



CONSOLIDATED ENGINEERING
LABORATORIES

September 21, 2018

Dan Zaich, Sr. Director of
Capital Facilities
San Rafael City Schools
310 Nova Albion Way
San Rafael, CA 94903

Via E-Mail: c/o tmathers@ccorpusa.com

**Subject: SRCS Venetia Valley GR 1-5 Classroom Replacement and New MPR Building, 177 North San Pedro Road, San Rafael, California, 94903
CEL #40-06203PW, DSA File #21-39, DSA Application #01-117438
Materials Testing and Construction Inspection Services**

Dear Ms. Mathers:

Consolidated Engineering Laboratories (CEL) is pleased to submit our cost proposal to provide materials testing and construction inspection services for the **SRCS Venetia Valley GR 1-5 Classroom Replacement and New MPR Building project, located at 177 North San Pedro Road in San Rafael, California**. CEL would be proud to be part of your team, helping to ensure the construction quality and success of this project.

Following are our cost estimate and scope of services. We assembled this proposal based on the following sources:

- DSA 103 Increment #1, dated July 17, 2018;
- DSA 103 Increment #2, dated June 29, 2018;
- Structural drawings prepared by KPFF, dated June 29, 2018.

Thank you for giving CEL the opportunity to be a part of your project team. We are committed to providing our clients the very best service possible to fulfill their testing and inspection needs, and are eager to prove this commitment to you. Should you have any questions or require additional information, please do not hesitate to contact me.

Respectfully submitted,
CONSOLIDATED ENGINEERING LABORATORIES

Erica Sharp
Senior Project Manager

ASSUMPTIONS

We assembled this proposal based on the following assumptions:

Increment #1

Structural Concrete we assume placement will occur over a total of two (2) days. We have anticipated each pour at four (4) hours for batch plant inspections and concrete sampling for a total of 8 hours each. One (1) set of five (5) cylinders will be cast for each placement for a total of 10 cylinders.

Post-Installed Anchors we have assumed periodic inspections for a total of two (2) visits for anchor installation and torque testing inspections. Each visit has been estimated at four (4) hours, for a total of 8 hours each.

Increment #2

Structural Concrete we assume placement will occur over a total of 22 days. We have anticipated each pour at four (4) hours for batch plant inspections and concrete sampling for a total of 88 hours each. One (1) set of five (5) cylinders will be cast for each placement for a total of 110 cylinders.

Masonry we assume installation will occur over three (3) weeks. We have anticipated three days per week, four (4) hours a day for a total of 60 hours. We have estimated six (6) grout pours and one (1) sets of four (4) samples will be cast for a total of 24 samples. We expect one (1) set of four (4) mortar samples will be cast for the first three (3) days and then once per week thereafter.

Structural Steel Fabrication we assume fabrication will occur over six (6) weeks. Each week has been estimated at 40 hours. We assume all steel fabrication will occur on one (1) shift daily - Monday through Friday. CEL will provide inspections for 240 total hours. Weekend work is not anticipated and has not been included in our proposal pricing.

Structural Steel Installation we assume fabrication will occur over six (6) weeks. Each week has been estimated at 40 hours. We assume all steel fabrication will occur on one (1) shift daily - Monday through Friday. CEL will provide inspections for 240 total hours. Weekend work is not anticipated and has not been included in our proposal pricing.

Miscellaneous Steel Fabrication we assume fabrication will occur over two (2) weeks. Each week has been estimated at 30 hours. We assume all steel fabrication will occur on one (1) shift daily - Monday through Friday. We have assumed periodic inspections for a total of 60 total hours. Weekend work is not anticipated and has not been included in our proposal pricing.

ASSUMPTIONS (CONT'D)

Miscellaneous Steel Installation we assume fabrication will occur over two (2) weeks. Each week has been estimated at 30 hours. We have assumed periodic inspections for a total of 60 total hours. Weekend work is not anticipated and has not been included in our proposal pricing.

Non-Shrink Grout we assume placement will occur over approximately six (6) visits. Each visit has been estimated at four (4) hours, for a total of 24 hours. One (1) set of three (3) grout cubes will be cast for each placement.

Glu-Lam Fabrication we assume fabrication will occur over approximately six (6) visits. Each visit has been estimated at eight (8) hours, for a total of 48 hours.

Post-Installed Anchors we have assumed periodic inspections for a total of six (6) visits for anchor installation and torque testing inspections. Each visit has been estimated at four (4) hours, for a total of 24 hours for each.

Expansion Anchors we have assumed periodic inspections for a total of four (4) visits for anchor installation and torque testing inspections. Each visit has been estimated at four (4) hours, for a total of 20 hours for each.

Epoxy Anchors we have assumed periodic inspections for a total of four (4) visits for anchor installation and torque testing inspections. Each visit has been estimated at four (4) hours, for a total of 20 hours for each.

**SRCS VENITIA VALLEY GR 1-5 CLASSROOM REPLACEMENT AND NEW MPR BUILDING
177 NORTH SAN PEDRO ROAD, SAN RAFAEL, CALIFORNIA 94903
CEL #40-06203PW**

PRICING

Description	Quantity		Unit Rate	Subtotals		
REINFORCED CONCRETE						
Mix Design Review	4 Each	Each	\$ 250.00	\$	1,000.00	
Sampling and Tagging Reinforcing Steel	16 Hours	Hours	\$ 82.00	\$	1,312.00	
Rebar Bend and Tensile Test (Samples, Size #3 - #10)	12 Each	Each	\$ 95.00	\$	1,140.00	
Batch Plant Inspection	96 Hours	Hours	\$ 82.00	\$	7,872.00	
Concrete Sampling	96 Hours	Hours	\$ 82.00	\$	7,872.00	
Concrete Compression Tests	120 Each	Cylinders /24 Sets	\$ 55.00	\$	6,600.00	
Sample Pick-Ups	24 Each	Trip	\$ 90.00	\$	2,160.00	
SUBTOTAL:					\$	27,956.00
MASONRY						
Mix Design Review	1 Each	Each	\$ 250.00	\$	250.00	
Sampling and Tagging Reinforcing Steel	8 Hours	Hours	\$ 82.00	\$	656.00	
Rebar Bend and Tensile Test (Samples, Size #3 - #10)	6 Each	Each	\$ 95.00	\$	570.00	
Masonry Placement Inspection	60 Hours	Hours	\$ 88.00	\$	5,280.00	
Composite Prisms	11 Each	Each	\$ 175.00	\$	1,925.00	
Grout Compression Tests	24 Each	Each	\$ 55.00	\$	1,320.00	
Mortar Compression Tests	20 Each	Each	\$ 55.00	\$	1,100.00	
Sample Pick-Ups	6 Each	Trip	\$ 90.00	\$	540.00	
SUBTOTAL:					\$	11,641.00
STRUCTURAL STEEL						
Welding Procedure Specification Review	2 Each	Each	\$ 250.00	\$	500.00	
Shop Fabrication Inspection	240 Hours	Hours	\$ 88.00	\$	21,120.00	
High Strength Bolt Assemblies	12 Each	Each	\$ 260.00	\$	3,120.00	
Field Welding Inspection	240 Hours	Hours	\$ 88.00	\$	21,120.00	
SUBTOTAL:					\$	45,860.00
MISCELLANEOUS STEEL WELDING						
Welding Procedure Specification Review	2 Each	Each	\$ 250.00	\$	500.00	
Shop Fabrication Inspection	60 Hours	Hours	\$ 88.00	\$	5,280.00	
Field Welding Inspection	60 Hours	Hours	\$ 88.00	\$	5,280.00	
SUBTOTAL:					\$	11,060.00
NON-SHRINK GROUT						
Non-Shrink Grout Placement	24 Hours	Hours	\$ 88.00	\$	2,112.00	
Non-Shrink Grout Compression Tests	18 Each	Each /6 Sets	\$ 55.00	\$	990.00	
Sample Pick-Ups	6 Each	Trips	\$ 90.00	\$	540.00	
SUBTOTAL:					\$	3,642.00
GLU-LAM FABRICATION						
Wood Frabrication Inspection (Continuous)	48 Hours	Hours	\$ 115.00	\$	5,520.00	
<i>Travel costs reimbursable at Cost+15%</i>						
SUBTOTAL:					\$	5,520.00
POST-INSTALLED ANCHORS						
Placement of Post-Installed Anchors	32 Hours	Hours	\$ 82.00	\$	2,624.00	
Proofload or Torque Testing	32 Hours	Hours	\$ 82.00	\$	2,624.00	
SUBTOTAL:					\$	5,248.00
EXPANSION ANCHORS						
Placement of Expansion Anchors	20 Hours	Hours	\$ 82.00	\$	1,640.00	
Proofload or Torque Testing	20 Hours	Hours	\$ 82.00	\$	1,640.00	
SUBTOTAL:					\$	3,280.00

**SRCS VENITIA VALLEY GR 1-5 CLASSROOM REPLACEMENT AND NEW MPR BUILDING
177 NORTH SAN PEDRO ROAD, SAN RAFAEL, CALIFORNIA 94903
CEL #40-06203PW**

PRICING

Description	Quantity		Unit Rate	Subtotals
EPOXY GROUTED DOWELS				
Placement Inspection	20 Hours	Hours	\$ 82.00	\$ 1,640.00
Proofload Testing	20 Hours	Hours	\$ 82.00	\$ 1,640.00
SUBTOTAL:				\$ 3,280.00
MISCELLANEOUS				
DSA Interim Verified Reports	6 Each	Per Permit	\$ 200.00	\$ 1,200.00
Final Affidavit	1 Each	Per Permit	\$ 400.00	\$ 400.00
Project Engineering and Management 7%				\$ 8,336.09
SUBTOTAL:				\$ 9,936.09
MAN-HOURS		1092	GRAND TOTAL: \$ 127,423.09	

Basis of Charges: The proposed unit rates will be in effect through June 30, 2019. Thereafter, the unit rates are subject to an annual increase of four and a half percent (4.5%) per year to mitigate the annual operating cost increases:

Work over 8 Hours per day	Time and One-Half
Work over 12 Hours, Monday through Friday	Double Time
Work on Saturdays	Time and One-Half
Work over 8 Hours on Saturdays	Double Time
Work on Sundays/Holidays	Double Time
Swing or Graveyard Shift Premium	\$12.50 per Hour
Work from 0-4 Hours	4-Hour Minimum Billing
Work from 4-8 Hours	8-Hour Minimum Billing
Show-Up Time	2-Hour Minimum Billing
Sample Pick-Up	\$90.00/Trip
Laboratory Testing – Rush Fee	Add 50% to Testing Cost
Technician with Nuclear Gauge	Portal-to-Portal
Final Affidavit (per permit number) (request six working days advanced notice)	\$400.00
Extra Copies (over four per issue date) of Inspection Reports and Final Affidavit	\$20.00/each
Project Engineering and Management	7% of Fees
Credit Card Payment of Fees	2.5% Premium
Reimbursables	Cost + 15%
QA/QC Plan Written Procedures	Quotation upon Request
Out of Area Services (beyond 40-mile radius)	As Listed Below:
Travel Time	Basic Hourly Rate
Mileage	\$0.60/Mile
Per-Diem, including lodging	\$120.00/Day

QUANTITY DISCLAIMER:

This quote outlined herein was based on the following sources:

- DSA 103 Increment #1, dated July 17, 2018;
- DSA 103 Increment #2, dated June 29, 2018;
- Structural drawings prepared by KPFF, dated June 29, 2018.

This proposal is limited to the scope of services, the number of inspection hours, and the number of associated tests identified herein. Any estimated quantities contained herein are estimates only and Client agrees to payment for services rendered in excess of the estimated quantities and/or cost figures as described herein.

It is recognized that additional services rendered herein under this proposal are schedule driven and are mandated by the scheduling and staffing of the contractor(s). Should items and quantities alter from estimates outlined herein, CEL shall be entitled to compensation for services rendered.

In addition, Client recognizes that, on occasion, due to the schedule of the contractor or relevant subcontractors, occasional overtime may be required. CEL typically will have no notice of this until the day the said overtime occurs. Client agrees to compensate CEL for such overtime.

_____ CEL	_____ Client
Initials	Initials

SCOPE OF SERVICES

REINFORCED CONCRETE - SCHOOLS

Mix Review

We will review the proposed concrete mixes in our laboratory for conformance with specifications.

Sample, Tag and Test Reinforcing Steel

Prior to fabrication of the steel, we will make a visit to the reinforcing steel supplier and collect mill certificates and sample reinforcing steel from the unbroken bundles. Testing will be as per American Society for Testing and Materials (ASTM) A615. Once the steel is ready for shipment, we will make another trip to the supplier and inspect to determine the steel has identical heat numbers to that already tested, and tag the steel so that it may be shipped to the job site.

Batch Plant Inspection

Our inspector will periodically check for batch weights, moisture content of aggregates, proper use of admixtures, and batching procedures.

Reinforcing Steel Placement

Will be performed by the Inspector of Record (IOR).

Concrete Placement

Will be performed by the IOR.

Concrete Sampling

Our inspector will be on-site to perform casting of (4x8) concrete cylinders for compression testing at a frequency of five cylinders for every 50 cubic yards placed.

Concrete Compression Testing

We will transport all samples to our laboratory for compression testing in strict accordance with ASTM requirements. Compression test reports will be distributed to the appropriate parties.

STRUCTURAL MASONRY

Mix Design Review

We will review the proposed grout and mortar mixes in our laboratory for conformance with the specifications.

Our inspector's duties will include the following:

- Review mill test certifications of block and reinforcing steel;
- Inspect to determine size and spacing of dowels;
- Inspect to determine that cleanouts are provided for high-lift grouting methods;
- Inspect proper lay-up of block units;
- Inspect reinforcing steel prior to grouting;
- Inspect dowels, anchor bolts and inserts, to make sure they are in place and properly secured prior to grouting;
- Inspect to determine proper consolidation of grout;
- Check that curing requirements are being followed.

SCOPE OF SERVICES (CONT'D)

Materials Testing:

- Sample masonry block for compression tests, linear shrinkage, moisture and absorption per ASTM C140;
- Cast samples of mortar and grout for compression tests. Per California Building Code (CBC) grout prisms shall be tested at 28-days;
- Witness preparation of composite prisms and test for compressive strength in our lab. CBC requires five tests 28 days prior to production, and three for every 5,000 square feet of wall for each block size.

STRUCTURAL STEEL

Shop Inspection

- Review of welding procedure specifications;
- Material identification and mill certificate review;
- Observe the utilization of certified welders and approved welding procedures;
- Visual inspection of welding to determine compliance with contract documents;
- Nondestructive testing of moment welds and column splices;
- Confirm approximate preheat temperature;
- Continuous inspection of multi-pass fillet welds, groove welds and reinforcing steel welding.

Field Inspection

- Observe the utilization of certified welders and approved procedures;
- Confirm approximate preheat temperature;
- Nondestructive testing of moment welds and column splices;
- Inspect to determine and observe proper installation and tightening of high strength bolts;
- Visual inspection of welding to determine compliance with contract documents;
- Continuous inspection of multi-pass fillet welds, groove welds and reinforcing steel welding.

Metal Deck | Shear Studs

Intermittent visual inspection will be conducted for metal deck and shear stud welding.

High Strength Bolting

As required by the California Building Code (CBC), at least two bolts per connection, or a minimum of ten percent (10%) of all high-strength bolts in slip critical connections, will be tested to the required torque per American Society for Testing and Materials (ASTM) guidelines.

Laboratory Testing of High Strength Bolt Assemblies (ASTM A325 | A490)

We will sample a set of three (3) high strength bolt assemblies per size, lot and heat number from sealed kegs at the supplier or steel fabrication plant. We will perform proofload, ultimate and hardness tests on the assemblies in our laboratory.

SCOPE OF SERVICES (CONT'D)

MISCELLANEOUS STEEL WELDING

Shop Inspection

- Material identification and mill certificate review;
- Pre-qualification of welders and procedures;
- Visual inspection of welding to determine compliance with contract documents;
- Continuous inspection of multi-pass fillet welds, full penetration welds, and reinforcing steel welding.

Field Inspection

- Pre-qualification of welders and procedures;
- Visual inspection of all welds;
- Torque testing of high-strength bolts using a calibrated torque wrench;
- Visual inspection of welding to determine compliance with contract documents;
- Continuous inspection of reinforcing steel welds, multi-pass fillet welds, and full penetration welds.

NON-SHRINK GROUT

Non-Shrink Grout Placement

During the pours, our inspector will periodically monitor the placement. Our inspector will be performing the following duties:

- Determine the adequacy of placement and vibratory equipment;
- Observe proper delivery rate of non-shrink grout and monitor batch times;
- Observe that the correct mix is being utilized;
- Record temperature of air and concrete;
- Cast cubes for compression tests at the specified frequency.

Compression Testing

We will transport all samples to our laboratory for testing in strict accordance with the American Society for Testing and Materials (ASTM) requirements. Reports of compression tests will be distributed to the appropriate parties.

GLU-LAM FABRICATION

Our inspectors will perform the following inspection services:

- Inspect to determine that the proposed lumber grades, adhesive and end-joint details meet with code requirements;
- Determine that materials with lumber-grade marks are being used;
- Measure moisture content of lumber and observe compliance with acceptance range specified;
- Determination of preservative treatment requirements;
- Inspection of gluing and curing;
- Inspection of lamination for glue spread and skips;
- Observe and record finishing procedures;
- Submit written progress reports describing the tests and inspections made and documentation of the action taken to correct non-conforming work.

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SCOPE OF SERVICES (CONT'D)

POST-INSTALLED ANCHORS

As required, we will perform visual examination of anchor placement to determine if post-installed anchor holes are clean, of the proper depth and diameter, and installed as specified by the manufacturer. In addition, we will perform proofload/torque testing of the anchors at the percentage defined by the plans and specifications.

NOTE: These estimates assume that adequate access will be provided for performing the work at maximum production, i.e., scaffolding. Should any anchor fail, additional tests will be required per plans.

EXPANSION ANCHORS

As required, we will perform visual examination of anchor placement to determine if anchor holes are clean, of the proper depth and diameter, and installed as specified by the manufacturer. In addition, we will perform proofload/torque testing of the expansion anchors at the percentage defined by the plans and specifications.

NOTE: These estimates assume that adequate access will be provided for performing the work at maximum production, i.e., scaffolding. Should any anchor fail, additional tests will be required per plans.

EPOXY DOWELS AND ANCHORS

As required, we will perform visual examination of dowel/anchor placement to determine dowel/anchor holes are clean, of the proper depth and diameter, and installed as specified by the manufacturer. In addition, we will perform proofload testing of the epoxy dowels/anchors at the percentage defined by the plans and specifications.

NOTE: These estimates assume that adequate access will be provided for performing the work at maximum production, i.e., scaffolding. Should any dowel/anchor fail, additional tests will be required per plans.