



TESTING & INSPECTION ESTIMATE WORKSHEET

Project Name: Flamson Middle School
Classroom Addition
2405 Sprint Street
Paso Robles, California
DSA File No. 40-54, DSA App. No. 03-118903

ESP File No. 301541-xxx
ESP Proposal No. SLO-19-02-003
DIR Registration No. ****NEEDED**
Date: Feb 12, 2019

Prepared by: Fred J. Potthast, PE, GE
Earth Systems Pacific

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Client: Paso Robles Joint Unified School District
Ms. Cheryl Mollan, AIA, LEED-AP, Manager of Facilities and Planning
clmollan@pasoschools.org

References: 1) Project Plans and Specifications by SIM PBK DSA Approved 11/14/18
2) Geotechnical Engineering Report by Earth Systems dated March 18, 2018
3) DSA-103 List of Required Structural Tests & Special Inspections - 2016 CBC, Flamson Middle School, Paso Robles Joint Unified School district (NOT DSA APPROVED)
4) List of Subcontractors for Klassen Construction

Ref. Nos 1 through 4 provided by client via email 2/1/19

No construction schedule available.

Project Completion time - 210 calendar days (+/- 7 months). Assume ESP services provided for 6 total months of project, or approximately 26 weeks.

General Contractor - Klassen

Earthwork Contractor - Butch Pope - Arroyo Grande

Structural Steel Shop Fabricator - Central Coast Welding, SLO 805-545-9353 - Rodney

Concrete - Simmons, Bakersfield

Masonry (veneer) - Grijalva Contractors - Bakersfield - 661-587-4067 - Brent

Earth Systems Pacific (ESP) to be Laboratory of Record (LOR) per DSA requirements, will provide all soil and material lab testing as well as special inspections for all materials. ESP to sign all interim and final DSA Form 291s.

ESP to be Geotechnical Engineer of Record (GEOR) and to provide all geotechnical-related special and engineering inspections. ESP to sign all interim and final DSA Form 293s

We understand that the overall Project Inspector (PI) will be Mr. Carl Adams - our services will be provided under the direct of Mr. Adams

Durations for Steel shop/field and masonry veneer per phone calls with PMs as noted.

Overtime not considered unless specifically noted. Regular time work hours are 0700 to 1700, M through F.

OT (1.5xRT) will be charged from 1700 to 0700, for all time in excess of 8 hours up to 12 hours, and all time on Saturday.

DT (2xRT) will be charged for all time in excess of 12 hours, and for all time on Sunday and Holidays.

All field testing/inspection services will be billed in 1-hour increments, with a 4-hour minimum per day.

Routine sample pickups will be billed a minimum of 2 hours.

*****THIS IS A PREVAILING WAGE PROJECT*****

Billing rates as indicated will be maintained for the scheduled duration of this project.



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A. Grading/Fill/Backfill Observation and Soil Compaction Testing - We will provide field technicians for observation/compaction testing services as directed by the ESP GEOR and as requested by the PI. We anticipate our services will be needed to test fill/backfill for the following: Building and sitework retaining wall areas, 26th Street improvements, pavement around building, and all utility trench backfill. We have assumed a total of 30 half-day site visits over duration of the project. Curb, gutter and sitework concrete, as well as asphalt concrete, will not require testing.

	# Hours or Tests	Rate	Total
Technician , fill and backfill, estimated 30 half-day site visits	120	\$120.00	\$14,400.00
Technician , overtime allowance at 10% of total hours	12	\$180.00	\$2,160.00
Nuclear density tests - equipment charge	150	\$10.00	\$1,500.00
Maximum density/optimum moisture tests , incl. disposal	5	\$252.00	\$1,260.00
Associate Engineer , site visits if needed, compaction report preparation.	15	\$185.00	\$2,775.00
Drafting for Compaction Report Preparation	12	\$85.00	\$1,020.00
Mileage for technician site visits (70 RT)	2100	\$0.75	\$1,575.00
Mileage for engineer site visits if needed (70 RT)	280	\$0.75	\$210.00
Estimate Subtotal, Fill and Backfill Compaction Observation and Testing			\$24,900.00

B. Reinforcing Steel Sampling and Testing/Anchor Bolt Identification. We will provide sampling and laboratory testing of reinforcing steel. We have assumed that rebar will be shipped to the site and field bent for concrete. The total number of shipments and tonnage per shipment are unknown. We have assumed a maximum of 3 visits for sampling, and a maximum of 8 tensile and bend tests. If rebar is fabricated out of this working area and shop sampling is requested, the services will be subcontracted to a nearby DSA-approved lab, at cost plus 15 percent. We have also included two visits to identify anchor bolts per DSA IR 17-11 - we have assumed that all anchor bolts will be properly identified, therefore no sampling or testing of the anchor bolts will be needed.

	# Hours or Tests	Rate	Total
Rebar sampling , at site, assume 3 visits maximum	12	\$120.00	\$1,440.00
Mileage for sampling (70 RT)	210	\$0.75	\$157.50
Laboratory Tensile/Bend tests , including disposal	8	\$112.00	\$896.00
Anchor bolt identification , inspector, assumed two visits	8	\$125.00	\$1,000.00
Mileage for inspection (70 RT)	140	\$0.75	\$105.00
Subtotal, Reinforcing Steel Sampling/Testing and Anchor Bolt Identification			\$3,598.50



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C. Reinforced Concrete Inspection, Sampling and Testing - We will provide inspection services during batching, and sampling and testing during placement of structural concrete for the building foundations and slabs-on-grade, and for the sitework retaining wall and ramp on the south side of the building.

We have assumed that all other sitework concrete around the structure and in the street will not require testing.

We have assumed that the PI will inspect all reinforcing steel placement.

A total of 6 concrete placements (full day - 8 hours max) have been assumed.

We have also assumed weekend pick-up (Friday concrete) for 2 of the placements.

We assume concrete mix designs will be provided by supplier, but will be reviewed by this firm.

We assume concrete will be batched in Paso Robles.

	# Hours or Tests	Rate	Total
Associate Engineer - mix design review (2 mixes)	3	\$185	\$555.00
Batch Plant Inspection - estimated 6 concrete placements (Non PW)	48	\$90.00	\$4,320.00
Concrete Sampling/Testing - estimated 6 concrete placements	48	\$125.00	\$6,000.00
Sample Pickups - Weekdays - (4 placements)	8	\$85.00	\$680.00
Sample Pickups - Weekends - (2 placements).	4	\$127.50	\$510.00
Concrete compressive strength samples - 11 sets of 5 each - 4x8	55	\$37.00	\$2,035.00
Concrete Sample Disposal/Recycling - 11 sets of 5 each - 4x8	55	\$2.00	\$110.00
Mileage for sampling (70 RT)	420	\$0.75	\$315.00
Mileage for sample pickup (70 RT)	420	\$0.75	\$315.00
Mileage for batch plant inspections (70 RT)	420	\$0.75	\$315.00
Estimate Subtotal, Reinforced Concrete Inspection, Sampling and Testing			\$15,155.00

D. Post-Installed Anchor Testing - We will provide torque and/or direct tension testing of post-installed anchor bolts in concrete for equipment and other anchorages. We have assumed that the PI will be specifically approved by the DSA to inspect the installations.

	# Hours or Tests	Rate	Total
Torque/Tension Testing - Technician - Assumed 4 half-day site visits	16	\$120.00	\$1,920.00
Torque/Tension Testing - Equipment Charge - 4 half days daily equip. rate)	2	\$210.00	\$420.00
Mileage for site visits (70 RT)	280	\$0.75	\$210.00
Estimate Subtotal, Post Installed Anchor Testing			\$2,550.00



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E. Structural Steel Inspection - We will provide material identification and shop fabrication inspection services for structural steel for the building, for the building canopies, and for miscellaneous metals (handrails, etc.) as needed. We have assumed that all steel will be fully identifiable, so that no sampling and testing of the steel will be required. We understand that structural steel fabrication will be completed at Central Coast Welding in SLO. Based on a telephone call with Rodney of Central Coast Welding (2/5/19), we have assumed a total of 34 days of shop fabrication, and 15 days for field erection and bolting. We have assumed that the A325N bolts specified for the will require sampling and testing, as well as torque testing during erection. We have assumed a maximum of 3 lots of bolts. Bolt testing will be subcontracted to Anamet, Inc., of Hayward, CA (DSA LEA 223).

	# Hrs./tsts/weeks	Rate	Total
Shop Fabrication Inspection - Visual - (34 days at 8 hours per day)	272	\$90.00	\$24,480.00
Shop Fabrication Inspection - Visual - Overtime (assumed 10% of total hours)	27.2	\$135.00	\$3,672.00
Shop Fabrication Inspection - NDT/UT	16	\$113.85	\$1,821.60
Subcontracted to DC Inspections (LEA 212) @ cost +15% (allowance only)	1	\$2,500.00	\$2,500.00
Mileage - shop fabrication (SLO - Local)	34	\$7.50	\$255.00
Field Erection/Welding/Bolting Inspection - PW - (15 days/8 hrs. per day)	120	\$125.00	\$15,000.00
Field Bolt Sampling - prior to steel erection (1 visit)	4	\$125.00	\$500.00
Torque/Tension Equipment - field bolting (per day)	2	\$205.00	\$410.00
Bolt Quality Testing - Assume 3 lots structural steel bolts subcontract to Anamet/Hayward, cost +15%	3	\$400.00	\$1,200.00
Bolt packaging and shipping to Anamet (allowance)	1	\$150.00	\$150.00
Mileage for field inspections (70 RT)	1120	\$0.75	\$840.00
Estimate Subtotal, Structural Steel Inspection			\$50,828.60

F. Prefabricated Wood Structural Elements (Glue Laminated Beams) Inspection - We will provide inspection services during shop fabrication of structural glued-laminated beams. We have assumed that glue laminated beams will be fabricated at American Laminators, in either Drain, Oregon or Swisshome, Oregon; production of these elements is estimated to be 3 days. We have assumed that the LVLs and Red I-90 joists will be fabricated by Redbuilt. We understand that Redbuilt's production facility for LVLs has the appropriate QC system and produces certified glue laminated lumber that does not require special inspection per DSA IR 23-10; verification of this from Redbuilt is expected to be provided. Shop fabrication inspection of wood products will be subcontracted to Wallace-Kuhl of Sacramento, California, at cost plus 15 percent. The costs shown below for shop inspection are based on 8-hour work days, and include travel, lodging and per diems. The costs were based on the production time frame assumed as noted above. Final costs will be based on the actual time required by the fabricator to complete production. We understand that all shear wall nailing inspection will be provided by the PI, Mr. Carl Adams.

	# Hrs/tsts/weeks	Rate	Total
Glue-laminated beams - estimated \$6,000.00	1.15	\$6,000.00	\$6,900.00
Estimate Subtotal, Prefabricated Wood Structural Elements Inspection			\$6,900.00



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G. Masonry Veneer (Thin Brick) placement inspection - We will provide installation inspection of masonry veneer, and testing of site mixed mortar. We have assumed that no testing of the veneer units will be required prior to installation. We have assumed that veneer bond strength testing will be required in our laboratory of a field fabricated mock-up (delivered to our lab by the contractor or others). Per General Notes 6&7 on Sheet A5.1, also test bond strength 1 time per 5k SF floor area . AT.O Building data = 13,789 SF / 5k sf = 2.75 ~ 3 total field tests for veneer bond strength. Per Grijalva Contractors, we have assumed a maximum of 15 days for veneer placement. We have added 1 day to complete field bond strength testing. Bond strength to be completed prior to grouting, contractor to repair all tested units.

	# Hours or Tests	Rate	Total
Masonry veneer inspection - assumed 15 days	120	\$125.00	\$15,000.00
Masonry veneer bond strength testing - assumed 1 day	8	\$125.00	\$1,000.00
Torque/Tension Equipment - veneer bond strength (per day - 1 lab, 1 field)	2	\$205.00	\$410.00
Sample Pickups - Weekdays	12	\$85.00	\$1,020.00
Sample Pickups - Weekends	2	\$127.50	\$255.00
Mortar compressive strength samples - 7 sets of 4 each - 2x4x6	28	\$37.00	\$1,036.00
Sample Disposal/Recycling - mortar	28	\$2.00	\$56.00
Mileage for inspection / testing (70 RT)	1120	\$0.75	\$840.00
Mileage for sample pickup (70 RT)	490	\$0.75	\$367.50
Estimate Subtotal, Masonry Veneer Inspection			\$19,984.50

I. Project Management, Special Inspection Report Preparation, DSA Box, CA PW submittal, DSA Final Verified Reports

	# Hours or Tests	Rate	Total
Weekly Special Inspection reports, 26 total weeks of inspection	26	\$130.00	\$3,380.00
Clerical -/DSA Box submittal assuming 26 total weeks of testing/inspection	26	\$75.00	\$1,950.00
State of CA PW Payroll prep, 26 total weeks of work on site	26	\$75.00	\$1,950.00
Associate Engineer, average 0.5 hour per week/26 weeks	13	\$185.00	\$2,405.00
Estimate Subtotal, Proj. Mgmt., Report Prep., CA PW Submittal and DSA Final Verified Reports			\$9,685.00

Estimated Total **\$133,601.60**