

April 20, 2018
Project No. 209821002

Mr. Michael Otavka
Director of Facilities
William S. Hart Union High School District
21380 Centre Pointe Parkway
Santa Clarita, California 91350

Subject: Proposal for Geotechnical, Materials Testing, and Inspection Services
William S. Hart High School – Infrastructure Phase 2A
24825 Newhall Avenue
Newhall, California
Division of State Architect (DSA) Application No. 03-115032

Dear Mr. Otavka:

Ninyo & Moore is pleased to submit this cost proposal for geotechnical, materials testing and specialty inspection services during the construction of the William S. Hart High School Phase 2A project located at 24825 Newhall Avenue in Newhall, California. Ninyo & Moore provided geotechnical testing services during the initial phase of construction, Phase 1, which consisted of installing new site utilities at the track and field renovation extending towards Newhall Avenue. The next phase of construction, Phase 2A, consists of new campus infrastructure including a new outdoor electrical transformer/switchgear area, new site utilities, and new irrigation lines throughout the campus. Structurally, the new electrical transformer/switchgear area will consist of reinforced concrete footings, slab-on-grade, a thickened concrete equipment pad, concrete-masonry-unit (CMU) and thinset veneer-brick walls, and chain-link gate entrances. Based on our review of the project DSA-103 form, project plans, and specifications, our anticipated scope of services will include inspection and testing of soils, concrete, masonry, reinforcing steel, and post-installed anchors.

SCOPE OF SERVICES

Based on our understanding of the proposed construction and our experience with similar projects, we propose to provide the following scope of services:

Project Coordination and Technical Support

- Project coordination, technical support, and management, including review of the project plans and specifications, distribution of test reports, and work scheduling.
- Regular distribution of tests and DSA interim and final verified reports in accordance with new DSA guidelines, 2013 California Administrative Code and DSA Construction Oversight Process (PR 13-01) requirements.

- Attendance at pre-construction meetings and as-needed field meetings.

Geotechnical Services

- Field Engineer/Geologist support for inspection of foundation excavations and remedial removal bottoms and to provide written recommendations, if needed.
- Field Technician Services for observation and testing during temporary excavations, trench backfill, structure backfill, subgrade preparation and during aggregate base placement. Field density test will be performed to evaluate the contractor's compaction efforts.
- Laboratory testing, including proctor density and sand equivalent testing of soils and aggregates sampled in the field.
- Preparation of daily reports, test data sheets and field memoranda to document the items inspected.
- Preparation and submittal of the Geotechnical Interim and Final Verified Reports (DSA-293).

Inspection and Materials Testing Services

- Field technician services for sampling and testing of concrete, including checking slump, temperature, and casting a set of cylinders for each batch.
- Field technician services for concrete batch and grout plant inspection at the production plant including checking mix design and batch weights and signing each delivery ticket.
- Field technician services for sampling, tagging, and testing of construction materials, such as reinforcing steel and anchor bolts.
- Masonry inspection services during structural masonry construction including full-time observation during block placement, inspection of rebar size, grade, quantity and clearances, sampling of grout and mortar, and sampling of masonry prisms.
- Load and/or torque testing of post-installed anchors including epoxy and expansion anchors.
- Field technician with coring equipment to obtain masonry core samples
- Preparation of progress reports, concrete test data sheets, and field memoranda to document the items inspected.
- Laboratory testing, including bend and tensile testing on rebar, shear and compression testing of masonry cores, conformance testing of masonry block specimens, and compressive strength testing of concrete, grout, mortar, and masonry prisms sampled in the field.
- Preparation and submittal of the Laboratory Interim and Final Verified Reports (DSA-291).

ASSUMPTIONS

Based on the construction schedule described above and our project understanding, the following assumptions have been made in the preparation of our scope of services:

- Our services will be scheduled and coordinated by the Project Inspector or Construction Manager on an as-needed basis.
- Our services are subject to prevailing wage requirements.

- Our estimated fee is based on the assumptions outlined above and does not include stand-by time or costs associated with retesting or reinspecting materials that were found not to be in compliance with the project plans or specifications. Our services will depend on the construction schedule and the contractor's operations. Hours spent that exceed those in the attached tables will be billed on a time-and-materials basis.

ESTIMATED FEE

We propose to provide our services on a time-and-materials basis in accordance with the attached Schedule of Fees and Schedule of Fees for Laboratory Testing. Our estimated fee for the scope of services described herein is presented in the attached Table 1.

Ninyo & Moore appreciates the opportunity to provide services on this project and we look forward to working with you.

Respectfully submitted,
NINYO & MOORE



Rajindra S. Handapangoda, PE, GE
Senior Engineer



Alfredo "Tino" Rodriguez
Principal, Construction Services

RAH/AR/sc

Attachments: Table 1 – Breakdown of Estimated Fee
Schedule of Fees

Distribution: (1) Addressee (via e-mail)

Table 1 - Breakdown of Estimated Fee**Field Services**

| | | | | | |
|---|-----------|---|-----------------|-----------|------------------|
| Field Technician/Inspector | | | | | |
| Footing Inspection and Pad Preparation | 32 hours | @ | \$ 92.00 /hour | \$ | 2,944.00 |
| Trench and Structure Backfill | 180 hours | @ | \$ 92.00 /hour | \$ | 16,560.00 |
| Subgrade and Aggregate Base Preparation | 68 hours | @ | \$ 92.00 /hour | \$ | 6,256.00 |
| Concrete Sampling and Testing | 32 hours | @ | \$ 98.00 /hour | \$ | 3,136.00 |
| Concrete and Grout Batch Plant Inspection | 40 hours | @ | \$ 98.00 /hour | \$ | 3,920.00 |
| Specialty Masonry Inspector | 54 hours | @ | \$ 98.00 /hour | \$ | 5,292.00 |
| Masonry Core Sampling (includes equipment) | 12 hours | @ | \$ 180.00 /hour | \$ | 2,160.00 |
| Anchor Bolt Load Testing | 24 hours | @ | \$ 98.00 /hour | \$ | 2,352.00 |
| Observation, Tag and Sample (Rebar and Block) | 32 hours | @ | \$ 98.00 /hour | \$ | 3,136.00 |
| Sample Pick-up | 24 hours | @ | \$ 92.00 /hour | \$ | 2,208.00 |
| Vehicle and Equipment Usage | 498 hours | @ | \$ 10.00 /hour | \$ | 4,980.00 |
| Subtotal | | | | \$ | 52,944.00 |

Laboratory Analyses

| | | | | | |
|--|----------|---|-----------------|-----------|-----------------|
| Proctor Density | 4 tests | @ | \$ 220.00 /test | \$ | 880.00 |
| Sand Equivalent | 2 tests | @ | \$ 125.00 /test | \$ | 250.00 |
| Compressive Strength (Concrete) | 32 tests | @ | \$ 30.00 /test | \$ | 960.00 |
| Compressive Strength (Mortar and Grout) | 32 tests | @ | \$ 45.00 /test | \$ | 1,440.00 |
| Concrete Block Conformance Package, C 90 | 1 test | @ | \$ 500.00 /test | \$ | 500.00 |
| Masonry Cores (Shear and Compression) | 4 tests | @ | \$ 60.00 /test | \$ | 240.00 |
| Reinforcing Tensile or Bend, up to No. 11, A 615 & A 706 | 12 tests | @ | \$ 60.00 /test | \$ | 720.00 |
| Subtotal | | | | \$ | 4,990.00 |

Project Coordination and Management

| | | | | | |
|---|----------|---|-----------------|-----------|-----------------|
| Senior Project Engineer/Geologist/Environmental Scientist | 48 hours | @ | \$ 163.00 /hour | \$ | 7,824.00 |
| Subtotal | | | | \$ | 7,824.00 |

Report Preparation For The DSA-293, DSA-291

| | | | | | |
|---|----------|---|-----------------|-----------|-----------------|
| Principal Engineer/Geologist/Environmental Scientist | 8 hours | @ | \$ 178.00 /hour | \$ | 1,424.00 |
| Senior Project Engineer/Geologist/Environmental Scientist | 16 hours | @ | \$ 163.00 /hour | \$ | 2,608.00 |
| Subtotal | | | | \$ | 4,032.00 |

| | | | | | | |
|----------------------------|--|--|--|--|-----------|------------------|
| TOTAL ESTIMATED FEE | | | | | \$ | 69,790.00 |
|----------------------------|--|--|--|--|-----------|------------------|

Schedule of Fees

Hourly Charges for Personnel

| | |
|--|--------|
| Principal Engineer/Geologist/Environmental Scientist | \$ 178 |
| Certified Industrial Hygienist | \$ 178 |
| Senior Engineer/Geologist/Environmental Scientist | \$ 168 |
| Senior Project Engineer/Geologist/Environmental Scientist | \$ 163 |
| Certified Asbestos Consultant, Lead Inspector/Assessor, Lead Project Monitor | \$ 163 |
| Project Engineer/Geologist/Environmental Scientist | \$ 156 |
| Senior Staff Engineer/Geologist/Environmental Scientist | \$ 142 |
| Certified Site Surveillance Technician, Lead Sampling Technician | \$ 142 |
| Staff Engineer/Geologist/Environmental Scientist | \$ 126 |
| GIS Analyst | \$ 116 |
| Field Operations Manager | \$ 112 |
| Supervisory Technician | \$ 98 |
| Nondestructive Examination Technician, UT, MT, LP | \$ 98 |
| ACI Concrete Technician | \$ 98 |
| Concrete/Asphalt Batch Plant Inspector | \$ 98 |
| Special Inspector (Concrete, Masonry, Steel, Welding, and Fireproofing) | \$ 98 |
| Senior Field/Laboratory Technician | \$ 92 |
| Field/Laboratory Technician | \$ 92 |
| Technical Illustrator/CAD Operator | \$ 92 |
| Information Specialist | \$ 78 |
| Geotechnical/Environmental/Laboratory Assistant | \$ 76 |
| Data Processing, Technical Editing, or Reproduction | \$ 68 |

Other Charges

| | |
|---|----------------|
| Concrete Coring Equipment (includes one technician) | \$ 180/hr |
| X-Ray Fluorescence | \$ 300/day |
| PID/FID Usage | \$ 140/day |
| Anchor load test equipment (includes technician) | \$ 97/hr |
| Hand Auger Equipment | \$ 65/day |
| Inclinometer Usage | \$ 40/hr |
| Vapor Emission Kits | \$ 40/kit |
| Level D Personal Protective Equipment (per person per day) | \$ 30/p/d |
| Rebar Locator (Pachometer) | \$ 30/hr |
| Nuclear Density Gauge Usage | \$ 12/hr |
| Field Vehicle Usage | \$ 10/hr |
| Direct Project Expenses | Cost plus 15 % |
| Laboratory testing, geophysical equipment, and other special equipment provided upon request. | |

Notes

For field and laboratory technicians and special inspectors, regular hourly rates are charged during normal weekday construction hours. Overtime rates at 1.5 times the regular rates will be charged for work performed outside normal construction hours and all day on Saturdays. Rates at twice the regular rates will be charged for all work in excess of 12 hours in one day or on Sundays and holidays. Lead time for any requested service is 24 hours. Field Technician rates are based on a 4-hour minimum. Special inspection rates are based on a 4-hour minimum for the first 4 hours and an 8-hour minimum for hours exceeding 4 hours. Field personnel are charged portal to portal.

Invoices will be submitted monthly and are due upon receipt. A service charge of 1.0 percent per month may be charged on accounts not paid within 30 days.

The terms and conditions of providing our consulting services include our limitation of liability and indemnities as presented in Ninyo & Moore's Work Authorization and Agreement.

Schedule of Fees for Laboratory Testing

Laboratory Test, Test Designation, and Price Per Test

SOILS

| | |
|--|--------|
| Atterberg Limits, D 4318, CT 204 | \$ 170 |
| California Bearing Ratio (CBR), D 1883 | \$ 550 |
| Chloride and Sulfate Content, CT 417 & CT 422 | \$ 175 |
| Consolidation, D 2435, CT 219 | \$ 300 |
| Consolidation, Hydro-Collapse only, D 2435 | \$ 150 |
| Consolidation – Time Rate, D 2435, CT 219 | \$ 75 |
| Direct Shear – Remolded, D 3080 | \$ 350 |
| Direct Shear – Undisturbed, D 3080 | \$ 300 |
| Durability Index, CT 229 | \$ 175 |
| Expansion Index, D 4829, IBC 18-3 | \$ 190 |
| Expansion Potential (Method A), D 4546 | \$ 170 |
| Geofabric Tensile and Elongation Test, D 4632 | \$ 200 |
| Hydraulic Conductivity, D 5084 | \$ 350 |
| Hydrometer Analysis, D 422, CT 203 | \$ 220 |
| Moisture, Ash, & Organic Matter of Peat/Organic Soils | \$ 120 |
| Moisture Only, D 2216, CT 226 | \$ 35 |
| Moisture and Density, D 2937 | \$ 45 |
| Permeability, CH, D 2434, CT 220 | \$ 300 |
| pH and Resistivity, CT 643 | \$ 175 |
| Proctor Density D1557, D 698, CT 216, AASHTO T-180 | \$ 220 |
| Proctor Density with Rock Correction D 1557 | \$ 340 |
| R-value, D 2844, CT 301 | \$ 325 |
| Sand Equivalent, D 2419, CT 217 | \$ 125 |
| Sieve Analysis, D 422, CT 202 | \$ 145 |
| Sieve Analysis, 200 Wash, D 1140, CT 202 | \$ 100 |
| Specific Gravity, D 854 | \$ 125 |
| Thermal Resistivity (ASTM 5334, IEEE 442) | \$ 925 |
| Triaxial Shear, C.D., D 4767, T 297 | \$ 450 |
| Triaxial Shear, C.U., w/pore pressure, D 4767, T 2297 per pt | \$ 400 |
| Triaxial Shear, C.U., w/o pore pressure, D 4767, T 2297 per pt | \$ 250 |
| Triaxial Shear, U.U., D 2850 | \$ 180 |
| Unconfined Compression, D 2166, T 208 | \$ 130 |

MASONRY

| | |
|---|--------|
| Brick Absorption, 24-hour submersion, 5-hr boiling, 7-day, C 67 | \$ 70 |
| Brick Compression Test, C 67 | \$ 55 |
| Brick Efflorescence, C 67 | \$ 55 |
| Brick Modulus of Rupture, C 67 | \$ 50 |
| Brick Moisture as received, C 67 | \$ 45 |
| Brick Saturation Coefficient, C 67 | \$ 60 |
| Concrete Block Compression Test, 8x8x16, C 140 | \$ 70 |
| Concrete Block Conformance Package, C 90 | \$ 500 |
| Concrete Block Linear Shrinkage, C 426 | \$ 200 |
| Concrete Block Unit Weight and Absorption, C 140 | \$ 70 |
| Cores, Compression or Shear Bond, CA Code | \$ 70 |
| Masonry Grout, 3x3x6 prism compression, C 39 | \$ 45 |
| Masonry Mortar, 2x4 cylinder compression, C 109 | \$ 35 |
| Masonry Prism, half size, compression, C 1019 | \$ 120 |
| Masonry Prism, Full size, compression, C 1019 | \$ 200 |

REINFORCING AND STRUCTURAL STEEL

| | |
|--|--------|
| Chemical Analysis, A 36, A 615 | \$ 135 |
| Fireproofing Density Test, UBC 7-6 | \$ 60 |
| Hardness Test, Rockwell, A 370 | \$ 70 |
| High Strength Bolt, Nut & Washer Conformance, per assembly, A 325 | \$ 150 |
| Mechanically Spliced Reinforcing Tensile Test, ACI | \$ 175 |
| Pre-Stress Strand (7 wire), A 416 | \$ 170 |
| Reinforcing Tensile or Bend up to No. 11, A 615 & A 706 | \$ 60 |
| Structural Steel Tensile Test: Up to 200,000 lbs. (machining extra), A 370 | \$ 80 |
| Welded Reinforcing Tensile Test: Up to No. 11 bars, ACI | \$ 65 |

CONCRETE

| | |
|---|----------|
| Compression Tests, 6x12 Cylinder, C 39 | \$ 30 |
| Concrete Mix Design Review, Job Spec | \$ 180 |
| Concrete Mix Design, per Trial Batch, 6 cylinder, ACI | \$ 850 |
| Concrete Cores, Compression (excludes sampling), C 42 | \$ 60 |
| Drying Shrinkage, C 157 | \$ 400 |
| Flexural Test, C 78 | \$ 75 |
| Flexural Test, C 293 | \$ 75 |
| Flexural Test, CT 523 | \$ 85 |
| Gunite/Shotcrete, Panels, 3 cut cores per panel and test, ACI | \$ 275 |
| Jobsite Testing Laboratory | Quote |
| Lightweight Concrete Fill, Compression, C 495 | \$ 50 |
| Petrographic Analysis, C 856 | \$ 2,000 |
| Restrained Expansion of Shrinkage Compensation | \$ 450 |
| Splitting Tensile Strength, C 496 | \$ 100 |
| 3x6 Grout, (CLSM), C 39 | \$ 45 |
| 2x2x2 Non-Shrink Grout, C 109 | \$ 45 |

ASPHALT CONCRETE

| | |
|---|----------|
| Air Voids, T 269 | \$ 75 |
| Asphalt Mix Design, Caltrans (incl. Aggregate Quality) | \$ 4,500 |
| Asphalt Mix Design Review, Job Spec | \$ 180 |
| Dust Proportioning, CT LP-4 | \$ 75 |
| Extraction, % Asphalt, including Gradation, D 2172, CT 382 | \$ 250 |
| Extraction, % Asphalt without Gradation, D 2172, CT 382 | \$ 150 |
| Film Stripping, CT 302 | \$ 120 |
| Hveem Stability and Unit Weight D 1560, T 246, CT 366 | \$ 225 |
| Marshall Stability, Flow and Unit Weight, T 245 | \$ 240 |
| Maximum Theoretical Unit Weight, D 2041, CT 309 | \$ 150 |
| Moisture Content, CT 370 | \$ 85 |
| Moisture Susceptibility and Tensile Stress Ratio, T 238, CT 371 | \$ 1,000 |
| Slurry Wet Track Abrasion, D 3910 | \$ 150 |
| Superpave, Asphalt Mix Verification (incl. Aggregate Quality) | \$ 4,900 |
| Superpave, Gyration Unit Wt., T 312 | \$ 100 |
| Superpave, Hamburg Wheel, 20,000 passes, T 324 | \$ 1,000 |
| Unit Weight sample or core, D 2726, CT 308 | \$ 100 |
| Voids in Mineral Aggregate, (VMA) CT LP-2 | \$ 75 |
| Voids filled with Asphalt, (VFA) CT LP-3 | \$ 75 |
| Wax Density, D 1188 | \$ 100 |

AGGREGATES

| | |
|--|----------|
| Clay Lumps and Friable Particles, C 142 | \$ 180 |
| Cleaness Value, CT 227 | \$ 180 |
| Crushed Particles, CT 205 | \$ 175 |
| Durability, Coarse or Fine, CT 229 | \$ 205 |
| Fine Aggregate Angularity, ASTM C 1252, T 304, CT 234 | \$ 180 |
| Flat and Elongated Particle, D 4791 | \$ 220 |
| Lightweight Particles, C 123 | \$ 180 |
| Los Angeles Abrasion, C 131 or C 535 | \$ 200 |
| Material Finer than No. 200 Sieve by Washing, C 117 | \$ 90 |
| Organic Impurities, C 40 | \$ 90 |
| Potential Alkali Reactivity, Mortar Bar Method, Coarse, C 1260 | \$ 1,250 |
| Potential Alkali Reactivity, Mortar Bar Method, Fine, C 1260 | \$ 950 |
| Potential Reactivity of Aggregate (Chemical Method), C 289 | \$ 475 |
| Sand Equivalent, T 176, CT 217 | \$ 125 |
| Sieve Analysis, Coarse Aggregate, T 27, C 136 | \$ 120 |
| Sieve Analysis, Fine Aggregate (including wash), T 27, C 136 | \$ 145 |
| Sodium Sulfate Soundness, C 88 | \$ 450 |
| Specific Gravity and Absorption, Coarse, C 127, CT 206 | \$ 115 |
| Specific Gravity and Absorption, Fine, C 128, CT 207 | \$ 175 |

ROOFING

| | |
|--|--------|
| Roofing Tile Absorption, (set of 5), C 67 | \$ 250 |
| Roofing Tile Strength Test, (set of 5), C 67 | \$ 250 |

Special preparation of standard test specimens will be charged at the technician's hourly rate.
Ninyo & Moore is accredited to perform the AASHTO equivalent of many ASTM test procedures.