



Leighton Consulting, Inc.
A LEIGHTON GROUP COMPANY

March 30, 2018

Proposal No. IR17-576 Revised

Beverly Hills Unified School District
255 South Lasky Drive
Beverly Hills, California 90212-3697

Attention: Mr. Michael Barbera
Senior DSA IOR, BHUSD

**Subject: Revised Proposal for Geotechnical Testing, Materials Testing and
Special Inspection During Construction
Horace Mann Site Work Phase
Horace Mann School
8701 Charleville Boulevard
Beverly Hills, California
DSA Application No. 03-117920**

In response to your March 24, 2018 request, Leighton Consulting, Inc. is pleased to present this proposal to provide geotechnical testing, materials testing, and special inspection during construction of the Horace Mann Site Work Phase project at Horace Mann School.

PROPOSED IMPROVEMENTS

Our understanding of this project is based on architectural and civil drawings prepared by WLC Architects and FPL & Associates, respectively, for the *Horace Mann Site Work Phase, DSA Application No. 03-117920*. These drawings were approved by DSA on March 7, 2017. Leighton Consulting, Inc. prepared the project geotechnical report entitled, *Geotechnical Exploration West Wing Classroom Building Subterranean Parking and Lunch Shelters, Horace Mann School*, dated May 24, 2012.

This phase of the project primarily consists of new concrete paved walkways, asphalt concrete pavement, concrete ramps with guard rails, tube steel fence/gates, seat walls, concrete block site walls, a trash enclosure with block walls, two new lunch shelters, and associated underground utilities for water and sewer.

PROPOSED SCOPE OF SERVICES

Our scope of services for this project will consist of both geotechnical observation and testing; and construction materials testing and special inspection during construction of this proposed Site Work Phase as the Laboratory of Record, DSA LEA 63. In addition, we will also provide as-needed geotechnical and materials (civil) engineering consultation services during construction.

Site safety is the responsibility of the contractor. Therefore, we will notify your site representative whenever we are on site. We will provide our field representatives with conventional and customary personal protection for construction sites, including a hard hat, orange vest and eye protection, and they will wear hard-sole shoes. Please notify us if any additional personal protection is required specific to this site and project. Our field personnel will also be pre-screened with the California Department of Justice *Live Scan* program.

Before leaving the site, our field personnel will report to your on-site field representative upon completion of activities for the day. Our *Daily Field Reports* (DFRs) will be brought to the project superintendent or designated field representative (e.g. District's construction manager), for their confirmation of activities and hours worked each day; and for their signature on the DFR to document their confirmation and comprehension of what was reported.

Based on our understanding of the project as described in the previous section of this proposal, our geotechnical report, and project plans, anticipated tasks for our scope of services will consist of the following field, laboratory and office work, generally presented in chronological order:

- **Grading Observations:** We will observe the overexcavation and grading during earthwork construction for the preparation of subgrade soils. The purpose of our geotechnical observations is to check that subgrade preparation is in accordance with our geotechnical report and the approved plans.
- **Foundation Bearing Surface Observation:** We will observe exposed bearing surfaces at the foundations to check if exposed soils are as anticipated in our geotechnical report and to check that undisturbed native soils are exposed and all undocumented fill (or otherwise unsuitable) soils have been excavated from foundation bearing surfaces. **It is essential that we view these bearing surfaces before any reinforcing steel or concrete is placed** if we are to provide a DSA-293 form at the closeout of foundation construction. If we are not allowed to view these bearing surfaces, then we cannot prepare a DSA-293 form.

- **Laboratory Testing of Soil, Aggregate Base and Asphalt Concrete:** Soil and aggregate base testing will include maximum dry density-optimum moisture content and gradation. Bedding sand will be tested for sand equivalent for conformance with the project specifications and plans. We will test asphalt concrete (AC) for maximum laboratory density to evaluate as-placed relative compaction.
- **Backfill Observation and Field Testing:** We will provide part-time observation and testing of backfill placement, as fill thickness and the earthwork contractor's schedule requires. We estimate that our geotechnical (soils) technician will be required on site for any (1) overexcavation and compaction of foundation bearing surfaces, (2) foundation and utility trench backfill, and (3) subgrade preparation for concrete flatwork and pavements. We will also perform density testing of AC pavements during construction to evaluate the relative compaction of the AC. AC testing is typically performed for quality assurance even though it is not required by the DSA 103 form.
- **Fresh Concrete Sampling and Testing:** We will provide a technician that has been certified by the American Concrete Institute (ACI) as a technician for reinforced concrete. Their work will consist of sampling reinforcing steel and concrete during construction. Our field technicians will sample fresh concrete, perform slump tests (ASTM C 143) and (if requested) air content tests (ASTM C 173 or C 231) when requested by your designated field representative. Air content tests will only be performed if specifically requested (not expected to be required where there is no frost). We will mold at least three concrete compression test cylinders for each 50 cubic-yards of concrete, or at least one set of three each day concrete is placed. We will also provide an ACI technician during concrete batch plant operations. Our batch plant visits will consist of checking batch weights and periodic checking and sampling of aggregate stockpiles and cement bins.
- **Masonry Special Inspection:** We will provide a certified DSA Masonry Inspector during construction of the masonry walls. We will sample and compression-test grout, mortar and block. When directed by the Project Inspector, we will extract cores from the constructed walls for laboratory compression and shear testing.
- **Embeds/Anchors Testing:** We will provide a technician that has been certified by the American Concrete Institute (ACI) and/or International Code Council (ICC) to test post-installed anchors, including powder driven anchors, expansion anchors, adhesive anchors and dowels, for tension or torque.
- **Structural Steel (Field Welding) Special Inspection:** We will provide an American Welding Society (AWS) Certified Welding Inspector (CWI) to inspect structural steel welding on site. Their work will consist of periodic inspection of all single-pass fillet welds less-than (<) 5/16-inch-thick; and continuous inspection for all multi-pass fillet-welds greater-than (>) 5/16-inch-thick plus all complete penetration welds made during structural steel erection on site. Our CWI will also tabulate/record all inspected welds, including listing defective welds and documenting correction of

defects. Our CWI will also check material, equipment, details of construction and procedures. They will also check ability of the welder. Upon completion of all welding for this project, a verified report will be provided to document that inspected welding was proper and completed in accordance with approved structural plans and specifications.

- **Structural Steel Shop Welding:** Our services will also include any shop welding inspection with similar CWI procedures as described above for on-site welding. Extent of this work will not yet be defined until the construction contractor has selected and disclosed steel mills and sources to be used.
- **High-Strength Bolting and Testing:** We will provide a special inspector to inspect tightening or torquing of high-strength bolts during construction of the lunch shelters. Samples of the bolt assembly (bolt, washer and nut) will be tested in the laboratory, as applicable, for hardness, proof load and wedge tensile. All testing will be performed by a DSA LEA approved facility.
- **Materials Laboratory Testing:** Our services will consist of testing of the following materials in our DSA LEA approved facility:
 - **Reinforcing Steel:** Tensile and bend tests will be performed in accordance with ASTM A615 or A706.
 - **Concrete:** Concrete laboratory curing and compressive strength testing of field-molded concrete test cylinders will be performed in general accordance with ASTM C31 and C39, respectively. Verbal and/or e-mail reports will be provided for 7-day breaks. We will provide a final one-page report summarizing compressive strength tests results for a given set of cylinders (three cylinders, plus one hold) after the 28-day breaks are completed.
 - **Masonry:** Compression testing of mortar cylinders and grout prism test specimens molded by our representative will be performed in accordance to ASTM C270 and C1019. Concrete masonry units will be tested in accordance with ASTM C140 (compression, moisture content, and absorption & unit weight). Masonry core-drilled samples will be tested in accordance with CBC 2105A.4.
 - **High Strength (HS) Bolts** – Mechanical testing, including hardness, proof load and wedge tensile, of high strength bolt assemblies (bolts, washers, and nuts) will be performed in accordance with ASTM A325/A490.
- **Project Management:** This scope of work will consist of reviewing DFRs and laboratory test results, and preparing these reports for distribution. Geotechnical and/or materials concerns encountered in the field and noted in the daily reports, and any material tested and found to not conform to project specifications, will be brought to the attention of the District's designated representative and your DSA designated Project Inspector. Supervision, quality and project management will be

provided by our Geotechnical Engineer (GE) of record and Civil Engineer (PE) as Laboratory of Record (LOR).

- **Project Closeout:** Assuming we will have access to all foundation bearing surfaces and materials requiring testing, we will prepare DSA-291 and 293 Forms as the inspection card requires and when the project is completed, which will be required by DSA to properly closeout this project.

SCHEDULING AND DISPATCHING

Leighton Consulting is prepared to begin our work immediately upon receipt of your written authorization to proceed. We would appreciate at least three working days advance notice for scheduling our field personnel on the first day you require our services. Work thereafter may be scheduled with a full (24 hours) one working day advance notice. We will rely on your field representative to contact us to schedule all fieldwork, and to help us avoid unproductive site visits. Calls to our dispatch (**866-LEIGHTON**) on weekends and holidays are not addressed until the first following working day, without prior arrangement. We anticipate our personnel will be on site periodically for both full time and part time observation and testing, as requested by your field representative. We request that you “partner-with-us” to manage our budget, by avoiding unnecessary trips to the site. We will work with your field representative to reduce standby time and/or unnecessary trips to the site.

FEES, BUDGET, TERMS AND CONDITIONS

Fee Schedule

These proposed geotechnical and materials testing services during construction will be performed on a time-and-expense basis at unit rates listed on the attached *2017 Professional Fee Schedule* (4 pages). Our hourly rates are based on the assumption that this **is** a California prevailing wage project. Our fees will be reduced if this project is not subject to California prevailing wage requirements.

Budget Estimate

A construction schedule was not used for preparing this proposal, so there may be significant changes in our budget based on the chosen contractor's construction sequencing, pace and schedule.

Based on provided project plans and our experience with similar DSA projects, we have estimated a budget for these services as shown on the attached Table 1, *Estimated Fees*.

Actual scope and cost may vary from what was estimated, if additional time is required on site or if additional testing is required than assumed in Table 1. If actual number of our site visits and/or hours requested are less-than assumed, our fee would be less-than estimated. Conversely, if there are numerous small pours, numerous failed soil density or failed concrete tests, extensive standby or unnecessary site visits, this budget estimate may be insufficient to complete the project, and we will notify you that our budget needs to be augmented. Material testing and special inspections not referenced in our estimated budget will be charged on a time and expense basis in accordance with our fee schedule. Therefore, we suggest a contingency be used with this budget estimate. Typically, 20% is used, which would increase our budget to approximately **\$76,300**.

If this is a California public works project, we will need a **DIR Project ID** from you (the “awarding body”) before we begin any prevailing wage work on site; see:

<https://www.dir.ca.gov/Public-Works/Awarding-Bodies.html>

<https://www.dir.ca.gov/pwc100ext/ExternalLookup.aspx>

We have not included budget to staff your project with an apprentice. Although possible under California Prevailing Wage law, based on our experience, we do not anticipate an apprentice will be dispatched for training on this project. If we are required to provide training for an apprentice on your project, then additional fees would be required to cover that additional labor expense, beyond what we currently propose.

Changes to the drawings and specifications and a construction schedule may affect our scope and budget, and can provide a basis for us to update our fee estimate. Assumptions have been made in quantities and hours for estimating our costs. These assumptions are presented in Table 1. Additional assumptions are listed below.

- **Inspection Services by Others:** We have assumed that the Beverly Hills Unified School District’s DSA certified Project Inspector (PI) will perform all reinforcing steel placement inspections for all new reinforced concrete. Upon request, we can also provide this as a special inspection service, but this is **not** currently budgeted.
- **Prevailing Wage:** The project is governed by the California Prevailing Wage Law. Rates for our on-site technicians will be automatically adjusted.
- **Site Access:** We assume the site will be readily accessible to our staff and equipment during construction, **including free parking** on site, and safe access to

excavations, etc. Upon request, we can include parking fees in our estimate, based on your proposed parking arrangement.

- **Overtime:** This fee estimate is also based on the assumption that our field services will be performed during normal weekday daylight-hours, and does **not** include overtime. Overtime work (over 8 hours per day and/or 40 hours per week, weekends and/or holidays) will be billed in accordance with our *2017 Professional Fee Schedule*, beyond our estimated budget.
- **Daily Minimum:** Daily minimum is four hours for the first hours up to four hours. Any hours worked in excess of a four-hour minimum will be charged at eight hours up to eight hours. Hours in excess of eight will be charged at overtime rates. Same-day cancellation will be charged at two-hours per day canceled.
- **Relying On Provided Construction Design Documents:** We rely on others to make us aware of approved plans and specifications modifications and updates. Changes to project drawings and specifications and updates to the construction schedule may affect our scope and budget.

Terms and Conditions

We understand that this work will be authorized under a standard Beverly Hills Unified School District *Professional Services Agreement* in the form we have signed previously. If you wish us to proceed, please send us such an agreement to review and sign.

C L O S U R E

We appreciate this opportunity to be of additional service to the District. If you have any questions or information that would update our scope of work, please contact us at your convenience. The undersigned can be reached at **(866) LEIGHTON**, specifically at the phone extension and e-mail addresses listed below.

Respectfully submitted,

LEIGHTON CONSULTING, INC.



Edward Che, PE, GE

Project Manager

Extension 4283, eche@leightongroup.com

EC/lr

Attachments: Table 1 –*Estimated Fees*
2017 Professional Fee Schedule (4 pages)

Distribution: (1) addressee

Leighton Consulting, Inc.

Table 1 - Estimated Fees

Horace Mann MTSI for Sitework

Geotechnical Testing, Materials Testing, and Special Inspection

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TASK DESCRIPTION		RATE	UNITS	COST
Preconstruction Meeting				
Associate		\$215.00 / hour	4	\$860.00
			SUBTOTAL	\$860.00
Off-Site Shop/Plant Inspection				
Special Inspector	Concrete Batch Plant	\$95.00 / hour	80	\$7,600.00
Special Inspector	Shop Welding Inspection	\$95.00 / hour	16	\$1,520.00
			SUBTOTAL	\$9,120.00
Special Inspection and Field Testing				
Field Soils/Material Tester (Prevailing Wage)	Grading	\$135.00 / hour	40	\$5,400.00
Field Soils/Material Tester (Prevailing Wage)	Foundations	\$135.00 / hour	8	\$1,080.00
Field Soils/Material Tester (Prevailing Wage)	Trench Backfill	\$135.00 / hour	20	\$2,700.00
Field Soils/Material Tester (Prevailing Wage)	Base Course	\$135.00 / hour	20	\$2,700.00
Field Soils/Material Tester (Prevailing Wage)	AC Compaction Testing	\$135.00 / hour	16	\$2,160.00
Field Soils/Material Tester (Prevailing Wage)	Conc. Samp and Testing	\$135.00 / hour	80	\$10,800.00
Building/Construction Inspector (Prevailing Wage)	CMU Walls	\$140.00 / hour	48	\$6,720.00
Building/Construction Inspector (Prevailing Wage)	Field Welding	\$140.00 / hour	32	\$4,480.00
Building/Construction Inspector (Prevailing Wage)	High Strength Bolting	\$140.00 / hour	16	\$2,240.00
Building/Construction Inspector (Prevailing Wage)	Post-Installed Anchors	\$140.00 / hour	8	\$1,120.00
Building/Construction Inspector (Prevailing Wage)	Pull Testing Anchors	\$140.00 / hour	8	\$1,120.00
Vehicle Usage		\$20.00 / hour	88	\$1,760.00
			SUBTOTAL	\$42,280.00
Laboratory Testing				
Modified Proctor compaction 4 inch mold (Methods A & B ASTM D1557)		\$220.00 / each	3	\$660.00
Modified Proctor compaction 6 inch mold (Method C ASTM D1557)		\$245.00 / each	1	\$245.00
Sand Equivalent (SE, ASTM D2419/CTM 217)		\$105.00 / each	1	\$105.00
Concrete cylinders compression (ASTM C39 4" x 8")		\$22.00 / each	80	\$1,760.00
Maximum density - Hveem (CTM 308)		\$200.00 / each	1	\$200.00
Rebar tensile test up to ≤ No. 10 bars (ASTM A370)		\$45.00 / each	4	\$180.00
Rebar bend test, up to ≤ No. 10 bars (ASTM A370)		\$45.00 / each	4	\$180.00
Mortar cylinders (2" by 4", ASTM C780)		\$25.00 / each	6	\$150.00
Grout prisms (3" by 6", ASTM C1019)		\$25.00 / each	12	\$300.00
Masonry cores compression, ≤6" diameter (testing only, ASTM C42)		\$40.00 / each	1	\$40.00
CMU compression to size 8" x 8" x 16" (3 required, ASTM C140)		\$45.00 / each	3	\$135.00
Masonry core-shear, Title 24 (test only)		\$70.00 / each	1	\$70.00
CMU moisture content, absorption & unit weight (6 required, ASTM C140)		\$40.00 / each	6	\$240.00
Pick-up & delivery – (weekdays, per trip, <50 miles from Leighton office)		\$90.00 / each	30	\$2,700.00
			SUBTOTAL	\$6,965.00
Outside Laboratory Testing and Service				
HS Bolt Testing and Hardness		\$165.00 / ea	2	\$330.00
Masonry Block Coring		\$500.00 / ea	1	\$500.00
Mark-up			20%	\$166.00
			SUBTOTAL	\$996.00
Project Management and Reporting				
Project Administrator/Word Processor		\$80.00 / hour	8	\$640.00

Table 1 - Estimated Fees
Horace Mann MTSI for Sitework

TASK DESCRIPTION		RATE	UNITS	COST
Dispatcher		\$80.00 / hour	4	\$320.00
Staff Engineer		\$145.00 / hour	8	\$1,160.00
Laboratory Manager	DSA 291, Interim and Fina	\$175.00 / hour	2	\$350.00
Associate	DSA 293 and Managemen	\$215.00 / hour	4	\$860.00
			SUBTOTAL	\$3,330.00
TOTAL ESTIMATED COST				\$63,551.00



2017 PROFESSIONAL FEE SCHEDULE

CLASSIFICATION	\$/HR	CLASSIFICATION	\$/HR
Technician I	85	Project Administrator/Word Processor/Dispatcher	80
Technician II / Special Inspector	95	Information Specialist	110
Senior Technician / Senior Special Inspector	105	CAD Operator	120
Prevailing Wage (field soils / materials tester) *	135	GIS Specialist	140
Prevailing Wage (Special Inspector) *	140	Staff Engineer / Geologist / Scientist	145
Prevailing Wage (Source Inspector, NDT, and Soil Remediation O&M) *	145	Senior Staff Engineer / Geologist / Scientist / ASMR	155
System Operation & Maintenance (O&M) Specialist	140	Operations / Laboratory Manager	175
Non Destructive Testing (NDT)	145	Project Engineer / Geologist / Scientist	175
Deputy Inspector	142	Senior Project Engineer / Geologist / Scientist / SMR	195
Field / Laboratory Supervisor	140	Associate	215
Source Inspector I	135	Principal	235
Source Inspector II	140	Senior Principal	275
Source Inspector III	145		

* See Prevailing Wages in Terms and Conditions

GEOTECHNICAL LABORATORY TESTING

METHOD	\$/TEST	METHOD	\$/TEST
CLASSIFICATION & INDEX PROPERTIES		California Bearing Ratio (CBR, ASTM D1883):	
Photograph of sample	10	- 3 point	500
Moisture content (ASTM D2216)	20	- 1 point	185
Moisture & density (ASTM D2937) ring samples	30	R-Value (CTM 301) untreated	310
Moisture & density (ASTM D2937) Shelby tube or cutting	40	R-Value (CTM 301) lime or cement treated soils	340
Atterberg limits (ASTM D4318) 3 points:	150	SOIL CHEMISTRY & CORROSIVITY	
- Single point, non-plastic	85	pH Method A (ASTM 4972 or CTM 643)	45
- Atterberg limits (organic ASTM D2487 / 4318)	180	Electrical resistivity – single point – as received moisture	45
- Visual classification as non-plastic (ASTMD 2488)	10	Minimum resistivity 3 moisture content points (ASTM G187/CTM 643)	90
Particle size:		pH + minimum resistivity (CTM 643)	130
- Sieve only 1½ inch to #200, (ASTM D6913/CTM 202)	135	Sulfate content - gravimetric (CTM 417 B Part II)	70
- Large sieve – 6 inch to #200 (ASTM D6913/CTM 202)	175	Sulfate screen (Hach®)	30
- Hydrometer only (ASTM D422)	110	Chloride content (AASHTO T291/CTM 422)	70
- Sieve + hydrometer (≤3" sieve, ASTM D422)	185	Corrosion suite: minimum resistivity, sulfate, chloride, pH (CTM 643)	245
- Percent passing #200 sieve, wash only (ASTM D1140)	70	Organic matter content (ASTM 2974)	65
Specific gravity-fine (passing #4, ASTM D854/CTM 207)	125	SHEAR STRENGTH	
Specific gravity-coarse (ASTM C127/CTM 206) > #4 retained:	100	Pocket penetrometer	15
- Total porosity - on Shelby tube sample (calculated from density & specific gravity)	165	Direct shear (ASTM D3080, mod., 3 points):	
- Total porosity - on other sample	155	- Consolidated undrained - 0.05 inch/min (CU)	285
Shrinkage limits (wax method, ASTM D4943)	126	- Consolidated drained - <0.05 inch/min (CD)	345
Pinhole dispersion (ASTM D4647)	210	- Residual shear EM 1110-2-1906-IXA	50
Dispersive characteristics (double hydrometer ASTM D4221)	90	(price per each additional pass after shear)	
As-received moisture & density (chunk/carved samples)	60	Remolding or hand trimming of specimens (3 points)	90
Sand Equivalent (SE, ASTM D2419/CTM 217)	105	Oriented or block hand trimming (per hour)	65
COMPACTION & PAVEMENT SUBGRADE TESTS		Single point shear	105
Standard Proctor compaction, (ASTM D698) 4 points:		Torsional shear (ASTM D6467 / ASTM D7608)	820
- 4 inch diameter mold (Methods A & B)	160	CONSOLIDATION & EXPANSION/SWELL TESTS	
- 6 inch diameter mold (Method C)	215	Consolidation (ASTM D2435):	195
Modified Proctor compaction (ASTM D1557) 4 points:		- Each additional time curve	45
- 4 inch diameter mold (Methods A & B)	220	- Each additional load/unload w/o time reading	40
- 6 inch diameter mold (Method C)	245	Expansion Index (EI, ASTM D4829)	130
Check point (per point)	65	Swell/collapse – Method A (ASTM D4546-A, up to 10 load/unloads w/o time curves)	290
Relative compaction of untreated/treated soils/aggregates (CTM 216)	250	Single load swell/collapse - Method B (ASTM D4546-B, seat, load & inundate only)	105
Relative density (0.1 ft mold, ASTM D4253, D4254)	235		

METHOD	\$/TEST	METHOD	\$/TEST
TRIAXIAL TESTS		HYDRAULIC CONDUCTIVITY TESTS	
Unconfined compression strength of cohesive soil (with stress/strain plot, ASTM D2166)	135	Triaxial permeability in flexible-wall permeameter with backpressure saturation at one effective stress (EPA 9100/ASTM D 5084, falling head Method C):	310
Unconsolidated undrained triaxial compression test on cohesive soils (USACE Q test, ASTM D2850, per confining stress)	170	- Each additional effective stress	120
Consolidated undrained triaxial compression test for cohesive soils, (ASTM D4767, CU, USACE R-bar test) with back pressure saturation & pore water pressure measurement (per confining stress)	375	- Hand trimming of soil samples for horizontal K	60
Consolidated drained triaxial compression test (CD, USACE S test), with volume change measurement. Price per soil type below EM 1110-2-1906(X):		Remolding of test specimens	65
- Sand or silty sand soils (per confining stress)	375	Permeability of granular soils (ASTM D2434)	135
- Silt or clayey sand soils (per confining stress)	500		
- Clay soils (per confining stress)	705	SOIL-CEMENT	
- Three-stage triaxial (sand or silty sand soils)	655	Moisture-density curve for soil-cement mixtures (ASTM D558)	240
- Three-stage triaxial (silt or clayey sand soils)	875	Wet-dry durability of soil-cement mixtures (ASTM D559) ¹	1,205
- Three-stage triaxial (clay soils)	1,235	Compressive strength of molded soil-cement cylinders (ASTM D1633) per cylinder ¹	60
Remolding of test specimens	65	Soil-cement remolded specimen (for shear strength, consolidation, etc.) ¹	235
		¹ Compaction (ASTM D558 maximum density) should also be performed – not included in above price	

CONSTRUCTION MATERIALS LABORATORY TESTING

SAMPLE TRANSPORT	\$/TRIP	Rubberized asphalt (add to above rates)	+ 25%
Pick-up & delivery (weekdays, per trip, <50 mile radius from Leighton office)	90	AGGREGATE PROPERTIES	
METHOD	\$/TEST	Sieve analysis (fine & coarse aggregate, ASTM C136/ CTM 202) with finer than #200 wash (ASTM C117)	135
CONCRETE STRENGTH CHARACTERISTICS		LA Rattler-smaller coarse aggregate <1.5" (ASTM C131/ AASHTO T96)	200
Concrete cylinders compression (ASTM C39) (6" x 12")	25	LA Rattler-larger coarse aggregate 1-3" (ASTM C535)	250
Concrete cylinders compression (ASTM C39) (4" x 8")	22	Durability Index (DI, CTM 229)	200
Compression, concrete or masonry cores (testing only) ≤6 inch (ASTM C42)	40	Cleanliness value of coarse aggregate (CTM 227)	210
Trimming concrete cores (per core)	20	Unit weight of aggregate (CTM 212)	50
Flexural strength of concrete (simple beam with 3rd pt. loading, ASTM C78/CTM 523)	85	Soundness, magnesium (ASTM C88)	225
Flexural strength of concrete (simple beam with center pt. loading, ASTM 293/CTM 523)	85	Soundness, sodium	650
Non shrink grout cubes (2 inch, ASTM C109/C1107)	25	Uncompacted void content – fine aggregate (CTM 234/AASHTO T304)	130
Drying shrinkage (four readings, up to 90 days, 3 bars, ASTM C157)	400	Flat & elongated particles in coarse aggregate (CTM 235/ASTM D4791)	215
HOT MIX ASPHALT (HMA)		Percent of crushed particles (CTM 205/AASHTO T335)	135
Compacted AC Resistance to Moist Damage (AASHTO T283)	2,100	Organic impurities in concrete sand (CTM 213)	60
Hamburg Wheel, 4 briquettes (modified) (AASHTO T324)	900	Specific gravity – coarse aggregate (CTM 206)	100
Gyratory Compaction (AASHTO T312)	350	Specific gravity – fine aggregate (CTM 207)	125
Extraction by ignition oven, percent asphalt (ASTM D6307/CTM 382/AASHTO T308)	150	Sand Equivalent (SE, CTM 217/AASHTO T176)	105
Ignition oven correction/correlation values	quote	Apparent specific gravity of fine aggregate (CTM 208)	130
Extraction by centrifuge, percent asphalt (ASTM D2172)	150	Moisture content of aggregates by oven drying (CTM 226/AASHTO T255)	40
Gradation of extracted aggregate (ASTM D5444/CTM 202)	135	Clay lumps, friable particles (ASTM C142)	175
Stabilometer value (CTM 366)	265	MASONRY	
Bituminous mixture preparation (CTM 304)	80	Mortar cylinders (2" by 4", ASTM C780)	25
Moisture content of asphalt (CTM 370)	60	Grout prisms (3" by 6", ASTM C1019)	25
Bulk specific gravity – molded specimen or cores (ASTM D1188/CTM 308/AASHTO T275)	55	Masonry cores compression, ≤6" diameter (testing only, ASTM C42)	40
Maximum density - Hveem (CTM 308)	200	CMU compression to size 8" x 8" x 16" (3 required, ASTM C140)	45
Theoretical maximum density and specific gravity of HMA (CTM 309/AASHTO T209)	130	CMU moisture content, absorption & unit weight (6 required, ASTM C140)	40
Thickness or height of compacted bituminous paving mixture specimens (ASTM 3549)	40	CMU linear drying shrinkage (ASTM C426)	175
		CMU grouted prisms (compression test ≤8" x 8" x 16", ASTM E 447 C1314)	180
		CMU grouted prisms (compression test > 8" x 8" x 16", ASTM E 447 C1314)	250
		Masonry core-shear, Title 24 (test only)	70

METHOD	\$/TEST	METHOD	\$/TEST
BRICK		Prestressing wire, tension (ASTM A416)	150
Compression (cost for each, 5 required, ASTM C67)	40	Sample preparation (cutting)	50
SLAB-ON-GRADE MOISTURE EMISSION KIT		SPRAY APPLIED FIREPROOFING	
Moisture test kit (excludes labor to perform test, ASTM E1907)	60	Unit weight (density, ASTM E605)	60
REINFORCING STEEL		OTHER TESTS	
Rebar tensile test, ≤ up to No. 10 (ASTM A370)	45	Resistance Butt-Welded Hoops/Bars, up to No. 10 (CTM 670)	180
Rebar tensile test, ≥No. 11 & over (ASTM A370)	100	Resistance Butt-Welded Hoops/Bars, No. 11 & over (CTM 670)	240
Rebar bend test, up to No. 11 (ASTM A370)	45	Mechanical Rebar Splice (Service), up to No. 10 (CTM 670)	180
Epoxy coated rebar/dowel film thickness (coating) test (ASTM A775)	45	Post-Tensioned Bars (ASTM A772)	420
Epoxy coated rebar/dowel continuity (Holiday) test (ASTM A775)	65	Elastometric Bearing Pads (Caltrans SS 51/SP)	1620
Epoxy coated rebar flexibility/bend test, up to No. 11 (ASTM A775)	45	Joint Seal Type B, MR1"/MR2" (Caltrans SS 51/SP)	1960
STEEL		100W HPS Lighting (Caltrans RSS 86)	1296
Tensile strength, ≤100,000 pounds axial load (ASTM A370)	45	Bearing Plates (A536)	720

EQUIPMENT, SUPPLIES & MATERIALS

	\$/UNIT		\$/UNIT
1/4 inch Grab plates	5 each	Manometer	25 day
1/4 inch Tubing (bonded)	0.55 foot	Mileage (IRS Allowable)	0.535 mile
1/4 inch Tubing (single)	0.35 foot	Nuclear moisture and density gauge	88 day
3/8 inch Tubing, clear vinyl	0.55 foot	Pachometer	25 day
4-Gas meter (RKI Eagle or similar)/GEM 2000	130 day	Particulate Monitor	125 day
Air flow meter and purge pump (200 cc/min)	50 day	pH/Conductivity/Temperature meter	55 day
Box of 24 soil drive-sample rings	120 box	Photo-Ionization Detector (PID)	120 day
Brass sample tubes	10 each	Pump, Typhoon 2 or 4 stage	50 day
Caution tape (1000-foot roll)	20 each	QED bladder pump w/QED control box	160 day
Combination lock or padlock	11 each	Resistivity field meter & pins	50 day
Compressed air tank and regulator	50 day	Slip / threaded cap, 2-inch or 4-inch diameter, PVC Schedule 40	15 each
Concrete coring machine (≤6-inch-dia)	150 day	Slope inclinometer	200 day
Consumables (gloves, rope, soap, tape, etc.)	35 day	Soil sampling T-handle (Encore)	10 day
Core sample boxes	11 each	Soil sampling tripod	35 day
Crack monitor	25 each	Stainless steel bailer	40 day
Cutoff saws, reciprocating, electric (Saws All)	75 day	Submersible pump, 10 gpm, high powered Grunfos 2-inch with controller	160 day
Disposable bailers	12 each	Submersible pump/transfer pump, 10-25 gpm	50 day
Disposable bladders	10 each	Support service truck usage (well installation, etc.)	200 day
Dissolved oxygen meter	45 day	Survey/fence stakes	8 each
DOT 55-gallon containment drum with lid	65 each	Tedlar® bags	18 each
Double-ring infiltrometer	125 day	Traffic cones (≤25)/barricades (single lane)	50 day
Dual-stage interface probe	80 day	Turbidity meter	70 day
Dynamic Cone Penetrometer	400 day	Tyvek® suit (each)	18 each
Generator, portable gasoline fueled, 3,500 watts	90 day	Vapor sampling box	55 day
Global Positioning System/Laser Range Finder	80 day	Vehicle usage (carrying equipment)	20 hour
Hand auger set	90 day	VelociCalc	35 day
HDPE safety fence (≤100 feet)	40 roll	Visqueen (20 x 100 feet)	100 roll
Horiba U-51 water quality meter	135 day	Water level indicator (electronic well sounder) <300 feet deep well	60 day
Magnahelic gauge	15 day	ZIPLEVEL®	15 day

Other specialized geotechnical and environmental testing & monitoring equipment are available, and priced per site

TERMS & CONDITIONS

- **Expiration:** For all classifications except those subject to prevailing wage, this fee schedule is effective through December 31, 2017 after which remaining work will be billed at then-current rates.
- **Proposal Expiration:** Proposals are valid for at least 30 days, subject to change after 30 days; unless otherwise stated in the attached proposal.
- **Prevailing Wages:** Our fees for prevailing wage work are subject to change at any time based upon the project advertised date, and changes in California prevailing wage laws or wage rates. Prevailing wage time accrued will include portal to portal travel time. Prevailing wage rates are subject to increase after June 30, 2017.
- **Overtime:** Overtime for field personnel will be charged at 1.5 times basic hourly rates when exceeding 8 hours up to 12 hours per 24 hour interval, and 2 times basic hourly rates when exceeding 12 hours in 24 hours or on Sunday, and 3 times basic hourly rates on California official holidays.
- **Expert Witness Time:** Expert witness deposition and testimony will be charged at 2 times hourly rates listed on the previous pages, with a minimum charge of four hours per day.
- **Minimum Field Hourly Charges:** For Field Technicians, Special Inspectors or Material Testing Services:
 - 4 hours: 4-hour minimum charge up to the first four hours of work
 - 8 hours: 8-hour minimum charge for over four hours of work, up to eight hours
- **Outside Direct Costs:** Heavy equipment, subcontractor fees and expenses, project-specific permits and/or licenses, project-specific supplemental insurance, travel, subsistence, project-specific parking charges, shipping, reproduction, and other reimbursable expenses will be invoiced at cost plus 20%, unless billed directly to and paid by client.
- **Insurance & Limitation of Liability:** These rates are predicated on standard insurance coverage and a limit of Leighton's liability equal to our total fees for a given project.
- **Invoicing:** Invoices are rendered monthly, payable upon receipt in United States dollars. A service charge of 1½-percent per month will be charged for late payment.
- **Client Disclosures:** Client agrees to provide all information in Client's possession about actual or possible presence of buried utilities and hazardous materials on the project site, prior to fieldwork, and agrees to reimburse Leighton for all costs related to unanticipated discovery of utilities and/or hazardous materials. Client is also responsible for providing safe and legal access to the project site for all Leighton field personnel.
- **Earth Material Samples:** Quoted testing unit rates are for soil and/or rock (earth) samples free of hazardous materials. Additional costs will accrue beyond these standard testing unit rates for handling, testing and/or disposing of soil and/or rock containing hazardous materials. Hazardous materials will be returned to the site or the site owner's designated representative at additional cost not included in listed unit rates. Standard turn-around time for geotechnical-laboratory test results is 10 working days. Samples will be stored for 2 months, after which they will be discarded. Prior documented notification is required if samples need to be stored for a longer time. A monthly storage fee of \$10 per bag and \$5 per sleeve or tube will be applied. Quoted unit rates are only for earth materials sampled in the United States. There may be additional cost for handling imported samples.
- **Construction Material Samples:** After all designated 28-day breaks for a given sample set meet specified compressive or other client-designated strength, all "hold" cylinders or specimens will be automatically disposed of, unless specified in writing prior to the 28-day break. All other construction materials will be disposed of after completion of testing and reporting.