC)	27,251.40
Preparation of Electrical record drawings (By DARCOR)	25,520.00
Supplementary Surveying for preparation of record drawings	12,500.00
Construction Staking	12,500.00
	<b>179,171.40</b>

Thank you for the opportunity to work for the Town of Clarkdale to develop this important project. Attached is the formal amendment using Exhibit E of the contract to finalize the work. If you have any questions, please do not hesitate to contact me at 928-282-7787, or the Project Manager, Krishan Ginige at 928-282-7787 ext 1019.

Sincerely,

RAFT

Luke A. Sefton, P.E., CFM  
Vice President

LAS:kg:jmr

EXHIBIT E

DRAFT

CHANGE ORDER NO.: 01

Distribution:

TOWN	[ X ]
A/E	[ X ]
CM (If any)	[ ]
OTHER	[ ]

PROJECT: WWTP  
 OWNER: Town of Clarkdale  
 A/E: SEC, Inc

DATE: 4/9/2012

AGREEMENT DATED: 10/12/2011

CHANGES: The Agreement is changed as follows due to:  
As described in latter dated 4/9/12 Re: Proposal for Construction Management and As Built Certification

**Select the type of Change Order:**

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