BOARD DISCUSSION/ACTION ITEM C1

Board Meeting Date: November 30, 2020

Subject: Approval of Contract for Project Inspector

From: Joan Potter, Superintendent

Explanation:

We received one prospect to serve as our DSA Inspector, Philip Morton.

Recommendation:

The Board award the contract for DSA Inspector Contract to Philip Morton.

Attachments

Proposal for DSA Inspector

Philip Morton Inspection Services

DSA Class 1 Project Inspector # 5494

544 Redwood Ave., Ukiah, CA 95482 phone (707) 621-2401 – email: pmorton@pacific.net

DSA Inspection Services Proposal for the:

Laytonville Elementary School Building D Project

Laytonville Unified School District 150 Ramsey Road Laytonville, CA 95454

File # 23-86, Application # 01-117814

The proposed schedule for the Laytonville Elementary School Project is from January 2021 through September 2021 comprising a 9 month period.

The weekly time spent will be 20 hours per week, including meetings and travel time.

The estimated total time is 560 hours.

The rate of compensation is \$110.00 per hour, to be billed on a monthly basis.

The total amount is \$61,600.00

| date | |
|------|------|
| date | |
| | date |

It is understood that the Project Inspector has no control over the scheduling, which is the sole responsibility of the general contracting firm whose performance on this project could affect the basis for this proposal.

BOARD DISCUSSION/ACTION ITEM C2

Board Meeting Date: November 30, 2020

Subject: Approval of Contract for Testing and Inspection Consultant

From: Joan Potter, Superintendent

Explanation:

The District sent out a request for proposals for a Testing and Inspection Consultant for the Classroom "D" project. We received one proposal from SHN Consulting Inc.

Recommendation:

Accept the proposal for the Testing and Consulting Contract to SHN Consulting Inc.

Attachments:

Construction Support Contracts Contract for Testing and Inspection Consultant

-



Reference: 420000.085

November 17, 2020

Donald Alameida, AlA Laytonville Unified School District 150 Ramsey Road Laytonville, CA 95454

Subject: Proposal, Construction Materials Testing and Special Inspection

Services, Laytonville Elementary School New Classroom Building

Project, Laytonville, CA

Dear Donald Alameida:

Thank you again for the opportunity to offer the Laytonville Unified School District this proposal estimate to provide Division of State Architect (DSA)-required construction materials testing and special inspections for the Laytonville Elementary School New Classroom Building Project. SHN employs the qualified and experienced staff necessary to perform the required third party testing and special inspections and offers DSA, ICC, ACI, NICET, and AWS certified technical staff and AASHTO R18 accredited testing laboratories in our Willits and Eureka offices. Additionally, the project will be overseen by our registered California Geotechnical Engineer, John Dailey.

SHN proposes to staff the project from its Willits office and testing laboratory. However, in the event of scheduling conflicts, we can draw on the resources of our Eureka office and testing laboratory at no additional travel expense. We do not have minimum time charges per site visit, and we will invoice the School District only for time spent performing the required services. Where possible, we will combine multiple tasks into one trip to reduce testing and inspection costs for the project.

We have reviewed the plans and specifications for the project to prepare this estimate. Because we have limited information of the contractor's construction schedule or means and methods, we have made assumptions regarding the amount of field and laboratory testing required based on the plans and specifications provided by Alameida Architecture and our previous experience on similar school projects.

We understand that this project falls within the prevailing wage guidelines and we have based our estimates accordingly. The following table outlines the rates that will be applied to your project.

Don Alameida

Proposal, Construction Materials Testing, Special Inspection, Laytonville Elementary Project November 17, 2020

Page 2

| SHN Technician Rates | | | |
|---------------------------------------|---|----------|--|
| Group 3 Prevailing Wage Technician | Nuclear Density Technician, ACI Certified Concrete | \$137/hr | |
| Group 2 Prevailing Wage | Field Welding/Bolting Inspections Performed On-Site | \$146/hr | |
| Non-Prevailing Wage Tech. | Travel Time, Inspection Performed Off-Site | \$110/hr | |
| Geotechnical Engineer | Geotechnical Review, Recommendations, RFI Response | \$160/hr | |
| Project Manager | Submittal Review, Project Oversight, Final Reports | \$110/hr | |

| SHN Equipment and Laboratory Unit Fees | | |
|---|--------------|--|
| Nuclear Density Gauge | \$25/hr | |
| Compaction Curve | \$250/sample | |
| Concrete Cylinder Compressive Strength (set of 5 cylinders) | \$125/sample | |
| Calibrated Torque Wrench | \$25/day | |
| Hydraulic Ram (tension load tests) | \$80/day | |
| Floor Moisture Test (per test location) | \$75/test | |
| Rebar Locator | \$40/day | |

Special Inspection and Testing Proposal Earthwork

Foundation excavations, compacted fills, and footing inspection is referenced on the DSA Form 103 Statement of Structural Tests & Special Inspections. The following is a cost analysis on soil sampling, laboratory testing, field compaction testing, field inspection (based on 5 site visits) and Geotechnical Engineer's review (if required).

| Onsite Hourly Technician Time | 10 hrs @ \$137/hr | \$1370 |
|--|----------------------|---------|
| Travel Time (hourly) | 5 hrs @ \$110/hr | \$550 |
| Mileage | 250 miles (.80/mile) | \$200 |
| Compaction Curves (3 total) | 3 x \$250 each | \$750 |
| Soil Classification (Pl and -#200 sieve) | 1 each @ \$195/each | \$195 |
| Nuclear Density Gauge | 8 hrs @ \$25/hour | \$200 |
| Geotechnical Engineer Review | 8 hrs @ \$160/hour | \$1280 |
| Subtotal | | \$4,545 |

Concrete Field Testing and Inspections

Based on the information provided, we anticipate 4 site visits for concrete sampling and testing. SHN assumes each trip will consist of 4 to 6 hours for each site visit, including batch plant inspections at the start of each scheduled pour. Concrete samples left in the field for initial curing shall be retrieved the following day after placement. The following is a cost analysis for the above referenced tasks:

Don Alameida

Proposal, Construction Materials Testing, Special Inspection, Laytonville Elementary Project November 17, 2020

Page 3

| Mix Design Review and Approval | 2 hr @ \$110/hr | \$220 |
|----------------------------------|---|---------|
| Onsite Hourly Technician Time | 16 hrs @ \$137/hr | \$2192 |
| Mileage | 350 miles round trip (.80/mile) | \$280 |
| Travel (includes sample pick up) | 8 hrs @ \$110/hr | \$880 |
| Concrete Compressive Strength | 8 sets of test cylinders @ \$125/each set | \$1000 |
| Subtotal | | \$4,572 |

Reinforcing Steel Sampling and Testing

Inspection of reinforcing steel fabrication and sampling of reinforcing steel is referenced on the DSA Form 103 Statement of Structural Tests & Special Inspections. Reinforcing steel fabrication inspection consists of collecting Mill Test Reports (MTR) from the rebar manufacturer and identifying the bundles of stock material by the referenced heat numbers. Samples of each size and manufacturer are collected per the sampling frequencies stated in DSA IR 17-10.16. The fabricated rebar is then tagged with SHN labels to ensure traceability when it arrives on the project. SHN assumes this phase of work will consist of one visit to the reinforcing steel shop for inspection and an estimated 3 sets of reinforcing steel bars for testing. The following is a cost analysis for the above referenced tasks.

| Onsite Hourly Technician Time | 4 hrs @ \$110/hr | \$440 |
|-------------------------------|--|----------|
| Travel Time (hourly) | 2.5 hrs @ \$110/hr | \$275 |
| Mileage | 1 trip @ 150 miles round trip (.80/mile) | \$120 |
| Rebar Tests (3 total) | 3 x \$110/each | \$330 |
| Rebar Sample Shipping | 1 box @ \$75/each | \$75 |
| Subtotal | | \$ 1,240 |

Post Installed Anchors

Post Installed Anchor inspection/testing is not checked on the DSA Form 103 T&I; however, it is expected that some post installed anchor bolts may require special inspection and testing during construction. We have estimated 2 individual site visits for this phase of work, with each site visit consisting of two hours onsite. The following is a cost analysis for testing and inspecting all of the post installed anchors and rebar dowels on this project.

| Onsite Hourly Technician Time (2 trips) | 4 hrs @ \$137/hr (prevailing wage) | \$548 |
|---|------------------------------------|---------|
| Travel Time (hourly) | 2 hrs @ \$110/hr | \$220 |
| Mileage | 100 miles round trip (.80/mile) | \$80 |
| Torque Wrench or Load Cell | 2 days @ \$25/day | \$50 |
| Hydraulic Ram | 2 days @ \$80/day | \$160 |
| Subtotal | | \$1,058 |

Project Management

SHN is happy to manage the various phases of work outlined in the above cost analysis. Project management includes scheduling tests and inspections, reporting, quality assurance, correspondence with the construction managers, school district, and design team and providing the letters and reports as required per the Division of State Architect and the California Building Code. We have included in our

Don Alameida

Proposal, Construction Materials Testing, Special Inspection, Laytonville Elementary Project November 17, 2020

Page 4

estimate a 15% contingency to encompass any unforeseen inspections or testing that may or may not be required, based on the contractor means and methods.

| Project Management | 12 hrs @ \$110/hr | \$1320 |
|--------------------|-------------------|----------|
| 15 % Contingency | | \$1,910 |
| Subtotal | | \$14,645 |

Based on the information provided, we estimate the total cost to provide the DSA required construction materials compliance testing and special inspections for the project to be approximately \$14,645. This cost analysis includes a 15% contingency and is based upon the assumptions listed above and may need to be adjusted according to the contractor's means and methods.

Again, thank you for this opportunity to be of service to you and the Laytonville Unified School District. Please call me at (707) 459-4518 if you have any questions, or to further discuss how SHN can best serve you and the Laytonville Unified School District on this project.

Sincerely,

SHN

Stephen James Laboratory Manager

SPJ:amg

BOARD DISCUSSION/ACTION ITEM C3

Board Meeting Date: November 30, 2020

Subject: Approval of Contract for Geotechnical and Special Inspection Services

From: Joan Potter, Superintendent

Explanation:

The District sent out a request for proposals for a Geotechnical and Special Inspection Services for the Classroom "D" project. We received one proposal from LACO Engineers.

Recommendation:

Accept the proposal for Geotechnical Services to LACO

Attachments:

Construction Support Contracts Contract for Testing and Inspection Consultant



November 13, 2020

8215.05

Laytonville Unified School District 150 Ramsey Road Laytonville, California 95454

Attention: Joan Potter

Subject: Proposal for Geotechnical and Special Inspection Services

New Building D

Laytonville Elementary School

150 Ramsey Road, Laytonville, California DSA File #23-86; DSA Application #01-117814

Dear Joan:

LACO Associates (LACO) is pleased to present this proposal to provide special inspection and materials testing services for the planned Laytonville Elementary School Building D project located in Laytonville, California. LACO performed a geotechnical exploration for the [project and the results were presented in a report dated October 25, 2018. In preparation of this proposal, we have reviewed plans and specifications prepared Alameida Architecture dated July 30, 2018.

PROJECT DESCRIPTION

We understand that a new 8,294 square foot, one-story building will be constructed and supported on steel reinforced concrete foundations. The building is shown as a combination of wood framing and welded steel beams and columns. Materials requiring special inspection and materials testing include soil, foundation concrete, beam and column welding, load-testing of post-installed anchors and glue-laminated beams.

SCOPE OF SERVICES

During placement and compaction of approved fill material, we will be present to observe procedures and perform compaction testing to check for conformance with our report recommendations. During foundation excavation operations, will observe that footings bottom into firm compacted materials.

Concrete mix designs will be reviewed by a California registered engineer. We will sample reinforcing steel and tag individual bundles at the rebar fabricators facility. Samples will be submitted for laboratory tensile and bend testing in accordance with project documents. We will perform a concrete batch plant inspection prior to delivery of concrete to the site for each day's placement event. During placement of concrete, we will observe procedures, perform slump and temperature tests, and prepare samples for laboratory compressive strength testing. During performance of shop and field welding and procedures, we will be present to review welder's qualifications and observe welding procedures. Inspection during fabrication of glue-laminated beams will be performed via subcontract to a qualified firm. In addition, we can perform load testing of post-installed anchors, as requested by the Inspector of Record (IOR). The results of our field and laboratory tests and inspections will be made available to contractors and the IOR so that timely action can be taken to correct procedures, if needed.

Proposal – Special Inspection Services Laytonville Elementary School Building D 150 Ramsey Road, Laytonville, California Laytonville Unified School District; LACO Project No. 8215.05 November 13, 2020 Page 2

We will provide the services of qualified and certified technicians to perform the work described above on an as-requested basis. We should be notified at least 24 hours in advance to adequately schedule our services. Any workmanship or product discrepancies with construction elements that we are requested to observe and/or test will be brought to the immediate attention of the IOR and contractor(s). Field reports and laboratory test results will be forwarded to the Architect, DSA, IOR, and Structural Engineer, and uploaded to the DSA Box. At completion of the project, we will prepare final Affidavits (DSA Forms 291 and 293) for similar distribution.

COST EVALUATION

LACO will provide the services of our Special Inspectors on a time-and-materials basis with no minimum charges at rates of \$170 per hour. Other charges will be in accordance with our Schedule of Rates (attached). Accordingly, based on our review of project documents, and experience with similar projects, we recommend that an estimated budget of \$24,431 be established for our services on this project, as detailed in the table below:

| | Total | | | | \$10,226 |
|--|-------|-------|--------|-------|----------|
| DIR Reporting and Certified Payroll | | 2 | - | \$80 | \$160 |
| Professional engineering/management @8% | | - | - | \$180 | \$686 |
| Geotechnical engineer oversight | | 2 | 2 | \$200 | \$800 |
| Vehicle charges (\$65 per day) | | - | - | - | \$780 |
| Laboratory soil compaction curves (estimate) | | - | - | - | \$1,000 |
| Soil compaction | | 4 | 10 | \$170 | \$6,800 |
| GEOTECHNICAL AND SOIL TESTING | | HOURS | VISITS | RATE | COST |

| SPECIAL INSPECTION AND MATERIAL TESTING | HOURS | VISITS | RATE | COST |
|--|-------|--------|-------|----------|
| Sample and tag reinforcing steel (rebar) | 4 | 1 | \$170 | \$680 |
| Special inspection during concrete placement | 6 | 2 | \$170 | \$2,040 |
| Special inspection of shop-welding | 4 | 2 | \$170 | \$1,360 |
| Special inspection of field welding | 4 | 2 | \$170 | \$1,360 |
| Laboratory concrete compression tests (\$30 ea.) | | - | - | \$250 |
| Glue-laminated beam inspection (estimate) | - | - | - | \$5,000 |
| Laboratory rebar tensile and bend testing (estimate) | - | - | - | \$500 |
| Sample retrieval | 2 | 4 | \$170 | \$1,360 |
| Vehicle charges (\$65 per day) | - | , | - | \$455 |
| Professional engineering/management @8% | - | - | \$180 | \$1,040 |
| DIR Reporting and Certified Payroll | 2 | - | \$80 | \$160 |
| Total | | | | \$14,205 |

NOT ACCEPTED

ACCEPTED

Proposal – Special Inspection Services Laytonville Elementary School Building D 150 Ramsey Road, Laytonville, California Laytonville Unified School District; LACO Project No. 8215.05 November 13, 2020 Page 3

Should more detailed information or a contractor's schedule become available, we can provide an updated cost evaluation. Please be advised that the actual construction schedule and progress of individual contractors control the number of site visits required for observation and testing and that our total fees may vary from our cost estimate. If testing or travel beyond the scope presented herein is required, we will provide those services at the hourly rates quoted herein and/or as indicated on the Schedule of Rates. However, we will not exceed the contract budget without the owner's prior authorization.

SPECIAL CONDITIONS AND / OR ASSUMPTIONS

- LACO is not providing environmental engineering for this project.
- The project qualifies as prevailing wage as set forth by California Department of Industrial Relations.
- This proposal anticipates that the rebar fabrication facility will be located within our service area. Should the facility be otherwise located, additional travel charges may apply.
- The actual sequencing of work by the contractor has the potential to significantly change the final cost of the services LACO will provide for this project. Costs may increase or decrease depending on contractor performance.
- Each site visit represents a typical site visit, portal to portal, inclusive of labor, vehicle charges, and equipment charges.
- LACO will rely on others (owner or contractor authorized representative) to coordinate the total number of site visits needed to meet the quality assurance and testing requirements of the project.
- Material testing or observation performed by LACO shall not be relied upon as acceptance of the work, and in no way relieves the Contractor of their obligation to perform the work in accordance with the requirements of the Contract Documents, including commonly accepted industry practices.
- LACO requests CLIENT or CLIENT representative assist in providing safe access during on-site visits to facilitate required field testing and sampling.

Thank you for considering our services. As with previous work with the Laytonville Unified School District, we anticipate that you will prepare an agreement for engineering services and forward it to LACO for review and sianature.

We look forward to working with you on this project. Please call me directly at (707) 322-1748 should you have questions.

Sincerely,

LACO Associates

All. Edward Crump, PE Senior Civil Engineer

Attachments: Schedule of Rates

21 W. Fourth Street Eureka, CA 95501 $707\ 443-5054 - Fax\ 707\ 443-0553 \qquad 707\ 462-0222 - Fax\ 707\ 462-0223 \qquad 707\ 525-1222 - Fax\ 707\ 545-7821 \qquad 530\ 801-6170 - Fax\ 707\ 462-0223 \qquad 707\ 525-1222 - Fax\ 707\ 545-7821 \qquad 530\ 801-6170 - Fax\ 707\ 462-0223 \qquad 707\ 525-1222 - Fax\ 707\ 545-7821 \qquad 530\ 801-6170 - Fax\ 707\ 545-7821 \qquad 707\$

776 S. State Street, Suite 103 3490 Regional Parkway, Suite A 932 B W. Eighth Avenue Ukiah, CA 95482

Santa Rosa, CA 95403

Chico, CA 95926

Toll Free 800 515-5054 lacoassociates.com

LACO SOUTH SCHEDULE OF RATES

HOURLY RATES

| Principal Professional* | \$160.00 - 300.00 per hour |
|---|---|
| Principal Professional* Project Manager* | \$135.00 - 225.00 per hour |
| Senior Professional* | \$118.00 - 225.00 per hour |
| Staff Professional* | \$98.00 - 175.00 per hour |
| Assistant Professional* | \$84.00 - 140.00 per hour |
| Professional-in-Training* | \$70.00 - 123.00 per hour |
| Senior Drafter/Designer | \$100.00 - 150.00 per hour |
| Drafter/Designer | \$70.00 - 125.00 per hour |
| Senior Technician | |
| Technician | \$70.00 - 115.00 per hour |
| Special Technician Groups 1-4 - Prevailing Wage Rates | |
| Special Consultants (depends on qualifications) | \$100.00 - 225.00 per hour |
| Senior Geotechnical Engineer | \$180.00 - 250.00 per hour |
| Court Appearance/Depositions | (4 hour minimum) \$350.00 - 450.00 per hour |
| Licensed Surveyor | |
| One-Man Survey - Prevailing Wage Rates | \$155.00 - 200.00 per hour |
| One-Man Survey | \$130.00 - 150.00 per hour |
| Two-Man Survey Party - Prevailing Wage Rates | |
| Two-Man Survey Party | |
| Three-Man Survey Party - Prevailing Wage Rates | |
| Three-Man Survey Party | |
| Certified Public Accountant | |
| Project Administrator/Coordinator | \$80.00 - 110.00 per hour |
| Clerical | |
| *"Professional" may apply to Engineer, Geologist, Planner, Architect, Environ | nmental Scientist, or other specialties |

NOTES

- The above rates are regular hourly rates and include payroll costs, overhead, and profit. If overtime is requested by the client, it will be charged at 130% of the above hourly rates.
- In accordance with State labor laws, prevailing wage rates may be required on State or Federally funded projects.
 These rates apply to survey party chief, rodman, chainman, soils field tester, and materials field tester. The hourly
 rate differential is \$25 to \$35 dollars per hour per person depending on project location and labor classification. The
 differential will be added to the above hourly rates.
- 3. Outside services will be performed at Cost plus 15%.
- 4. Subsistence and per diem will be calculated at Cost plus 15%.
- 5. All travel time will be charged at the regular hourly rates unless other written arrangements are made.

TRANSPORTATION

Automobile and pickup:*

| Trip charge per day | \$65.00 per day |
|--|--------------------------------|
| Minimum charge, vehicle | \$15.00 |
| Over 80 miles | Federal Rate + \$0.10 per mile |
| Other transportation, air travel, etc. | \$Cost + 15% |

MATERIALS

| Survey hubs, stakes, lath, or guineas | | \$1.00 each |
|---------------------------------------|---|----------------------------------|
| | | \$5.00 each |
| | | color \$2.50 each |
| , | • | mylar \$20.00 color \$21.25 each |
| | - | |

- Minimum charge of 1/2-day on all equipment billed on daily basis
- ** Plus Technician Rate

RATES FOR MATERIALS AND SOILS TESTING

Laboratory tests are performed on samples delivered to our lab in Santa Rosa, California. Sample pick-up, special tests, and unusual sample preparation are billed at the applicable hourly rate. Faxes of reports and duplicate mailings are available for \$5 each. Reports requiring review and signature will be billed at the applicable rate.

| A. | AGGREGATE AND SOILS TESTING | |
|--------------|---|---------------|
| 100. | Sieve Analysis – Coarse and Fine, Caltrans 202, ASTM C-136 | \$186.00 |
| 101. | Sieve Analysis – Coarse, Caltrans 202, ASTM C-136 | \$93.00 |
| 102. | Sieve Analysis – Fine, Caltrans 202, ASTM C-136 | \$93.00 |
| 103. | Finer than #200, ASTM C-117 | \$80.00 |
| 104. | Particle Size Analysis, ASTM D-422*** | \$192.00 |
| 105. | Cleanness Value, Caltrans 227 | \$186.00 |
| 106. | Atterberg Limit - Wet | \$220.50 |
| 107. | Hydrometer Analysis | \$75.00 |
| 108. | Bulk Density of Soils | • |
| 109. | Atterberg Limits, LL-PL-PI, ASTM 4318*** | |
| 110. | Sand Equivalent, Caltrans 217, ASTM D-2419 | |
| 111. | Specific Gravity – Coarse, Caltrans 206, ASTM C-127 | |
| 112. | Specific Gravity – Fine, Caltrans 207, ASTM C-128 | |
| 113. | Maximum Density of Soils, Caltrans 216, ASTM D-698 or D-1557 | |
| 114. | Maximum Density of Soils with Rock Correction, ASTM D-4718 | • |
| 301. | Nuclear Density Gauge (hourly), Caltrans 231, ASTM D6938 ** | |
| 302. | Nuclear Density Gauge (daily), Caltrans 231, ASTM D6938 ** | |
| 116. | Organic Impurities, ASTM C-40 | |
| 117. | Moisture Content of Soils In Place, ASTM D-2216 | |
| 118. | Density of Soils In Place, ASTM 2937 | |
| 119. | Percent Crushed Particles, Caltrans 205, ASTM D-5821 | • |
| 120. | Durability Index – Coarse, Caltrans 229, ASTM D-3744 | • |
| 121. | Durability Index – Fine, Caltrans 229, ASTM D-3744 | |
| 122. | Concrete Slab Relative Humidity Test | - |
| 123. | Unconfined Compressive Strength | - |
| 124. | CBR Soils Test with Compaction | |
| 125. 126. | Consolidation, 3" dia., ASTM D-2435*** Consolidation Test – Additional Points | |
| 120. | Direct Shear, ASTM D-3080 (3 points) | • |
| 127. | Direct Shear, ASTM D-3080 (5 points) | |
| 128. | Sample Preparation | • |
| 130. | Expansion Index, ASTM D-4829*** | |
| 131. | Pocket Penetrometer | |
| 151. | | |
| 135. | Unit Weight, ASTM C-29 | |
| 139. | CBR Soils Test Without Compaction | |
| 166. | Max. Theoretical Specific Gravity (RICE), ASTM D2041 | |
| 167. | Moisture % of Bituminous Mixtures, CAL370 | |
| 168. | Bulk Specific Gravity of Compacted Asphalt Mixtures, ASTM D2726 | |
| 169. | Marshall Compaction, Density, 3 specimens, ASTM D6926, D2726 | |
| 170. | Marshall Stability & Flow, 3 specimens, ASTM D6927 | |
| 171. | % Binder Content, NCAT Ignition Oven, ASTM D6307 | |
| 172. | NCAT Calibration, ASTM D6307 | \$380.00 |
| | For other testing not listed, please inquire. | |
| В. | CONCRETE AND FIELD TESTING | |
| 150. | Concrete/Grout Compressive Strength (curing, testing & disposal), Caltrans 521, ASTM C-39 | \$35.00 |
| 151. | Concrete Compressive Strength, Caltrans 521, ASTM C-39 | |
| 152. | Specimen Processing and Curing, ASTM C-31 | (each) \$8.00 |
| 153. | Disposable Concrete Molds | (each) \$4.00 |
| | | |

| 154. | Concrete Mix Design, Preparation, Review, and Adjustment | \$200.00 |
|------|---|------------------------|
| 156. | Percent Entrained Air (Method ASTM C-231 or C-173)** | \$20.00 |
| 157. | Shrinkage Test, ASTM C-157 (3 bars) | (per test) \$250.00 |
| 158. | Concrete Rebound Test, ASTM C-805** | (per day) \$25.00 |
| 159. | Coring; Concrete, CMUs and AC, 4-inch core ** | \$3.00 per inch length |
| 161. | Coring; Concrete, CMUS and AC, 6-inch core ** | \$3.00 per inch length |
| 163. | Splitting Tensile Strength, ASTM C-496 | (per test) \$90.00 |
| 164. | Voltage Meter | (per day) \$35.00 |
| | | |
| c. | SPECIAL EQUIPMENT | |
| 258. | Coating Thickness Gauge | 11 // - |
| 246. | Skidmore ** | 11 77 . |
| 303. | Core Drilling Machine** | |
| 333. | Load Cell ** | 11 , 1 |
| 334. | Torque Wrench ** | |
| 320. | Photoionization Hydrocarbon Vapor Detector * | |
| 450. | Field Lab Analysis (Hanby) | |
| 332. | Turbidity Meter * | (I), · |
| 352. | Dissolved Oxygen Meter * | |
| 245. | pH/T/K Meter * | (per day) \$40.00 |
| 247. | Water Level Meter | . , , , , |
| 321. | Bladder Pump/2" Submersible Pump * | |
| 224. | Cam/Portable Pump (12-volt) | 11 7. |
| 336. | Pressure Washer * | \(\) |
| 323. | Steam Cleaner * | (per day) \$75.00 |
| 456. | Rotary Hammer Boring System | (per boring) \$25.00 |
| 452. | Hydro Punch | 11 / / |
| 454. | Continuous Core Sampler | (per foot) \$5.00 |
| 249. | Generator * | (per day) \$40.00 |
| 244. | 4-Channel Datalogger * | (per day) \$115.00 |
| 354. | Hand Auger * | (per day) \$25.00 |
| 22. | Traffic Control Cones (25) * | |
| 31. | Barricade * | (per day) \$5.00 |
| 23. | Passive Skimmer (1 liter) | ** |
| 24. | Electric Skimmer | (per week) \$125.00 |
| 326. | Submersible Pump * | |
| 322. | Centrifugal Pump * | (per day) \$100.00 |
| 252. | Confined Space Multi-Gas Meter (LEL, Oxygen, PID, Hydrogen Sulfate, CO) | |
| 661. | Calcium Chloride Kits | (each) \$25.00 |
| 643. | All Terrain Vehicle (Survey) | (per day) \$250.00 |
| 700. | Survey Boat without Motor | (per day) \$100.00 |
| 703. | Survey Boat with Motor | (per day) \$500.00 |
| * | Minimum charge of 1/2-day on all equipment billed on daily basis | |
| ** | Plus Technician Rate | |
| *** | Sample preparation not included | |