
Corporate Headquarters

3788 McCray Street | Riverside, CA 92506 | T: 951.686.1070 | F: 951.788.1256

Desert Region

36-951 Cook Street #103 | Palm Desert, CA 92211 | T: 760.568.5005 | F: 760.568.3443

W.O.: 010849

February 5, 2015

Mr. Karl Drew, General Manager
CRESTLINE VILLAGE WATER DISTRICT
P.O. Box 3347
Crestline, California 92325-3347

RE: Proposal for Engineering Services during Construction of the Zurich III Tank Project

Dear Karl:

Pursuant to the District's request, we have prepared this letter proposal for the subject project's specified engineering services. This letter proposal is comprised of the following sections:

1. Project Understanding
2. Scope of Work
3. Project Team

SECTION 1: PROJECT UNDERSTANDING

Overview

Crestline Village Water District (District) is soliciting bids for the construction of the 0.20 MG Zurich III tank. The construction support work will include submittal reviews, geotechnical inspection and testing, coating inspection and miscellaneous support services as outlined below. It is anticipated that the District will contract directly with the geotechnical firm and the coating inspection firm based on the recommendation provided in this proposal. Webb will provide submittal review and construction support services as needed as the project progresses. The District will provide services not specifically listed in this proposal such as inspection of the tank construction, appurtenances and site work.

SECTION 2: SCOPE OF WORK AND BUDGET

General

Webb shall perform the following Scope of Services for the Zurich III Tank Project.

1. Submittal Review and Construction Support - Engineering

- Review tank design calculations for conformance to the specification requirements.
- Review tank construction shop drawings and details for conformance to the specification requirements.
- Review other material submittals for conformance to the specification requirements.
- Review RFI's and change orders.
- Review compaction testing and inspection reports for conformance to the specification requirements.
- Assist the District in Contract administration and initial progress payment reviews
- Attend the pre-construction conference.
- Provide inspection services during construction of the tank ring wall, ten days of inspection time are budgeted.
- Attend site meetings/visits. Three meetings/visits are budgeted.
- Attend final site walk-through / inspection and develop punch list.
- Coordinate construction activities and inspection requirements.
- Assist the District during construction, as requested by the District.
- Provide Survey Support during construction
 - Set site benchmark
 - Stakes for construction of the ring wall
 - Confirm ring wall form elevations prior to pouring foundation
 - Confirm ring wall/tank floor elevation prior to filling tank
 - Provide lines and grades for grading work around the tank

Webb Associates proposes to provide the above services during the construction phase of the project for \$70,270. The District should plan on a contingency of 10% or \$7,027 for additional engineering work should unforeseen circumstances arise during construction.

Based upon the project's Scope of Work, our engineering services budget is as follows:

<u>ENGINEERING SERVICES TASK</u>	<u>TOTAL ESTIMATED ENGINEERING SERVICES BUDGET⁽¹⁾</u>
1. Review Tank Calculations and Drawings.....	\$17,220
2. Review Submittals	\$6,890
3. Review RFI's	\$5,850
4. Construction Inspection for Ring Wall and Support	\$22,880
5. Construction Survey and Support.....	\$10,860
6. Attend Kick off Meeting, Site meetings and Final Walk	\$5,440
7. Expenses	\$1,130
Total	<u>\$70,270</u>

As previously discussed, we have included two optional tasks. Task O-1 is the preparation and distribution of weekly working day statements that would document the expended contract time in order to assist the District and the contractor in maintaining the completion schedule and provide the District substantiation should you wish to impose liquidated damages for late completion of the contract. The second optional task (Task O-2) is for periodic construction inspection. We have assumed our inspector would visit the site once per week during tank erection to monitor for contract compliance and workmanship. Should the District decide to include Optional Tasks O-1 or O-2 as budgeted below, the total budget shown above would need to be increased accordingly.

<u>OPTIONAL ENGINEERING SERVICES TASK</u>	<u>ESTIMATED ENGINEERING SERVICES BUDGET</u>
O-1. Working Day Statements	\$3,230
O-2. Miscellaneous Construction Inspection	\$5,584

2. Geotechnical Observation and Testing

Soils Exploration Company, Inc. proposes to provide inspection services during over-excavation and re-compaction of the site, materials testing for the on-site soils and concrete poured for the foundation. Webb estimates the inspection hours required for

⁽¹⁾ The amounts indicated for each individual project task are estimated budget amounts; and accordingly, the actual amounts may be more or less than shown. However, the overall total for engineering services as described in the Scope of work will not be exceeded without written authorization from the District.

this project at 42 hours, plus budget for other items such as attendance at the pre-construction meeting, laboratory testing and reports. In addition, SEC will perform exploratory work when Zurich I tank is demolished to confirm the over-excavation and re-compaction recommendations. Based on the proposals attached in Appendix A, the District should execute a contract for \$7,000 to Soils Engineering Company, Inc. for geotechnical observation and testing. The District should plan on a contingency of 15% or \$1,050 for additional geotechnical work should unforeseen circumstances arise during construction.

3. Coating Inspection

CSI Services, Inc. proposes to provide comprehensive coating inspection services during the coating of the tank shell. CSI proposes a budget of \$26,250 for the project based on 35 days of inspection time, which accounts for enough contingency time to complete the work based on past projects. The specification allows for 35 working days for coating inspection. Webb recommends that the District does not need additional contingency for coating inspection.

4. Contract Administration and General Project Inspection

As with past projects, CVWD staff will handle the contract administration, final partial pay estimates, general project inspection support, coordination of contractor and support services and overall construction management.

SUMMARY OF RECOMMENDED BUDGET

For final project budgeting based on our experience with implementation of previous projects of similar size and complexity, Webb recommends that the District execute the following contracts and plan for the contingencies per the following table.

Task(s)	Consultant	Contract Amount	Contingency
Engineering Support	Webb Associates	\$70,270 ⁽¹⁾	\$7,027
Geotechnical Support	Soils Exploration Company	\$7,000	\$1,050
Coating Inspection	CSI Services, Inc.	<u>\$26,250</u>	<u>\$0</u>
Totals		\$103,520	\$8,077

A copy of the proposals from Soils Exploration Company and CSI Services Inc. are attached.

⁽¹⁾ Does not include budget for optional Task O-1(\$3,230) or Task O-2 (\$5,584).

Additional Services

Services which are not specifically identified herein as services to be performed by Webb Associates are considered Additional Services for the purposes of this Proposal. The District may request that Webb Associates perform services which are considered Additional Services.

SECTION 3: PROJECT TEAM

The Webb Associates project team is anticipated to be as follows:

NAME	TITLE	PROJECT ROLE
Wally Franz, P.E.	Vice President	Principal-In-Charge
Dave Algranti, P.E.	Chief Design Engineer	QA/QC
Bradley Sackett, P.E.	Senior Engineer	Project Manager
Seungwon Won, P.E.	Senior Engineer	Project Engineer
Flo Smith	Project Coordinator	Administrative Support

Brad Sackett will be the day to day contact and is available at either (951) 686-1070 or brad.sackett@webbassociates.com to address any questions or concerns over the course of the project.

Should you have any questions or require additional information, please contact our office.

Sincerely,

ALBERT A. WEBB ASSOCIATES



Bradley A. Sackett, P. E.
Senior Engineer



Wally Franz, P. E.
Vice President

BAS/WF:fs

Enclosures: Soils Exploration Inc. proposals
CSI Services, Inc. proposal



SOIL EXPLORATION COMPANY, INC.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

January 15, 2015

Project No. 8045-05

TO: Crestline Village Water District
c/o Albert A. Webb Associates
3788 McCray St.
Riverside, CA 92506

ATTENTION: Bradley A. Sackett, PE, Senior Engineer

SUBJECT: Cost Estimate for Subsurface Soil Investigation Report, CVWD Proposed 0.2 MG Zurich III Tank Site, 333 Old Mill Road, Crestline, San Bernardino County, California

Introduction

As requested, we have prepared the following scope and cost estimate for the subject investigation report. We understand that the existing Zurich I (0.17 MG) tank at the site will be removed and replaced with this new tank.

Scope

- Review previous report and data for Zurich II tank in our files.
- Subsurface exploration of the site by means of at least 2 backhoe excavations at select locations.
- Field Engineer (California Registered RCE) to perform compaction tests at depths of 2 and 5 feet in the excavations.
- Perform laboratory maximum density/optimum moisture test(s) (ASTM D1557-09).
- Consult with Albert A. Webb, project design engineers.
- Prepare a report summarizing our findings and recommendations, including site preparation and allowable bearing value for proposed ring footing/foundation, general earthwork and grading specifications, compaction requirements and Cal/OSHA classification of onsite earth materials.

Cost

Our fee for the above scope of work will be \$2,000.00. Please note that this does not include rental of a backhoe (with operator), which will be provided by CVWD. The invoice(s) for our services will be forwarded to CVWD with copies to Albert A. Webb Associates.

Closure

Should you have any questions or concerns regarding this proposal, please do not hesitate to call this office. We appreciate this opportunity to be of continued service to CVWD and Albert A. Webb Associates.

Very truly yours
Soil Exploration Co., Inc.

G K Luu

Gene K. Luu, PE 53417
Project Engineer

Distribution: [1] Addressee
[1] CVWD, Attention: Karl Drew, General Manager
Attachment: Work Authorization and Agreement



SOIL EXPLORATION CO., INC.

PLEASE SIGN AND RETURN ONE COPY TO: 7535 JURUPA AVENUE, UNIT C, RIVERSIDE, CA 92504

PHONE (951) 688-7200 • FAX (951) 688-7100

SOILEXPLORATION@YAHOO.COM • WWW.SOILEXP.COM

WORK AUTHORIZATION AND AGREEMENT

DATE: January 15, 2015

PROJECT NO: 8045-05

This Agreement is made as of the date of the last authorization signature below, between consultant and the CLIENT identified in Paragraph 1 below.

1. CLIENT:	Crestline Village Water District	PHONE:	(951) 686-1070
ADDRESS:	c/o Albert A. Webb Associates, 3788 McCray St., Riverside, CA 92506		(951) 248-4209 Direct
CONTACT:	Bradley A. Sackett, PE, Senior Engineer	FAX:	(951) 788-1256
OWNER:		E-MAIL:	brad.sackett@webbassociates.com
ADDRESS:			

- 2. PROJECT LOCATION: CVWD Proposed 0.2 MG Zurich III Tank Site, 333 Old Mill Road, Crestline, San Bernardino County, California
- 3. PROJECT DESCRIPTION: Subsurface Soil Investigation Report
- 4. SCOPE OF WORK: See Proposal Dated 1/15/15
- 5. ESTIMATED BUDGET: \$ 2,000.00
- 6. ADVANCE PAYMENT: N/A
- 7. INVOICE TO: Client
- 8. REPORT DISTRIBUTION: [3] Client
- OTHER: N/A
- 9. TERMS AND CONDITIONS: CLIENT has read the terms and conditions on the lower side hereof, understands each condition and term of this Agreement and agrees to be bound thereby.
- 10. LIMITATION OF LIABILITY: CLIENT AGREES THAT THE LIABILITY OF SEC'S FOR CLAIMS, DAMAGES, COSTS OF DEFENSE, EXPENSES, OR JUDGMENTS ON ACCOUNT OF DESIGN DEFECTS, ERRORS, OMISSIONS, OR PROFESSIONAL NEGLIGENCE RELATED TO THE PROJECT SHALL NOT EXCEED THE SUM OF \$5,000.00 OR SEC'S FEE AS SET FORTH IN PARAGRAPH 5 ABOVE, WHICHEVER IS LESSER.

Signature of Authorized Agent of Client

Date

Signature of Soil Exploration Co., Inc. Agent

1-15-2015

Date

TERMS AND CONDITIONS

CONSULTANT agrees to provide technical and professional advice regarding geotechnical conditions and to use its professional judgment and perform its services using that degree of care and skill ordinarily exercised in the geotechnical consulting profession, under similar circumstances, by reputable geotechnical consultants practicing in the area. CLIENT acknowledges that the identification of geotechnical conditions and the prediction of future or concealed conditions is an inexact scientific endeavor. No warranty, expressed or implied, of merchantability or fitness is made or intended in connection with the work to be performed or by the furnishing of any oral or written reports by consultant. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

CLIENT agrees to pay all fees as rendered on monthly invoices within 30 days of the date therein. CLIENT agrees that CONSULTANT may suspend services pending receipt of any past due payment for fees. Should any invoice remain outstanding for 45 days or more, CONSULTANT may discontinue services and/or demand prepayment of fees at CONSULTANT'S option.

CLIENT will grant or obtain free access to the site for all personnel and equipment required to perform the work. While CONSULTANT will take reasonable precautions to minimize damage to site, CLIENT is responsible for identifying underground structures and agrees to defend, indemnify and hold CONSULTANT harmless from all loss and damage resulting from underground structures not properly located and marked.

CLIENT agrees to provide all information in its possession that may be pertinent to the scope of work, including any information concerning actual or possible presence of hazardous materials. CLIENT agrees that the discovery of unanticipated hazardous materials constitute a changed condition mandating a renegotiation of the scope of work or termination of services. CLIENT agrees to compensate CONSULTANT for all costs incident to the discovery of unanticipated hazardous materials. CLIENT will indemnify and save CONSULTANT harmless from any claim, liability or injury, including delay of the project associated with the discovery of unanticipated hazardous materials or any disclosure of these conditions as required by governing law or regulation. All hazardous materials, including samples taken for testing, will remain the property and responsibility of the CLIENT.

CLIENT/OWNER shall defend and indemnify Soil Exploration Co., Inc. from and against any and all claims, liability, and expenses on account of personal injury, property damage, economic loss, or otherwise arising out of, or in any way connected with Soil Exploration Co., Inc.'s work pursuant to this contract or presence at the project, except for loss caused by the sole negligence or willful misconduct of Soil Exploration Co., Inc. This provision shall be triggered, except as stated herein, even if negligence or fault by Soil Exploration Co., Inc., whether active, passive, or otherwise, contributed to said claim, liability, or expense.

All promises of services time are approximated and subject to the CLIENT and his contractor's schedules, weather conditions, disputes with workmen or parties, accidents, strikes, natural disasters or other causes. In no event shall CONSULTANT be responsible for any damage or expenses due to delays from any causes.



SOIL EXPLORATION COMPANY, INC.

Soil Engineering, Environmental Engineering, Materials Testing, Geology

January 19, 2015

Project No. 8045-06

TO: Crestline Village Water District
c/o Albert A. Webb Associates
3788 McCray St.
Riverside, CA 92506

ATTENTION: Brad A. Sackett, PE

SUBJECT: Cost Estimate for On-Call Observations and Field Density Testing Services During Grading and Construction, Proposed CVWD 0.2 MG Zurich III Tank Site, Crestline, San Bernardino County, California

As requested, we have prepared the following scope and cost estimate for the subject services. Since the extent and the time to complete the grading is not known, our field engineer's services have been included on an hourly basis.

Scope

- Field Engineer (California Registered PE)/observe ox bottoms/field density testing of fills..... \$ 75.00/hr*
- Laboratory Testing (optimum moisture/maximum density/soluble sulfate) (LS)..... 500.00
- Concrete Compression Tests (6 @ \$50.00 each)..... 300.00
- Final Compaction Report, including laboratory test results and locations, elevations and results of field density tests performed during grading and periodic reports of concrete compression tests (LS)..... 1,200.00

* Includes office review, coordination, vehicle use and nuclear gage use.

We propose that our field engineer's services be reimbursed at the above indicated per hourly rate basis. Please note that based on the industry practice a minimum of 4 hours will be charged per site visit. Daily field reports of work performed and hours charged will be provided for each site visit.

For planning purposes we suggest \$5,000.00 should be budgeted. Please note the cost of our services for construction of Tank II was \$6,080.00 where a deep recompaction of 8± feet of soils was required.

Closure

If the above meets with your approval, please sign attached Work Authorization and Agreement and/or issue a Purchase Order. Should you have any questions or concerns, please do not hesitate to call this office. We appreciate this opportunity to be of continued service.

Very truly yours,
Soil Exploration Co. Inc.

Gene K. Luu, PE 53417
Project Engineer

Distribution: [1] Addressee
Attachment: Work Authorization and Agreement



SOIL EXPLORATION CO., INC.

PLEASE SIGN AND RETURN ONE COPY TO: 7535 JURUPA AVENUE, UNIT C, RIVERSIDE, CA 92504

PHONE (951) 688-7200 • FAX (951) 688-7100

SOILEXPLORATION@YAHOO.COM • WWW.SOILEXP.COM

WORK AUTHORIZATION AND AGREEMENT

DATE: January 19, 2015

PROJECT NO: 8045-06

This Agreement is made as of the date of the last authorization signature below, between consultant and the CLIENT identified in Paragraph 1 below.

1. CLIENT:	Crestline Village Water District	PHONE:	(951) 686-1070
ADDRESS:	c/o Albert A. Webb Associates, 3788 McCray St., Riverside, CA 92506		(951) 248-4209 Direct
CONTACT:	Brad A. Sackett, PE	FAX:	(951) 788-1256
OWNER:		E-MAIL:	brad.sackett@webbassociates.com
ADDRESS:			

2. PROJECT LOCATION: Proposed CVWD 0.2 MG Zurich III Tank Site, Crestline, San Bernardino County, California
3. PROJECT DESCRIPTION: On-Call Observations and Field Density Testing Services During Grading and Construction
4. SCOPE OF WORK: See Proposal Dated 1/19/15
5. ESTIMATED BUDGET: See Proposal Dated 1/19/15
6. ADVANCE PAYMENT: N/A
7. INVOICE TO: Client
8. REPORT DISTRIBUTION: [3] Client
- OTHER: N/A
9. TERMS AND CONDITIONS: CLIENT has read the terms and conditions on the lower side hereof, understands each condition and term of this Agreement and agrees to be bound thereby.
10. LIMITATION OF LIABILITY: CLIENT AGREES THAT THE LIABILITY OF SEC'S FOR CLAIMS, DAMAGES, COSTS OF DEFENSE, EXPENSES, OR JUDGMENTS ON ACCOUNT OF DESIGN DEFECTS, ERRORS, OMISSIONS, OR PROFESSIONAL NEGLIGENCE RELATED TO THE PROJECT SHALL NOT EXCEED THE SUM OF \$5,000.00 OR SEC'S FEE AS SET FORTH IN PARAGRAPH 5 ABOVE, WHICHEVER IS LESSER.

Signature of Authorized Agent of Client

Date

4/19/15

Signature of Soil Exploration Co., Inc. Agent

Date

TERMS AND CONDITIONS

CONSULTANT agrees to provide technical and professional advice regarding geotechnical conditions and to use its professional judgment and perform its services using that degree of care and skill ordinarily exercised in the geotechnical consulting profession, under similar circumstances, by reputable geotechnical consultants practicing in the area. CLIENT acknowledges that the identification of geotechnical conditions and the prediction of future or concealed conditions is an inexact scientific endeavor. No warranty, expressed or implied, of merchantability or fitness is made or intended in connection with the work to be performed or by the furnishing of any oral or written reports by consultant. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

CLIENT agrees to pay all fees as rendered on monthly invoices within 30 days of the date therein. CLIENT agrees that CONSULTANT may suspend services pending receipt of any past due payment for fees. Should any invoice remain outstanding for 45 days or more, CONSULTANT may discontinue services and/or demand prepayment of fees at CONSULTANT'S option.

CLIENT will grant or obtain free access to the site for all personnel and equipment required to perform the work. While CONSULTANT will take reasonable precautions to minimize damage to site, CLIENT is responsible for identifying underground structures and agrees to defend, indemnify and hold CONSULTANT harmless from all loss and damage resulting from underground structures not properly located and marked.

CLIENT agrees to provide all information in its possession that may be pertinent to the scope of work, including any information concerning actual or possible presence of hazardous materials. CLIENT agrees that the discovery of unanticipated hazardous materials constitute a changed condition mandating a renegotiation of the scope of work or termination of services. CLIENT agrees to compensate CONSULTANT for all costs incident to the discovery of unanticipated hazardous materials. CLIENT will indemnify and save CONSULTANT harmless from any claim, liability or injury, including delay of the project associated with the discovery of unanticipated hazardous materials or any disclosure of these conditions as required by governing law or regulation. All hazardous materials, including samples taken for testing, will remain the property and responsibility of the CLIENT.

CLIENT/OWNER shall defend and indemnify Soil Exploration Co., Inc. from and against any and all claims, liability, and expenses on account of personal injury, property damage, economic loss, or otherwise arising out of, or in any way connected with Soil Exploration Co., Inc.'s work pursuant to this contract or presence at the project, except for loss caused by the sole negligence or willful misconduct of Soil Exploration Co., Inc. This provision shall be triggered, except as stated herein, even if negligence or fault by Soil Exploration Co., Inc., whether active, passive, or otherwise, contributed to said claim, liability, or expense. All geotechnical and structural aspects of the proposed development are subject to the review and approval of the governing agency(s). Please note that supplemental geotechnical consulting in response to the governing agency requests for additional information could be required and will be charged on a time and materials basis.

All promises of services time are approximated and subject to the CLIENT and his contractor's schedules, weather conditions, disputes with workmen or parties, accidents, strikes, natural disasters or other causes. In no event shall CONSULTANT be responsible for any damage or expenses due to delays from any causes.



P. O. Box 801357
Santa Clarita, CA 91380
Phone: 877.274.2422
Fax: 661.775.7628
www.CSIServices.biz

Providing Quality Technical Services to the Coating Industry

Via Email

January 10, 2015

Brad Sackett, PE
Senior Engineer
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506

Email: brad.sackett@webbassociates.com
Phone: 951.686.1070
Fax: 951.788.1256

Subject: Proposal 1550 - Coating Inspection Services

Re: New Zurich III Tank Project, CVWD

Dear Brad:

CSI Services, Inc. (CSI) is pleased to submit this proposal to support the above referenced project for the Crestline Valley Water District. Our Scope of Services and Fee Schedule are attached.

Thank you for this opportunity and should you have any questions or comments, I can also be reached through e-mail at psweeney@CSIServices.biz or cell 661-478-8900.

Sincerely,
CSI Services, Inc.

A handwritten signature in blue ink that reads 'Patrick Sweeney'.

Patrick Sweeney
Project Manager

Hawaiian Office: PO Box 671, Aiea, HI 96701
Northern California Office: PO 371 Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.

Consulting

Evaluations

Tank Diving

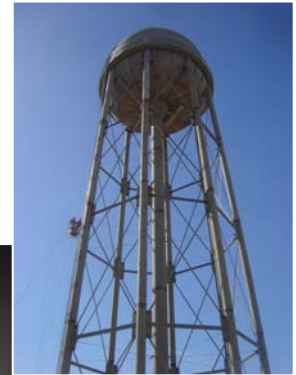
Inspection



CSI Services, Inc.
P.O. Box 801357, Santa Clarita, CA 91380
877.274.2422

Proposal 1550 Coating Inspection Services

New Zurich III Water Storage Tank Project
Crestline Valley Water District



Prepared for:

Brad Sackett, PE
Senior Engineer
Albert A. Webb Associates
3788 McCray Street
Riverside, CA 92506

Prepared by:

CSI Services, Inc.

A handwritten signature in blue ink that reads 'Patrick Sweeney'.

Patrick Sweeney
Project Manager

January 10, 2015

Hawaiian Office: PO Box 671, Aiea, HI 96701
Northern California Office: PO 371 Sonoma, CA 95476
Coating Specialists and Inspection Services, Inc.

Consulting

Evaluations

Tank Diving

Inspection



Scope of Services

CSI will provide quality assurance inspection services during the coating of the new Zurich II Water Storage Tank for the Crestline Valley Water District. CSI will provide technical as-needed consulting assistance and a qualified fully trained and equipped inspector throughout the progress of the work up to and including final acceptance. CSI will provide an independent, professional, and thorough inspection. CSI will not take any responsibility for the safety of others. CSI will complete all coating related verifications.

Coating Inspection

CSI has found that it can provide its clients the most versatile and technically competent quality assurance program through a team approach. This team of PCS's, inspectors, and administrative support personnel allow us to provide an up-to-date, competent, and efficient service product. The duty of this team approach is segmented into two tasks, which frequently overlap. Either the field inspector or the support personnel will complete the various tasks that will be required on this project. These two general segments of the team have been detailed below under two categories: Project Support Activities and Direct Field Inspection Activities. Unless called -out differently in the specification, CSI will complete the following applicable tasks:

Project Support Activities

1. CSI will participate in project start-up meetings, weekly job meetings, and any special interest meetings as required to discuss procedures, progress, problems, or outstanding issues. CSI will complete notes and minutes for all meetings and distribute accordingly, as requested.
2. CSI will maintain copies of all applicable coating correspondence, reports, job conferences, drawings, submissions, reproductions, and original contract documents including all addenda, change orders, supplemental drawings, records of materials and equipment deliveries and use, manpower, and all other project-related documents. Log books will be maintained and turned over to the owner, if requested.
3. CSI will utilize a project specific daily inspection report for use by the CSI inspector. This daily report will include work in progress, areas accepted, and items requiring repair/rework. CSI will assist in the determination of the quantities and/or percent of work completed for each item for contractor progress payments.
4. CSI staff will provide any support to the project required to assure that all technical issues and concerns are properly corrected and/or addressed.

Direct Field Inspection Activities

1. The CSI inspector will ensure that the requirements of the Contract Specifications and manufacturer's technical data sheets for the various materials are strictly followed. PDCA P2-04, SSPC, NACE, and ASTM D3276 standard practices will be used a guideline for proper procedures, where not called out in the specification



or manufacturer's PDS's.

2. Verifications of the contractor's compliance with the specifications will be accomplished by performing the following tasks as necessary, with the appropriate calibrated instruments for each:
3. The CSI inspector will ensure that the requirements of the Contract Specifications and manufacturer's technical data sheets for the various materials are strictly followed. ASTM D3276 will be used a guideline for proper procedures. It is not the intent of our cost proposal to provide a safety inspector to this project.
4. Verifications of the contractor's compliance with the specifications will be accomplished by performing the following tasks as necessary, with the appropriate calibrated instruments for each:
 - a. Condition Of Surfaces Prior To Preparation – The CSI inspector will inspect the surfaces to be prepared to assure that grease and oil have been removed, and sharp edges are removed as specified. NACE Standard RP0178 will be used as acceptance criteria where areas are of concern.
 - b. Compressed Air Cleanliness – The CSI inspector will check the air quality when production includes abrasive blast cleaning or substrate blow-down procedures. This will be accomplished in accordance ASTM D4285.
 - c. Ambient Conditions – The CSI inspector will monitor ambient conditions in accordance with ASTM E337 to assure that final blast cleaning and coating application operations are not completed outside the specified requirements.
 - d. Surface Preparation – The CSI inspector will examine the abrasive and equipment used for surface preparation for adequacy to do the work, as specified. Equipment pressures will be monitored. Salt testing will be verified. The inspector will verify proper storage and size of abrasives, and that the proper degree of cleaning and surface profile or scarification is achieved. The testing for soluble salts or amine blush by the contractor will be verified.
 - e. Coating Preparation and Mixing – The CSI inspector will observe the mixing of coatings to assure that all components are added and proportioned correctly and that any induction times are maintained. The inspector will verify that any materials used are approved and that they are not used when the pot or shelf lives have been exceeded.
 - f. Coating Application – The CSI inspector will examine the application equipment for cleanliness and adequacy to do the work. The inspector will observe application techniques to assure proper coverage without detrimental runs, pinholes, or other visually evident deficiencies. The inspector will make spot



checks of the wet film thickness in accordance with ASTM D4414 so that adjustments to the amount of material being applied can be made at the time of application to minimize the amount of rework after the coating has dried.

- g. Dry Film Thickness – The CSI inspector will measure the dry film thickness of each coat to assure that it complies with the specification requirements and manufacturers' instructions. Film thickness will be monitored using a Type II film gage in accordance with ASTM D1186, SSPC-PA2, or as required (i.e. every 100SqFt).
- h. Holiday Detection – CSI will provide holiday detection equipment and perform 100 percent holiday detection in accordance with NACE International's "Recommended Practice for Discontinuity (Holiday) Testing of Protective Coatings," (SP 0188-99), AWWA D102, and the specified requirements.
- i. Cure Evaluation – The CSI inspector will evaluate the final cure of the applied lining in accordance with the Manufacturer's recommended procedures.
- j. Final Inspection – The CSI inspector will perform a final inspection to evaluate the Contractor's final product. This will verify that the final visual appearance (SSPC PA1), dry film thickness readings, holiday detection, cure testing, and so forth meet the project requirements.

Documentation

The inspector will use a daily journal, daily reports to clearly document the coating or structural modification inspections to verify compliance with contract documents. At a minimum, the verifications noted above will be recorded. Reports can be delivered electronically throughout the project.



Fee Schedule

CSI proposes to provide the above Scope of Services on a time and materials basis in accordance with our standard terms and conditions. Our fees follow:

Hourly Labor Rates

Inspection
Straight Time..... \$ 750.00/day

Expenses

No expenses will be charged.

Estimated Cost of Services

Although we are not aware of a coating contractor's schedule, our experience with projects of this size and nature indicates that it should not require more than 35 days to complete the inspections. Based on this schedule and the above fees, we project that the cost of inspection should not exceed **\$26,250.00**. We will only invoice for the actual time worked, and we will not exceed this cost projection without authorization.