Wallace Kuhl & Associates

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September 26, 2019
(Revised September 27, 2019)

Mr. Jim Bridges, Superintendent
c/o Charlene Yarnall
Jefferson School District
1219 Whispering Wind Drive
Tracy, California 95377

Geotechnical Engineering and Geologic Hazards Services Proposal
CORRAL HOLLOW ELEMENTARY SCHOOL
Coriander Street
Tracy, California
WKA Proposal No. 2PR19254

As requested by Ms. Charlene Yarnall of PJHM Architects, we are pleased to submit this proposal to provide geotechnical engineering consultation services for the proposed Corral Hollow Elementary School to be constructed at Coriander Street in Tracy, California. To assist in the preparation of this proposal, we have reviewed the project information provided by PJHM Architecture; we have reviewed available historic aerial photographs of the property; and, we have reviewed our files for previous projects performed near the campus.

Proposed Improvements

We understand the proposed elementary school campus encompasses a total area of approximately 14 acres. The new campus will include the construction of an administration/media building identified as Building A; a multi-purpose building identified as Building B; six permanent classroom building areas identified as Buildings C through H; three modular physical education buildings; three modular daycare buildings; and a Lower Corral building. Buildings A and B will be two-story structures with building footprints of 7,337- and 16,699-square feet (sf), respectively. The remaining six permanent, single-story, classroom buildings will encompass building footprints ranging from 4,098 sf up to 9,686 sf. The six modular classroom buildings will each encompass a building footprint of 960 sf for a total building area of 5,760 sf. The Lower Corral building will encompass a total building footprint of 5,580 sf.

We anticipate the two-story buildings; six permanent classroom buildings; and Lower Corral building will be constructed of wood-framed walls with interior concrete slabs-on-grade lower floors. The remaining six modular classroom buildings are anticipated to be pre-manufactured structures supported on stem wall foundations. The Lower Corral building will be two stories in height with an “open air” lower floor and a student library on the second floor. Structural loads

for the buildings are anticipated to range from relatively light to moderately heavy based on this type of construction.

Associated improvements will include the construction of underground utilities, landscaping, hardcourt areas, courtyard areas, and new asphalt concrete parking lots, bus lanes, and vehicle access driveways.

Grading plans were not available; however, based on existing site topography, we anticipate maximum excavations and fills on the order of one to three feet for development of the proposed improvements.

Related Studies

Supplemental data reviewed during the preparation of this proposal has included the following reports prepared for the project site:

- Wilson Geosciences, Inc., 2013, *Liquid Petroleum Pipeline Risk and California Aqueduct Flood Risk for Proposed Tracy Hills School Site*, prepared for Integral Communities, Newport Beach, California;
- Wallace-Kuhl & Associates, 2014, *Phase 1 Environmental Site Assessment* (WKA No. 10137.01P, dated June 26, 2014) prepared for the Tracy Hills Development that included the subject property;
- Wallace-Kuhl & Associates, 2016, *Geologic Hazards Investigation Report* (WKA No. 10137.02P, dated September 28, 2016) prepared for the Tracy Hills Site;
- Wallace-Kuhl & Associates, 2016, *Preliminary Environmental Assessment Workplan* (WKA No. 10137.03P, dated October 3, 2016) prepared for the Tracy Hills Development Proposed Elementary School; and,
- Wallace-Kuhl & Associates, 2018, *Preliminary Endangerment Assessment Report of Findings* (WKA No. 10137.04P, dated July 25, 2018) prepared for the subject property.

Review of the above reports indicates April of 2018, our firm constructed seven soil gas probes (SG-1 through SG-7) to a maximum depth of about nine feet below existing grades and one groundwater monitoring well (MW-2) to a maximum depth of about 125 feet below existing grades. The subsurface soil conditions revealed by the previous borings indicate lean clay to a depth of about 10 feet below existing grades underlain by sandy gravel to a depth of about 66 feet below existing grades. Below a depth of about 66 feet, silty lean clay with an interbedded layer of fine sand to the maximum depth explored of 125 feet below existing grades. Groundwater was not encountered during the previous explorations. This previous data would be used to help supplement this study.

Purpose and Proposed Scope of Services

The purpose of our study would be to evaluate the site, soil, and groundwater conditions in the areas of proposed construction, and to prepare a report containing our findings, conclusions and recommendations for use by the other members of the design team to prepare contract plans and specifications.

This project will be under the scrutiny of the Division of the State Architect (DSA), who will submit the report to the California Geological Survey (CGS) for review. As part of the review process, CGS has developed minimum investigation, analysis, and reporting criteria for preparation of these reports. These criteria are presented in CGS Note 48. Among the minimum criteria presented in CGS Note 48 is a requirement that the subsurface exploration include at least one boring or exploration shaft per 5000 square feet of building footprint, with a minimum of two borings or exploration shafts for any one building. We understand that the proposed project would be subject to these provisions. Therefore, our intent will be to prepare a report to satisfy the requirements of CGS Note 48 with respect to a geotechnical engineering evaluation of school sites.

To accomplish our study, our scope of services would include the drilling and sampling of 21 borings advanced to depths ranging from 10 to 50 feet below existing grades or to practical drilling refusal, whichever is encountered first (total drilling length of 270 lineal feet) by using a standard truck-mounted drill rig equipped with solid flight, helical augers or hollow-stem augers. Soil sample would be collected from the borings at maximum 5-foot-intervals or at significant changes in lithology by using a modified California sampler and/or Standard Penetration Test sampler. Representative bulk samples would be collected from various locations across the site. Soil samples would be taken to our laboratory for further classification and selection of testing. Selected soil samples would be tested for, but not limited to, in-situ dry density, natural moisture content, gradations, expansion potential, unconfined compressive strength, plasticity index, and Resistance values.

The borings would be backfilled with a slurry of neat-cement, bentonite, and water in accordance with the requirements of San Joaquin County Environmental Health Department (SJCEHD).

Prior to drilling, we would also mark the exploration locations and notify the Underground Service Alert (USA) to obtain utility clearance. Although USA will alert public utility agencies, we would also coordinate with personnel familiar with the site to review our proposed exploration locations for conflicts with possible underground utilities that currently exist. We would take precautions not to disturb underground utilities that are clearly marked in the field or brought to our attention; however, we cannot be responsible for damage to unmarked underground utilities or those that are not known to us.

Upon completion of our field investigation, laboratory testing and engineering analyses, we would prepare a design-level *Geotechnical Engineering Report* containing:

1. Vicinity map;
2. Site plan that shows the boring locations and previous explorations;
3. Logs of borings;
4. Laboratory test results;
5. Findings regarding site conditions, including;
    a. Site description
    b. Site soil and geology
    c. Groundwater
6. Conclusions regarding:
    a. 2019 California Building Code (CBC) seismic design parameters
    b. Bearing capacity
    c. Expansive soil conditions
    d. Preliminary soil corrosivity potential
    e. Effect of groundwater on development
    f. Pavement subgrade qualities
    g. Excavation conditions
    h. Soil suitability for use in fill construction
7. Recommendations regarding:
    a. Site clearing
    b. Site preparation and fill placement
    c. Utility trench backfill
    d. Building foundation design
    e. Interior and exterior concrete slab support
    f. Retaining wall design, if needed
    g. Perimeter wall design
    h. Site drainage
    i. Pavement design based on various traffic indices; and,
8. Guide Earthwork Specifications.

<u>Fee Estimate</u>

We can prepare the geotechnical engineering report described above for an estimated fee of **$32,400.** We would not exceed these fee estimates unless the field explorations uncover conditions requiring additional studies, site access issues arise which delays the field crew, or if our work scope is changed (e.g. revisions to the current site plan such as building locations, number and size of buildings, etc.), and only after receiving authorization from your office for additional work. Final billing will be in accordance with the attached standard schedule of fees for the actual work accomplished.

Please note these fees do not include costs associated with review of project plans or specifications, environmental testing and evaluation, or testing and observation services required during construction.

Schedule

We anticipate that project planning and scheduling can begin within one to two days of receiving written authorization to proceed. The boring permit application would be submitted to the SJCEHD which may take 5 to 10 business days for approval. The geotechnical field explorations would be scheduled within one week of receiving the approved permit, depending on drill rig availability and site accessibility. The field explorations should take one day to complete. Laboratory testing would require about one to two weeks to complete; at which time we can provide verbal recommendations to the other design consultants. The final report can be completed within about three to four additional weeks following completion of the laboratory testing.

Project Assumptions

Based on the above, we have made the following assumptions for the project including:

- Your office will provide contact information regarding site access for the field explorations.
- The site is accessible to a standard truck-mounted drill rig and associated support vehicles.
- The field explorations can be performed during normal business hours, excluding weekends and holidays.
- We anticipate that soil cuttings from the borings will not be contaminated and excess soil can be spread out on site. Costs to drum, characterize and dispose of drilling waste are not included within our scope of services.
- This project is subject to current prevailing wage laws; therefore, we have included these costs in our estimate. If this is not the case, please notify me immediately so that the project costs can be reduced accordingly.

Department of Industrial Relations (DIR) Number

We understand that the project will be subject to current prevailing wage laws. We request that your firm provide the project number issued by the Department of Industrial Relations in the space provided below:

DIR No. _____

This DIR number will allow us to properly submit certified payroll documentation as required by the State. If the DIR number is not available, please notify us.

Authorization

Our agreement for this work is attached to this proposal. If this proposal is acceptable, please sign the agreement and return it to us as our written authorization to proceed. We will return a fully executed copy of the agreement to you for your files. Please inform us if wet-signed copies of the agreement are required. If that is the case, please print sign and return two copies of the agreement to our office. We will then return a fully executed copy by US mail for your files. This proposal is valid for 60 days from the date shown above.

We appreciate the opportunity to submit this proposal and look forward to the possibility of providing you with our services. If you have questions regarding this proposal or scope of services, please do not hesitate to contact me at (916) 372-1434.

Wallace-Kuhl & Associates

Michael M. Watari

Michael M. Watari, M.S., P.E., G.E.
Senior Engineer
G.E. No. 2675, Exp. 12/31/19

Attachments: Geotechnical Services Agreement
Schedule of Fees 2019P

GEOTECHNICAL SERVICES AGREEMENT

CORRAL HOLLOW ELEMENTARY SCHOOL
Tracy, California
WKA Proposal No. 2PR19254

JEFFERSON SCHOOL DISTRICT ("CLIENT") and River City Geoprofessionals, Inc., **dba WALLACE ▪ KUHL & ASSOCIATES ("WKA")** agree:

1. PROFESSIONAL SERVICES. **WKA** will perform professional services and will receive compensation pursuant to the terms and conditions of the attached proposal letter dated September 27, 2019, which is incorporated herein by reference. In performing professional service, **WKA** shall use that degree of care and skill ordinarily exercised, under similar circumstances, by reputable members of the geotechnical engineering profession practicing under similar conditions at the same time and in the same or similar locality. **CLIENT** understands and acknowledges the inherent risks connected with construction and agrees that no warranty, either express or implied, is included in this Agreement or in any drawing, specification, report or opinion produced pursuant to this Agreement.

CLIENT recognizes that subsurface conditions beneath the project site may vary from those encountered in borings, surveys or explorations and that information and recommendations developed by **WKA** are based solely on the information available to it. Any exploration, testing surveys and analysis associated with the work will be performed by **WKA** solely to fulfill the purpose of this Agreement and **WKA** is not responsible for interpretation by others of the information developed.

2. DISCOVERY OF UNANTICIPATED HAZARDOUS MATERIALS. **WKA** is undertaking this study with the belief there are no hazardous materials on the site. Hazardous materials may exist at a site where there is not reason to believe they could or should be present. **WKA** and **CLIENT** agree that the discovery of unanticipated hazardous materials constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. **WKA** and **CLIENT** also agree that the discovery of unanticipated hazardous materials may make it necessary for **WKA** to take immediate measures to protect health and safety, and **CLIENT** agrees to compensate **WKA** for any such extra work. **CLIENT** also recognizes there is a risk that sampling through an unknown contaminated zone may result in spread of contamination to an aquifer, underground stream, or other hydrous body not previously contaminated with resultant spreading of hazardous materials off-site. **CLIENT** recognizes nothing can be done to prevent such an occurrence because such sampling is a necessary aspect of the work that **WKA** will perform for **CLIENT**'s benefit. **CLIENT** waives any claim against **WKA** and agrees to defend, indemnify and save **WKA** harmless from any claim or liability for injury or loss of any type arising from **WKA**'s discovery of unanticipated hazardous materials on a site, or from the spread of such contamination to an aquifer, underground stream, or other hydrous body not previously contaminated due to **WKA**'s performance under this Agreement.

3. SAMPLES. **WKA** will destroy all samples upon completion of testing unless directed by **CLIENT** in writing to retain them. Upon written notice, **WKA** will deliver samples to **CLIENT**, charges collect, or will arrange for storage of samples at an agreed location for an agreed storage charge.

4. PAYMENT. **WKA** will submit invoices for services rendered on a periodic basis; provided, however, said invoices shall not be submitted more frequently than once every 30 days. Invoices shall be due upon receipt, but shall not be considered delinquent if paid on or before the expiration of 30 days from date of mailing. If payment is not so made, a late payment charge shall be due on the invoice amount at the rate of one and one-half percent (1½%) per month on the unpaid balance from the date of the invoice until paid. In the event of delinquency, **CLIENT** shall pay the actual cost of collection including, without limitation, reasonable attorneys' fees. If the **CLIENT** is an LLC, the representative of the **CLIENT** signing this agreement shall be personally responsible and guarantee payment of all invoices.

5. RIGHT-OF-ENTRY. Unless otherwise agreed, **CLIENT** will furnish right-of-entry for **WKA** to make borings, surveys and/or explorations. **WKA** will take reasonable precautions to reduce damage to property. However, it is understood by **CLIENT** that in the normal course of work, some damage may occur. **CLIENT** recognizes that it is his responsibility to inform the property owner of the discovery of unanticipated hazardous materials or suspected hazardous materials or damage to property incurred in the normal course of work.

6. UTILITIES. **WKA** will request responsible utility owners to locate off-site lines. **CLIENT** agrees to be solely responsible for designating the locations of all utility lines and subterranean structures within the property lines of the project. **WKA** will not be liable for damage to subterranean structures (pipes, tanks, conduits, wires, etc.) that are not correctly located on or off the site.

7. JOB SITE. **CLIENT** agrees that the construction contractor will be required by **CLIENT** to assume sole and complete responsibility for job site conditions during construction of the project, including safety of persons and property. **CLIENT** further agrees to indemnify and hold **WKA** harmless from any and all liability in connection with the performance of work during construction of this project, excepting liability arising directly from the negligence of **WKA**.

8. REPORTS. Reports, plans and other work prepared by **WKA** remain the property of **WKA**. **CLIENT** agrees that all reports and other work furnished to the **CLIENT** and his agents not paid for will be returned upon demand, and will not be used for licensing, permits, design and/or construction.

9. LIABILITY. **WKA** carries workers' compensation insurance and public liability insurance for bodily injury and property damage that may be suffered by third parties and members of the public who are not covered by the limitation of liability set forth below in Paragraph 10. Certificates of coverage will be furnished to **CLIENT** upon written request. **WKA** assumes the risk of damage caused by its personnel to its supplies and equipment. In the event **CLIENT** desires greater insurance coverage and directs **WKA** to take out additional insurance, **WKA** shall procure and maintain additional insurance, if procurable, at **CLIENT**'s expense; provided, however, **WKA** shall not be responsible for property damage and bodily injury resulting from any cause, including fire and explosion, beyond the amount and coverage of **WKA**'s insurance.

10. LIMITATION OF LIABILITY. **WKA**'s liability for damages due to alleged negligent professional acts, errors and omissions will be limited to a sum not to exceed $50,000 or **WKA's** total fee, whichever is greater. Notwithstanding any other provision herein to the contrary, **WKA** shall not be responsible or held liable for any special, indirect or consequential damages resulting in any way from **WKA**'s performance under this Agreement.

11. GOVERNING LAW; DISPUTES. This Agreement shall be governed by the laws of the State of California. Should either party hereto bring suit in court to enforce any term of the Agreement, it is agreed that the each party shall bear the cost of their own legal expenses.

JEFFERSON SCHOOL DISTRICT

_____
Signature

_____
Name printed or typed *Title*

_____
Date

_____
Company Address

WALLACE - KUHL & ASSOCIATES

_____
Signature

Michael M. Watari/Senior Engineer/GE No.2675, Exp. 12/31/19
Name/Title

_____
Date

PROFESSIONAL SERVICES

Principal Engineer / Geologist	$180.00	per hour
Senior Engineer / Geologist	$180.00	per hour
Senior Environmental Scientist	$180.00	per hour
Project Engineer / Geologist	$150.00	per hour
Project Environmental Scientist	$150.00	per hour
Senior Staff Engineer / Geologist	$140.00	per hour
Senior Staff Environmental Scientist	$140.00	per hour
Staff Engineer / Geologist	$135.00	per hour
Staff Environmental Scientist	$135.00	per hour
Senior Environmental Technician	$110.00	per hour
Senior / Supervising Technician	$110.00	per hour
Draftsperson / GIS Technician	$105.00	per hour
Administrative Assistant	$80.00	per hour

FIELD INVESTIGATION TESTING

Seismic Refraction Survey	$180.00	per hour
Thermal Resistivity Testing	$180.00	per hour
Electrical Resistivity Survey	$180.00	per hour
Hand Augering/Sampling - Engineer	$165.00	per hour
Photoionization Detector	$180.00	per hour
Rebar Location / GPR	$300.00	per hour

LITIGATION

Data Review/Consultation	$260.00	per hour
Depositions/Expert Witness Testimony	$375.00	per hour

EXPENSES

Vehicle Charges (*Subject to periodic adjustment due to fuel cost*)	$0.75	per mile
Subsistence	$70.00	per day
Lodging	Cost	
Services by Associate Firms and other outside services	Cost	plus 20%
Equipment rental, freight, special materials	Cost	plus 20%
Extra Report Copies		
Black and white versions	$25.00	each
Color photography versions	$35.00	each

PREMIUM CHARGES

Overtime and Saturdays	hourly rate plus	40	percent
Sunday and Holidays, and over 8 hrs on Saturday	hourly rate plus	75	percent

SHIFT DIFFERENTIAL

A 25 percent shift differential surcharge will be added to the hourly rate of personnel involved in scheduled testing work between the hours of 6 P.M. and 5 A.M., as well as a four hour minimum.

FIELD SERVICES

CONCRETE & REINFORCING STEEL

Ball Penetration (Kelly Ball)	$135.00 /hr.
Batch Plant Inspection	$105.00 /hr.
CaCl Moisture Emission Test Kit	$35.00 /kit
CaCl Moisture Emission Testing	$100.00 /hr.
CLSM/CDF/Slurry Testing	$100.00 /hr.
Concrete Mix Design Review	$180.00 /hr.
Concrete Placement Obs/Cast Cylinder	$105.00 /hr.
Concrete Rebound Number Testing	$135.00 /hr.
Concrete Trial Batch	$105.00 /hr.
Floor Flatness Testing	$135.00 /hr.
High Strength Grout Sampling / Testing	$105.00 /hr.
Rebar / Post Tension Special Inspection	$110.00 /hr.
Rebar Location / GPR	$300.00 /hr.
Rebar Location / Pachometer	$135.00 /hr.
Rebar Placement Inspection	$110.00 /hr.
Reinforcing Steel Sampling/Tagging	$105.00 /hr.
Relative Humidity Testing	$135.00 /hr.
Shotcrete Special Inspection	$105.00 /hr.
Transport Cylinders / Samples to Lab	$105.00 /hr.

CORING

Coring (Technician + equipment)	$135.00 /hr.
Coring (Technician assistant)	$105.00 /hr.

POST-INSTALLED ANCHORS

Concrete Anchor Installation Inspection	$105.00 /hr.
Concrete Anchor Proof Load Testing	$135.00 /hr.
Concrete Anchor Torque Testing	$110.00 /hr.
Suspended Ceiling Inspection / Testing	$135.00 /hr.

STRUCTURAL STEEL

Fireproofing Special Inspection / Testing	$105.00 /hr.
High Strength Bolt Special Inspection	$110.00 /hr.
Non-Destructive Testing - UT/MT/PT	$120.00 /hr.
Tower Certified Special Inspector	$135.00 /hr.
Welding Special Inspection - Field	$110.00 /hr.
Welding Special Inspection - Shop	$110.00 /hr.

MASONRY

In-Place Masonry Flatjack Testing	$160.00 /hr.
In-Place Masonry Shear Testing	$135.00 /hr.
Masonry Materials Sampling / Testing	$105.00 /hr.
Masonry Special Inspection	$105.00 /hr.
Masonry Special Inspection DSA Cert.	$115.00 /hr.

SOILS & ASPHALT CONCRETE

Asphalt Concrete Inspection / Testing	$110.00 /hr.
Asphalt Concrete Materials Sampling	$110.00 /hr.
Building Pad Special Inspection / Testing	$110.00 /hr.
Deep Foundation Inspection	$110.00 /hr.
Flatwork AB Inspection / Testing	$110.00 /hr.
Flatwork Subgrade Inspection / Testing	$110.00 /hr.
Grading Inspection / Testing	$110.00 /hr.
Hand Augering and Sampling	$140.00 /hr.
Pavement AB Inspection / Testing	$110.00 /hr.
Pavement Subgrade Inspection / Testing	$110.00 /hr.
Proof Rolling Observation	$110.00 /hr.
Shallow Foundation Inspection	$110.00 /hr.
Slab Subgrade Soil Moisture Tests	$110.00 /hr.
Soil / Aggregate Sampling	$110.00 /hr.
Soil Treatment Testing / Observation	$110.00 /hr.
Structure Backfill Inspection / Testing	$110.00 /hr.
Subgrade Stabilization Observation	$110.00 /hr.
Utility Trench Backfill Testing	$110.00 /hr.
WKA Drill Rig (including operator)	$295.00 /hr.
WKA Drill Rig (helper)	$110.00 /hr.

SPECIALIZED SERVICES

Coefficient of Friction Testing	$140.00 /hr.
Crack Monitoring	**
Existing Building Evaluation / Demo	$105.00 /hr.
Existing Building Evaluation / Document	$105.00 /hr.
Existing Building Evaluation / Repair	$105.00 /hr.
Field Investigate Support	$105.00 /hr.
Epoxy / FRP Installation Inspection	$105.00 /hr.
Glulam / Truss Fabrication Inspection	$105.00 /hr.
Glulam / Truss Inspection Travel	$80.00 /hr.
GFRC Inspection / Testing	$105.00 /hr.
Meggar Ground Testing	$135.00 /hr.
Soil Elect. Resitivity Testing - Technician	$140.00 /hr.
Prestress Framing Installation	$105.00 /hr.
Proto Wall Inspection / Testing	$105.00 /hr.
Roofing Inspection	$105.00 /hr.
Shear Nailing Inspection	$105.00 /hr.
Thickness Testing - Coating / Steel	$135.00 /hr.
Timber Framing / Hardware Inspection	$105.00 /hr.
Vapor Barrier Inspection	$105.00 /hr.
Vibration Monitoring	**

GENERAL

Inspection / Testing Cancelled	*
Reinspection / Retesting	*
Stand-by Time	*

** Based on hourly rate of Inspection or Testing schedule*
*** Based on Staff Classification*

MINIMUM CHARGES

A two hour minimum charge will apply to field technician services with the following exceptions:

a) Single trip pickup and delivery services, where a one hour minimum will apply.
b) Saturday, Sunday and holidays, where a four hour minimum charge will apply.

LABORATORY SERVICES

SOIL

Atterberg Limits (LL/PI)	ASTM D4318	$155.00	each
CLSM/CDF/Soil Cement Compression Test	ASTM D4832	$55.00	each
Compaction Characteristics	ASTM D698	$250.00	each
Compaction Characteristics	ASTM D1557	$250.00	each
Compaction Characteristics	CTM 216	$250.00	each
Consolidation (8 loads + 1 rebound)	ASTM D2435	$460.00	each
Consolidation (additional loads)	ASTM D2435	$55.00	each
Expansion Index	ASTM D4829	$185.00	each
Hydraulic Conductivity, Flexible Wall Permeability	ASTM D5084	$405.00	each
Lime-Treated Unconfined Compression	CTM 373	$790.00	each
Moisture Content	ASTM D2216	$25.00	each
Organic Content	ASTM D2974	$95.00	each
Resistance "R" Value - Laboratory Lime-Treated	ASTM D2844, CTM 301	$305.00	each
Resistance "R" Value - Untreated	ASTM D2844, CTM 301	$255.00	each
Sieve Analysis - Passing No. 200 only	ASTM D1140	$95.00	each
Sieve Analysis - Sieve & Hydrometer	ASTM D422	$165.00	each
Sieve Analysis - Sieve only (Coarse or Fine)	ASTM C136/D1140	$105.00	each
Specific Gravity of Soils	ASTM D854	$130.00	each
Thermal Resistivity	ASTM D5334	$55.00	each
Triaxial Compression Test, 1 point - Remolded	ASTM D4767	$330.00	each
Triaxial Compression Test, 1 point - Undisturbed	ASTM D4767	$255.00	each
Triaxial Compression Test, 3 Pt. Staged - Remolded	ASTM D4767	$385.00	each
Triaxial Compression Test, 3 Pt. Staged - Undisturbed	ASTM D4767	$300.00	each
Unconfined Compression Test	ASTM D2166	$105.00	each
Unit Weight/Moisture Content - Tube Sample	ASTM D2937/D2216	$35.00	each

AGGREGATE

Aggregate Unit Weight	ASTM C29	$55.00	each
Clay Lumps and Friable Particles	ASTM C142	$160.00	per size
Cleanness Value	CTM 227	$165.00	each
Durability Index (Coarse or Fine)	CTM 229	$160.00	each
Flat and Elongated Particles in Coarse Aggregate	ASTM D4791	$120.00	per size
Fractured/Crushed Particles	ASTM D5821, CTM 205	$120.00	per size
Organic Impurities in Fine Aggregates	ASTM C40	$60.00	each
Resistance "R" Value - Aggregate	CTM 301	$295.00	each
Sand Equivalent, 1 point	CTM 217	$90.00	each
Sand Equivalent, 3 points	CTM 217	$130.00	each
Sieve Analysis - Coarse or Fine	ASTM C136, CTM 202	$110.00	each
Sieve Analysis - Passing No. 200 only	ASTM C117	$95.00	each
Sodium Sulfate Soundness	ASTM C88, CTM 214	$150.00	per size
Specific Gravity and Absorption (Coarse or Fine)	ASTM C127, C128	$125.00	each

ASPHALT CONCRETE

Asphalt Content (Ignition Oven)	ASTM D6307, CTM 382	$250.00	each
Hveem Compacted Unit Weight, 1 point	ASTM D1560/D2726 CTM 304/308	$100.00	each
Laboratory Test Maximum Density (LTMD), 5 points	CTM 375	$355.00	each
Marshall Compacted Unit Weight, 1 point	ASTM D6926/D2726	$95.00	each
Sieve Analysis of AC Aggregate (Coarse and Fine)	ASTM D5444, CTM 202	$170.00	each
Stabilometer Value, 1 point	CTM 366	$130.00	each
Theoretical Maximum Density	ASTM D2041, CTM 309	$155.00	each
Thickness of AC Cores	ASTM D3549	$15.00	each
Unit Weight of AC Cores	ASTM D2726, D1188, CTM 308	$55.00	each

CONCRETE			
Compression Test, Concrete Cylinder	ASTM C39	$25.00	each
Compression Test, Concrete Cylinder - Hold	ASTM C39	$25.00	each
Compression Test, Concrete Core	ASTM C42, C39	$80.00	each
Compression Test, Shotcrete Core	ASTM C42, C39	$100.00	each
Compression Test, High Strength Grout	ASTM C1107/C109	$40.00	each
Concrete Cylinder Mold		$6.00	each
Density / Unit Weight of Concrete	ASTM C567, C642	$90.00	each
Flexural Strength Test, Concrete Beam	ASTM C78	$105.00	each
Laboratory Drying Shrinkage Test, per beam	ASTM C157	$185.00	each
Splitting Tensile Test, Concrete Cylinder	ASTM C496	$80.00	each
MASONRY			
Brick			
Compression Test	ASTM C67	$65.00	each
Modulus of Rupture	ASTM C67	$75.00	each
Absorption	ASTM C67	$90.00	each
Concrete Masonry Unit			
Compression Test	ASTM C140	$75.00	each
Absorption & Moisture Content	ASTM C140	$75.00	each
Linear Drying Shrinkage	ASTM C426	$210.00	each
Compression Test, Composite Masonry Prism	ASTM C1314	$120.00	each
Compression Test, Masonry Grout	ASTM C1019	$40.00	each
Compression Test, Mortar	ASTM C780	$35.00	each
Core Shear Test	CBC Section 2105A	$85.00	each
Masonry Core Compression Test	CBC Section 2105A	$75.00	each
STEEL			
Anchor Bolt Tensile Test	ASTM F606	$100.00	each
Fireproofing Density Test	ASTM E605	$70.00	each
High Strength Bolt Assembly Laboratory Testing			
Bolt - Wedge Tension Test	ASTM F606	$75.00	each
Bolt - Proof Load Test	ASTM F606	$75.00	each
Bolt - Hardness Test	ASTM E18	$35.00	each
Nut - Proof Load Test	ASTM F606	$75.00	each
Nut - Hardness Test	ASTM E18	$35.00	each
Washer - Hardness Test	ASTM E18	$35.00	each
Prestressing Steel Strand Tensile Test	ASTM A416/A1061	$130.00	each
Reinforcing Steel (Rebar) Tensile Test			
Up to No. 7	ASTM A615, A706/A370	$80.00	each
From No. 8 through No. 14	ASTM A615, A706/A370	$110.00	each
Reinforcing Steel (Rebar) Bend Test	ASTM A615, A706/A370	$40.00	each
Structural Steel Tensile Test			
Up to 3/4"	ASTM A370	$90.00	each
Sizes Larger Than 3/4"	ASTM A370	$115.00	each
Machining of Test Specimens		cost plus %20	
Structural Steel Hardness Test	ASTM E18	$80.00	each
Torque Wrench Calibration (minimum of 4 wrenches)		$80.00	each
Weld Assembly, Guided Bend/Macroetch/T-Bend Test	AWS D1.1, ASTM E190	$80.00	per test
Welder Qualification Test Inspection		$90.00	per hour
Welder Qualification Test Record		$100.00	each
TESTING SERVICES			
Laboratory Technician		$90.00	per hour