March 21, 2025

City of McKinney Texas
Patricia Jackson, P.E., RAS
3501 N. Central Expwy
McKinney, Texas 75071

Telephone: (972) 672-1945
Email: pjackson@mckinneytexas.org

Re: Construction Materials Observation, Engineering, and Testing Services
McKinney National Airport - Eastside Terminal
Industrial Boulevard & FM 546, McKinney, Texas 75069
Terracon Consultants Inc. Proposal No. P94251199

Dear Ms. Jackson,

Thank you for selecting Terracon Consultants, Inc. (Terracon) to provide construction materials testing, observation services, or special inspection services for the above referenced publicly funded project. We were selected to perform these engineering services based upon the criteria outlined in the Texas Board of Professional Engineers and Surveyors Professional Services Procurement Act. We are presenting this budget estimate to confirm our understanding of the services to be performed for this project, to obtain written authorization to provide these services, and to present the estimated fee to provide these services. The following sections outline our understanding of the project and provide a description of the tasks to be performed.

A) PROJECT INFORMATION

Topic	Overview Statement
Proposed Structures	Construction of tilt-up concrete panels and steel framed terminal building with a footprint of approximately 45,000 SF.
Building Pad Earthwork Preparation	• Moisture conditioned subgrade capped with flexible base
Foundation Types	• Straight drilled shaft founded in gray limestone
Sitework	• Terminal apron pavement with an area of approximately 400,000 SF • Passenger vehicle parking (1,500 parking spaces) • Rental car parking lot

Sitework	• Fire Lanes • Concrete pilot channels • Site utilities

Terracon was provided with the following construction documents for the preparation of this proposal:

- Preliminary Civil Drawings by Garver, dated October 2024
- Preliminary Terminal Building Schematic Design by Garver, dated November 2024
- No Geotechnical Report provided at the time of this proposal
- No construction schedule provided a the time of this proposal

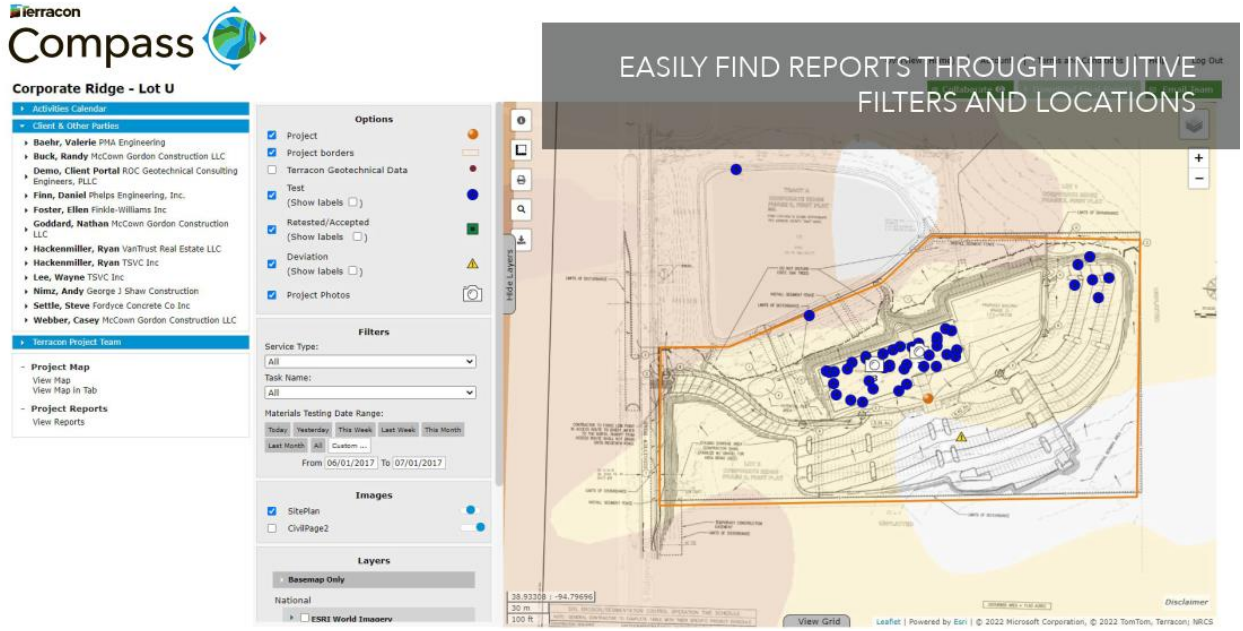
B) WHY TERRACON?

Construction Materials Testing & Special Inspection Services

Our team of inspectors, technicians, and engineers is experienced with providing materials testing, special inspections, and/or observations of concrete, soils, aggregate, masonry, structural steel, foundations, fireproofing, and asphalt pavement in the local area and are familiar with the recognized building jurisdiction requirements.

Compass is Terracon's latest client interfacing tool and elevates the way we do business. Within Terracon Compass, you can access your projects and their associated data, including environmental and geotechnical projects. When you open a materials project within Compass, you will see your materials tests and observations placed on a map. This geographic reference allows you to find your information by the "where", rather than the "when." Other features of Compass include:

- Filters for Date Performed, Service Type and Test Result Status
- Deviation for Non-Conformance Summary: Image overlays to reference multiple plan pages to your test results
- Map layer options: Test results are inserted into Compass as soon as the report has been reviewed and distributed. It becomes easier than ever to view and close deviations with an option to display within a map while also showing them in a table format.



Laboratory Capabilities

- Accredited by AASHTO Materials Reference Laboratory (AMRL)
- Inspected by Concrete and Cement Reference Laboratory (CCRL)
- Validated by United States Army Corps of Engineers (USACE)

Our DFW Metro laboratories are accredited by AASHTO Re:source which is recognized by ASTM E329 Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection. The scope of accreditation includes the field of Soils, Aggregates, and Portland Cement Concrete. As a requirement of accreditation, we regularly participate in the Proficiency Sample Programs of both AASHTO Re:source and the Cement and Concrete Reference Laboratory (CCRL). Our office includes a fully equipped laboratory and employs engineering technicians and special inspectors certified by many agencies including the American Concrete Institute (ACI), American Welding Society (AWS), and the International Code Council (ICC). We provide a rigorous internal training program where our staff are evaluated in specific field and laboratory test procedures by internal Terracon auditors and external agencies.

C) SCOPE OF SERVICES

Based on our review and understanding of the documents listed above, Terracon proposes the following scope of services:

Earthwork Observations and Testing:

- Sample materials to be used as building fills, utility trench backfills, wall backfill, general fill, and pavement subgrades. Prepare and test the samples for Atterberg Limits (ASTM D4318), Minus #200 Sieve (ASTM D1140), Sieve

Analysis of Fine and Coarse Aggregates (ASTM C136) and moisture-density relationship (ASTM D698 and ASTM D1557).

- Observe proofrolling operations of the building pad and paving subgrades.
- Perform in-place moisture and density tests of the building fills, utility trench backfills, wall backfill, general fill, and pavement subgrades using the nuclear method (ASTM D6938) to determine the moisture content and percent compaction of the soil materials.
- Perform field gradations on the pulverized lime soil mixture to document the percentage of soil passing through the required sieve sizes after the final pulverization process has been completed.
- Perform lime depth checks to verify the actual in-place depth of the lime treatment, once the pavement has been trimmed to the final grade.
- Perform a laboratory lime series from on-site soils using the PI and/or pH method.
- Perform One Point Free Swell Tests on remolded specimens from the material(s) proposed for use as moisture conditioned fill to determine the minimum moisture content(s) determined to reduce the swell potential to the levels recommended in the geotechnical report.
- Periodically collect bulk swell test samples in the field during the moisture conditioning operation. Transport samples back to the laboratory for swell testing to verify that the in-place moisture conditioned soils' swell potential meets the criteria set in the geotechnical report. Assistance from the earthwork contractor will be necessary to collect samples.

Drilled Straight Shaft Pier Observation and Testing:

- Monitor the installation of the drilled pier foundation system including verification of the depth to bearing strata, required and actual depth of penetration into the bearing strata for each pier, total depth of piers, pertinent elevations (if provided by the field engineer), plumbness of the drilled pier hole excavation, cleanliness of bearing surface at completion of drilling, etc.
- Record dimensions and the number, size and length of reinforcing bars used.
- Sample the fresh concrete and perform required tests, including slump, air content, unit weight, ambient and concrete temperature, and cast test specimens (5 cylinders per 100 cy or fraction thereof per mix per day) during placements (ASTM C172, C31, C143, C231, and C1064).
- Perform compressive tests of concrete test cylinders cast in the field (ASTM C617, C39).

Cast-in-Place Concrete Observations and Testing:

- Sample and test the fresh concrete for each mix. Perform tests for slump, air content, ambient and concrete temperatures, and unit weight; and cast test specimens (ASTM C172, C31, C143, C231, C1064, C138). Terracon understands that the contractor will be responsible for providing a secure

location and sources of water and electrical power for initial curing of concrete strength test specimens as required by ASTM C31.

- We have assumed the concrete will be sampled at a frequency of one set of five test cylinders every 100 cubic yards or fraction thereof per mix per day for paving and site concrete.
- We have assumed the concrete will be sampled at a frequency of one set of five test cylinders every 100 cubic yards or fraction thereof per mix per day for structural concrete.
- We have assumed the concrete will be sampled at a frequency of one set of five test cylinders every 50 cubic yards or fraction thereof per mix per day for fire lane concrete.
- We assume the concrete will be sampled at a frequency of one set of two test beams every 1 sublot or fraction thereof per mix per day for all apron concrete (P-501).
- Terracon requests that a copy of the approved mix design(s) be provided to us prior to placement of the concrete.
- Perform compressive strength tests of concrete test cylinders and flexural strength of beams cast in the field (ASTM C31, C39 and C78). Five 4" x 8" concrete cylinders will be prepared for concrete having nominal maximum size aggregate of 1 inch or less. One cylinder will be tested in 7 days, three cylinders will be tested at 28 days, and one cylinder will be held for 56 days (or tested at an age requested by others). Two 6" x 6" x20" concrete beams will be prepared and tested at 28 days.

Reinforcing Steel Observations:

- Verify the size, number and placement of reinforcing steel and check general form dimensions prior to placement of concrete, per construction drawings.
- Terracon recommends scheduling a minimum of 24 hours prior to concrete placement.

Anchor Bolt Observations:

- Verify the bolt diameter, length, shape, and embedment in concrete. The contractor has the responsibility to schedule this observation prior to placement of concrete. In those cases where anchor bolts are drilled and epoxied into existing concrete foundations, Terracon should be contacted to be present during installation of the bolts to verify the bolt hole size, depth, and cleanliness as well as the application of epoxy and installation of bolts.

Masonry Observations and Testing:

- Provide a qualified technician for periodic field observation during CMU wall construction.
- Sample mortar for compressive strength testing. (6 mortar cubes 2"x2"x2" per 5,000 SF wall area)

- Sample grout for compressive strength testing. (6 grout prisms 3”x3”x6” per 5,000 SF wall area)

Structural Steel Observations and Testing:

- Terracon recommends that the general contractor schedule a pre-erection meeting to discuss the erection sequence, review welding and bolting requirements and to review welder certification records.
- Provide a Certified Welding Inspector (CWI) in the field to visually observe accessible field bolted/welded connections in accordance with applicable AISC and AWS standards.
- Perform visual inspections of elevated metal decking for placement including overlap, fastener spacing, supports at openings and penetrations, and puddle welds pattern, size and quality.
- Terracon will observe any shear studs in association with composite concrete decks for number, pattern, and bond.
- Perform visual inspections of completed accessible welds to verify that the welds meet the visual acceptance criteria of AWS D1.1.

Floor Flatness/Levelness Testing:

- Perform floor flatness/levelness testing in accordance with ASTM E1155.

Firestopping:

- Provide a qualified technician to observe the firestopping materials that are installed in the field.

Project Management and Administration:

- A project manager will be assigned to the project to review the daily activity and assist in scheduling the work. Field and laboratory tests will be reviewed prior to submittal. The project manager will be responsible for monitoring the project budget and will oversee the preparation of the final report.

Special Inspections Letter:

- Upon completion of our services, a special inspection letter will be prepared, if requested. The letter will list services Terracon performed and if our results and/ or observation were in compliance.

Exclusions:

- **Please note that crane pad evaluation and engineering review of shoring designs of earthen subgrade are not included in Terracon’s Scope of Services or fees described herein. If requested, Terracon will review available information and confer with you to establish an appropriate scope of service and anticipated time frame. Please note that supplemental geotechnical exploration, if required, can require**

several weeks of coordination, and advance notice of these services is appreciated to reduce the potential for construction delays.

D) REPORTING

Results of field tests will be submitted verbally to available personnel at the site. Written reports of field tests and observations will be distributed within five business days. Test reports will be distributed via electronic distribution unless otherwise requested. Please provide Terracon with a report distribution list prior to the beginning of the project. The list should include the company name, address, contact person name, phone number, and e-mail address for each person.

Our reported test locations will typically be estimated by pacing distances and approximating angles and elevations from local control data (staking and layout lines) provided by others on site. The accuracy of our locations will be dependent on the accuracy, availability and frequency of the control points provided by the client and/ or contractor.

E) SCHEDULING

Field testing services will be provided on an "as requested" basis when scheduled by your representative. A minimum of 24-hour notice is required to properly schedule our services. To schedule our services please contact our dispatcher at (214) 630-1078. The dispatch office hours are from 7:00 a.m. to 5:00 p.m. Messages left after business hours will be checked the following business day.

Terracon shall not be held responsible for tests not performed as a result of a failure to schedule our services or any subsequent damage caused as a result of a lack of testing. Terracon recommends that a copy of this proposal be provided to the general contractor, so they understand our scope of services and schedule us accordingly. Please note that the number of tests and trips described in the Scope of Services does not constitute a minimum or maximum number of tests or trips that may be required for this project.

Scheduling Retests:

It is the responsibility of your representative to schedule retests in a like manner to scheduling our original services. Terracon shall not be held responsible for retests not performed as a result of a failure to schedule our services or any subsequent damage caused as a result of a lack of retesting.

Additional Observation and Testing Services:

If you would like us to perform additional observation and testing services, please contact us and we will issue a short Supplement to Agreement form, or Supplemental Proposal, that

outlines the additional work to be performed and associated fees. To authorize us to begin additional Observation and testing services, you simply return a signed copy of the Supplemental agreement.

F) COMPENSATION

Based on the project information available for our review, we propose a budget estimate of **$345,179.00.** Services provided will be based on the unit rates included in the attached Fee Estimate. Please note that this is only a budget estimate and not a not-to-exceed price. Many factors beyond our control, such as weather and the contractor's schedule, will dictate the final fee for our services.

For services provided on an "as requested" basis, overtime is defined as all hours in excess of eight hours per day or outside of the normal hours of 7:00 a.m. to 5:00 p.m. Monday through Friday, and all hours worked on weekends and holidays. Overtime rates will be 1.5 times the hourly rate quoted**.**

A two-hour minimum charge is applicable to all trips made portal to portal (our laboratory) to provide our testing, observation and consulting services. A minimum charge is not applicable for trips to the project site for sample pickup only. All labor, equipment and transportation charges are billed on a portal-to-portal basis from our office.

You will be invoiced on a monthly basis for services actually performed and/or as authorized or requested by you or your designated representative. Terracon's total invoice fee is due within thirty days following final receipt of invoice. Quantities and costs associated with re-tests, cancellations and stand-by time are not included in our estimated fee.

G) SITE ACCESS AND SAFETY

Client shall secure all necessary site related approvals, permits, licenses, and consents necessary to commence and complete the services and will execute any necessary site access agreement. Terracon will be responsible for supervision and site safety measures for its own employees but shall not be responsible for the supervision or health and safety precautions for any third parties, including Client's contractors, subcontractors, or other parties present at the site.

H) TESTING AND OBSERVATION

Client understands that testing and observation are discrete sampling procedures, and that such procedures indicate conditions only at the depths, locations, and times the procedures were performed. Terracon will provide test results and opinions based on tests and field observations only for the work tested. Client understands that testing and observation are not continuous or exhaustive and are conducted to reduce – not eliminate - project risk. Client

agrees to the level or amount of testing performed and the associated risk. Client is responsible (even if delegated to contractor) for notifying and scheduling Terracon so Terracon can perform these services. Terracon shall not be responsible for the quality and completeness of Client's contractor's work or their adherence to the project documents, and Terracon's performance of testing and observation services shall not relieve contractor in any way from its responsibility for defects discovered in its work or create a warranty or guarantee. Terracon will not supervise or direct the work performed by contractor or its subcontractors and is not responsible for their means and methods.

I) AUTHORIZATION

This proposal may be accepted by issuing a task order in accordance with the Master Service Agreement between the City and Terracon. This proposal is valid only if authorized within sixty days from the listed proposal date.

We appreciate this opportunity of working with you and we look forward to working with you in the future.

Sincerely,
Terracon Consultants, Inc.
(Texas Registration No. F-3272)

Reynaldo Mirasol

Reynaldo Mirasol
Project Manager

Peter Falletta, P.E.
DFW Regional Materials Manager

Attachments:
(1) Fee Estimate

Fee Estimate

Materials Services
McKinney National Airport - Eastside Terminal
Terracon Proposal No. P94251199

DESCRIPTION	RATE	QUANTITY	UNITS	TRIPS	TOTAL QUANTITY	TOTAL
1 Earthwork Observations and Testing						$ 114,739.00
1.1 Full-Time (Terminal Pad Moisture Conditioning)						$ 27,125.00
Soils Technician	$ 68.00	8	hours	25	200	$ 13,600.00
Soils Technician, Overtime	$ 102.00	4	hours	25	100	$ 10,200.00
Nuclear Gauge	$ 63.00	1	days	25	25	$ 1,575.00
Vehicle Charge	$ 70.00	1	trips	25	25	$ 1,750.00
1.2 Part Time						$ 67,035.00
1.2.1 Terminal						$ 6,075.00
Soils Technician	$ 68.00	4	hours	15	60	$ 4,080.00
Nuclear Gauge	$ 63.00	1	days	15	15	$ 945.00
Vehicle Charge	$ 70.00	1	trips	15	15	$ 1,050.00
1.2.2 Parking/Fire Lane/Site Utilities						$ 35,490.00
Soils Technician	$ 68.00	4	hours	70	280	$ 19,040.00
Soils Technician, Overtime	$ 102.00	1	hours	70	70	$ 7,140.00
Nuclear Gauge	$ 63.00	1	days	70	70	$ 4,410.00
Vehicle Charge	$ 70.00	1	trips	70	70	$ 4,900.00
1.2.3 Apron						$ 15,210.00
Soils Technician	$ 68.00	4	hours	30	120	$ 8,160.00
Soils Technician, Overtime	$ 102.00	1	hours	30	30	$ 3,060.00
Nuclear Gauge	$ 63.00	1	days	30	30	$ 1,890.00
Vehicle Charge	$ 70.00	1	trips	30	30	$ 2,100.00
1.2.4 Miscellaneous						$ 10,260.00
Soils Technician	$ 68.00	4	hours	30	120	$ 8,160.00
Vehicle Charge	$ 70.00	1	trips	30	30	$ 2,100.00
1.3 Sample Pick-Up						$ 824.00
Soils Technician	$ 68.00	2	hours	4	8	$ 544.00
Vehicle Charge	$ 70.00	1	trips	4	4	$ 280.00
1.4 Laboratory Testing						$ 19,755.00
Standard Proctor (ASTM D698)	$ 185.00	15	tests	1	15	$ 2,775.00
Modified Proctor (ASTM D1557)	$ 205.00	8	tests	1	8	$ 1,640.00
Atterberg Limits Determination (3 pt.) (ASTM D4318)	$ 78.00	45	tests	1	45	$ 3,510.00
Sieve Analysis (ASTM C136)	$ 80.00	25	tests	1	25	$ 2,000.00
Lime Series (PI or pH)	$ 315.00	4	tests	1	4	$ 1,260.00
Swell Test (PVR)	$ 225.00	10	tests	1	10	$ 2,250.00
Wash 200 (ASTM D1140)	$ 48.00	35	tests	1	35	$ 1,680.00
Oversized Particle Correction (ASTM D4718)	$ 30.00	8	tests	1	8	$ 240.00
CTB Compressive Strength (ASTM D1633)	$ 80.00	30	tests	1	30	$ 2,400.00
Cement Treated Base (ASTM D558)	$ 200.00	10	tests	1	10	$ 2,000.00
2 Foundation Observations and Testing						$ 20,905.00
2.1 Full-Time						$ 17,775.00
Foundation Technician	$ 70.00	8	hours	15	120	$ 8,400.00
Foundation Technician, Overtime	$ 105.00	4	hours	15	60	$ 6,300.00
Compressive Strength of 4" x 8" Cylinder (ASTM C39)	$ 27.00	5	tests	15	75	$ 2,025.00
Vehicle Charge	$ 70.00	1	trips	15	15	$ 1,050.00
2.2 Saturday						$ 2,930.00
Foundation Technician, Overtime	$ 105.00	12	hours	2	24	$ 2,520.00
Compressive Strength of 4" x 8" Cylinder (ASTM C39)	$ 27.00	5	tests	2	10	$ 270.00
Vehicle Charge	$ 70.00	1	trips	2	2	$ 140.00
2.3 Sample Pick-Ups						$ 200.00
Concrete Technician	$ 65.00	2	hours	1	2	$ 130.00
Vehicle Charge	$ 70.00	1	trips	1	1	$ 70.00
3 Concrete & Reinforcing Steel Observations and Testing						$ 148,955.00
3.1 Apron						$ 29,095.00
Concrete Technician	$ 65.00	6	hours	23	138	$ 8,970.00
Concrete Technician, Overtime	$ 97.50	6	hours	23	138	$ 13,455.00
Flexural Strength of Concrete Beam (ASTM C78)	$ 55.00	4	tests	23	92	$ 5,060.00
Vehicle Charge	$ 70.00	1	trips	23	23	$ 1,610.00
3.2 Parking Lot						$ 43,000.00
Concrete Technician	$ 65.00	6	hours	25	150	$ 9,750.00
Concrete Technician, Overtime	$ 97.50	6	hours	25	150	$ 14,625.00
Compressive Strength of 4" x 8" Cylinder (ASTM C39)	$ 27.00	25	tests	25	625	$ 16,875.00
Vehicle Charge	$ 70.00	1	trips	25	25	$ 1,750.00
3.3 Fire Lane						$ 33,700.00
Concrete Technician	$ 65.00	12	hours	10	120	$ 7,800.00
Concrete Technician, Overtime	$ 97.50	12	hours	10	120	$ 11,700.00
Compressive Strength of 4" x 8" Cylinder (ASTM C39)	$ 27.00	50	tests	10	500	$ 13,500.00
Vehicle Charge	$ 70.00	1	trips	10	10	$ 700.00

Fee Estimate

Materials Services
McKinney National Airport - Eastside Terminal
Terracon Proposal No. P94251199

DESCRIPTION	RATE	QUANTITY	UNITS	TRIPS	TOTAL QUANTITY	TOTAL
3.4 Terminal						$ 5,160.00
Concrete Technician	$ 65.00	6	hours	3	18	$ 1,170.00
Concrete Technician, Overtime	$ 97.50	6	hours	3	18	$ 1,755.00
Compressive Strength of 4" x 8" Cylinder (ASTM C39)	$ 27.00	25	tests	3	75	$ 2,025.00
Vehicle Charge	$ 70.00	1	trips	3	3	$ 210.00
3.5 Miscellaneous Placements						$ 11,250.00
Concrete Technician	$ 65.00	4	hours	20	80	$ 5,200.00
Concrete Technician, Overtime	$ 97.50	1	hours	20	20	$ 1,950.00
Compressive Strength of 4" x 8" Cylinder (ASTM C39)	$ 27.00	5	tests	20	100	$ 2,700.00
Vehicle Charge	$ 70.00	1	trips	20	20	$ 1,400.00
3.6 Sample Pick Up						$ 21,800.00
Concrete Technician	$ 65.00	2	hours	109	218	$ 14,170.00
Vehicle Charge	$ 70.00	1	trips	109	109	$ 7,630.00
3.7 Rebar Only						$ 4,950.00
Concrete Technician	$ 65.00	4	hours	15	60	$ 3,900.00
Vehicle Charge	$ 70.00	1	trips	15	15	$ 1,050.00
4 Floor Flatness Testing						$ 1,830.00
Floor Flatness Technician	$ 135.00	4	hours	3	12	$ 1,620.00
Vehicle Charge	$ 70.00	1	trips	3	3	$ 210.00
5 Masonry Observations						$ 2,000.00
5.1 Part-Time						$ 1,600.00
Masonry Technician	$ 70.00	4	hours	2	8	$ 560.00
Compressive Strength of 3x6 inch Grout Prism	$ 48.00	6	tests	2	12	$ 576.00
Compressive Strength of 2 inch Mortar Cube or 3 inch cylinder	$ 27.00	6	tests	2	12	$ 324.00
Vehicle Charge	$ 70.00	1	trips	2	2	$ 140.00
5.2 Sample Pick-Up						$ 400.00
Concrete Technician	$ 65.00	2	hours	2	4	$ 260.00
Vehicle Charge	$ 70.00	1	trips	2	2	$ 140.00
6 Structural Steel Observations						$ 5,700.00
Structural Steel Inspector	$ 125.00	4	hours	10	40	$ 5,000.00
Vehicle Charge	$ 70.00	1	trips	10	10	$ 700.00
7 Firestopping Observations						$ 570.00
Firestopping Inspector	$ 125.00	4	hours	1	4	$ 500.00
Vehicle Charge	$ 70.00	1	trips	1	1	$ 70.00
8 Administration						$ 50,480.00
Project Manager	$ 168.00	200	hours	1	200	$ 33,600.00
Authorized Project Reviewer	$ 237.00	40	hours	1	40	$ 9,480.00
Project Assistant	$ 74.00	100	hours	1	100	$ 7,400.00
Total						$ 345,179.00