

**SUGGESTED FORM OF
TASK ORDER**

This is Task Order No. <u>2</u> , consisting of <u>29</u> pages.
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Task Order

[NOTE TO USER: Modify as to scope, compensation, schedule, and other key items.]

In accordance with Paragraph 1.01 of the Agreement Between Owner and Engineer for Professional Services – Task Order Edition, dated [] ("Agreement"), Owner and Engineer agree as follows:

1. Background Data

- a. Effective Date of Task Order:
- b. Owner: City of Schertz
- c. Engineer: Terracon Consultants, Inc
- d. Specific Project (title): Schertz Street Preservation and Maintenance Project
- e. Specific Project (description):
City of Schertz is requesting Terracon to provide Geotechnical Engineering Services at various locations described in proposal no. P90215148R dated July 22, 2021.

2. Services of Engineer

- A. The specific services to be provided or furnished by Engineer under this Task Order are:

[Select one of the following three options and delete the other two.]

- set forth in Part 1—Basic Services of Exhibit A, "Engineer's Services for Task Order," modified for this specific Task Order, and attached to and incorporated as part of this Task Order.

Task Order Form

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B. Resident Project Representative (RPR) Services Does Not apply

If the scope of services established in Paragraph 2.A above includes RPR services, then Exhibit D of the Agreement is expressly incorporated in this Task Order by reference.

[1. If RPR services are not in the scope of this Task Order, do not include any references to RPR services in Exhibit A (Paragraph A1.05.A.2) for this Task Order (or state "Does not apply" or similar), or in any other scope of services text or document.

2. If appropriate, modify Exhibit D for this specific Task Order, and attach it, rather than incorporating the Exhibit D that is included with the Agreement.]

C. Designing to a Construction Cost Limit Does not apply

[If the design under this Task Order will be governed by a Construction Cost limit, then include the following clause, with blanks filled in, and thereby incorporate Exhibit F; if not, then delete the clause or indicate "Does not apply" or similar]]

Under this Task Order Engineer will design to a Construction Cost Limit, subject to the terms of Paragraph 5.02 of the Agreement and of Exhibit F to the Agreement. Exhibit F is expressly incorporated by reference. The Construction Cost Limit is \$ _____. The bidding or negotiating contingency to be added to the Construction Cost Limit is _____ percent.

D. Other Services None

Engineer shall also provide the following services: ***[Summarize or provide a brief description of other services (if any) that are to be provided by Engineer as Basic Services, but have not been addressed in Paragraphs 2.A through 2.C. If applicable, categorize such other services by phases, such as other Study and Report Phase Services, other Preliminary Design Phase Services, and so on. If all Basic Services have been covered in Paragraphs 2.A through 2.C, then indicate "None" here in 2.D, or delete 2.D in its entirety.]***

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- E. All of the services included above comprise Basic Services for purposes of Engineer's compensation under this Task Order.

3. Additional Services

- A. Additional Services that may be authorized or necessary under this Task Order are:

[Select one of the following three options and delete the other two.]

[or]

- those services (and related terms and conditions) set forth in Paragraph A2.01 of Exhibit A, as attached to the Agreement referred to above, such paragraph being hereby incorporated by reference.

4. Owner's Responsibilities

Owner shall have those responsibilities set forth in Article 2 of the Agreement and in Exhibit B, subject to the following: ***[State any additions or modifications to Exhibit B for this Specific Project here.]***

- 5. Task Order Schedule** as stated in the attached proposal (Exhibit A)

	opinion of probable Construction Cost, and other Preliminary Design Phase deliverables to Owner.	services.
Owner	Submit comments regarding Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables to Engineer.	Within [] days of the receipt of Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables from Engineer.
Engineer	Furnish [] copies of the revised Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables to Owner.	Within [] days of the receipt of Owner's comments regarding the Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables.
Engineer	Furnish [] copies of the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, to Owner.	Within [] days of Owner's authorization to proceed with Final Design Phase services.
Owner	Submit comments and instructions regarding the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, to Engineer.	Within [] days of the receipt of the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables from Engineer.
Engineer	Furnish [] copies of the revised final Drawings and Specifications, assembled Construction Contract Documents, bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, to Owner.	Within [] days of the receipt of Owner's comments and instructions regarding the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables

6. Payments to Engineer

A. Owner shall pay Engineer for services rendered under this Task Order as follows:

[Notes: 1. Delete line items that do not apply to this Task Order. 2. For each line item indicate either "Lump Sum," "Direct Labor," or "Hourly Rates" as the Basis of Compensation. 3. Cross-references are to Exhibit A. Revise if necessary, or

delete cross-references if Exhibit A is not used to establish the scope of services under this Task Order.]

Description of Service	Amount	Basis of Compensation
1. Basic Services (Part 1 of Exhibit A)	\$ 65,845.00	[Lump Sum]
TOTAL COMPENSATION (lines 1.a-h)	\$65,845.00	
2. Additional Services (Part 2 of Exhibit A)	(N/A)	[]

[Many of the line items under Line 1, Basic Services, will frequently be governed by a single Basis of Compensation; however, it is not unusual to have some variation among the services so the table allows the user to establish different bases of compensation for the various Basic Compensation phases (1.a-1.h).]

*Based on a [] -month continuous construction period.

Compensation items and totals based in whole or in part on Hourly Rates or Direct Labor are estimates only. Lump sum amounts and estimated totals included in the breakdown by phases incorporate Engineer’s labor, overhead, profit, reimbursable expenses (if any), and Consultants’ charges, if any. For lump sum items, Engineer may alter the distribution of compensation between individual phases (line items) to be consistent with services actually rendered, but shall not exceed the total lump sum compensation amount unless approved in writing by the Owner.

B. The terms of payment are set forth in Article 4 of the Agreement and in the applicable governing provisions of Exhibit C.

7. Consultants retained as of the Effective Date of the Task Order:

8. Other Modifications to Agreement and Exhibits:

[Supplement or modify Agreement and Exhibits, if appropriate.]

9. Attachments:

10. Other Documents Incorporated by Reference:

11. Terms and Conditions

Execution of this Task Order by Owner and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Task Order signed by Owner.

The Effective Date of this Task Order is [].

OWNER:

ENGINEER:

By: _____

By: 

Print Name: _____

Print Name: Gregory Stieben, P.E., D.GE

Title: _____

Title: Senior Consultant

Engineer License or Firm's
Certificate No. (if required): TX F3272
State of: Texas

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

DESIGNATED REPRESENTATIVE FOR TASK ORDER:

Name: _____

Name: Gregory Stieben, P.E., D.GE

Title: _____

Title: Senior Consultant

Address: _____

Address: 6911 Blanco Road
San Antonio, Tx 78216

E-Mail

E-Mail

Address: _____

Address: gregory.stieben@terracon.com

Phone: _____

Phone: (210) 714-2143

Task Order Form

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July 22, 2021

City of Schertz
10 Commercial Place, Bldg. 2
Schertz, TX 78154

Attn: Mr. John Nowak, P.E.
D: (210) 619-1825
M: (210) 380-5574
E: jnowak@schertz.com

Re: Revised Proposal for Geotechnical Engineering Services
Schertz Street Preservation and Maintenance Project
Various City Streets
Schertz, Texas
Terracon Proposal Number: P90215148R

Dear Mr. Nowak:

Based on an email request dated May 11, 2021, Terracon Consultants, Inc. (Terracon) appreciates the opportunity to submit this revised proposal to provide geotechnical engineering services for the above referenced project. We understand we have been selected based on qualifications to provide Geotechnical Engineering services on this project. Therefore, providing cost information is in compliance with the Texas Professional Services Procurement Act and the Texas Govt Code Section 2254.004. This proposal outlines our understanding of the project and scope of services and provides a lump sum fee for our services.

A. PROJECT INFORMATION

Project information

We understand the City of Schertz is planning roadway and drainage improvements in various streets as part of the Street Preservation and Maintenance (SPAM) program. A plan of the project sites illustrating boring locations has been provided.

Street	Proposed Improvements
Boenig Drive	Salvage existing pavement, incremental widening on each side, and improve drainage by re-grading borrow ditches.
Doerr Lane	Identify current pavement section and identify pavement section needed for reconstruction.
Lookout Road	Identify current pavement section and identify pavement section needed for reconstruction.
Lower Seguin Road	Salvage existing pavement and use as base for new middle section of the roadway, incremental widening on each side
Old Wiederstein Road	Salvage existing pavement, incremental widening on each side



Revised Proposal for Geotechnical Engineering Services
Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R

Street	Proposed Improvements
Schertz Parkway (North and South of I-35)	Intent is to do a 2" mill and overlay (or a micro-paving layer) on the street, and verify the pavement thickness and base layer thickness of the existing section. Sections may vary from one side to the other in the section south of I-35. If there is not enough pavement thickness, then intent is to verify if milling 4" of material out and replacing with 4" of new pavement instead of full reconstruction is possible.

Site Location

The City Roadway improvement will be for the following city streets:

Street	Limits	Length (ft)
Boenig Drive	Scenic Lake Drive to Ware Seguin Road	7,000
Doerr Lane	Lookout Road to Old FM 2252	5,200
Lookout Road	Schertz Parkway to Doerr Lane	3,200
Lower Seguin Road	Citadel Peak to FM 1518	13,800
Old Wiederstein Road	Cibolo Valley Drive to FM 1103	9,600
Schertz Parkway (North of I-35)	I-35 Frontage Road to Lookout Road	3,650
Schertz Parkway (South of I-35)	I-35 Frontage Road to Woodland Oaks Drive	8,100

B. SCOPE OF SERVICES

The geotechnical services to be provided by Terracon are summarized in the following paragraphs.

Field Program – Based on the request from the client, our field exploration will consist of:

Street	Length (ft)	Number of Soil Borings	Depth of Borings (feet)	Number of Pavement Cores
Boenig Drive	7,000	8	10	---
Doerr Lane	5,200	4	10	---
Lookout Road	3,200	2	25	---
		1	10	
Lower Seguin Road	13,800	15	10	---
Old Wiederstein Road	9,600	11	10	---
Schertz Parkway (North of I-35)	3,650	---	---	4
Schertz Parkway (South of I-35)	8,100	---	---	11
Total		43	475	15

Revised Proposal for Geotechnical Engineering Services

Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R



Sampling will be in general accordance with industry standard procedures wherein Shelby tube samples (ASTM D-1587) or split-barrel samples (ASTM D-1586) are obtained. Sampling will be performed in 2-ft intervals to the boring completion depths. Groundwater, if encountered will be measured during and after drilling. Once the samples have been collected and classified in the field, they will be placed in appropriate sample containers for transport to our laboratory.

Permitting and Traffic Control – We understand that a City of Schertz permit to allow work in the streets is not required. Terracon will provide traffic control, likely to consist of signage only. If traffic control beyond signage is required, a traffic control company with a crash truck will be hired.

Conditions/Items to be provided by Client: Items to be provided by the client include the right of entry to conduct the exploration and the awareness and/or location of any private subsurface utilities existing in the area. We will contact Texas 811, Schertz Water Utilities for location of utilities in public easements. Location of private lines on the property is not part of Terracon scope. All private lines should be marked by others prior to commencement of drilling.

Terracon will take reasonable efforts to reduce damage to the property, such as rutting of the ground surface. However, it should also be understood that in the normal course of our work, some such disturbances could occur. We have not budgeted to restore the site beyond backfilling our boreholes. If there are any restrictions or special requirements regarding this site or exploration, these should be known prior to commencing field work.

The drilling services for this project will be performed by a drilling subcontractor under Terracon's direction. Our fee is based on the site being accessible to our conventional two-wheel drive truck-mounted drilling equipment. Additional costs may result if this is not the case. It does not include services associated with damage of existing landscape or location of underground utilities beyond contacting Texas811. If such conditions are known to exist on the site, Terracon should be notified so that we may adjust our scope of services and fee, if necessary.

For safety purposes, all borings will be backfilled promptly and patched with asphalt or concrete, as appropriate, after their completion. Because backfill material often settles below the surface after a period of time, we recommend the boreholes be checked periodically and backfilled if necessary.

Laboratory Testing – The samples will be tested in our laboratory to determine physical engineering characteristics. Testing will be performed under the direction of a geotechnical engineer and will include visual classification, moisture content, gradation, Atterberg limits, and sulfate contents.

- Moisture Content Test.
- Gradation Tests or Percent Finer than the No. 200 Mesh (75- μ m) Sieve.

Revised Proposal for Geotechnical Engineering Services

Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R

- Atterberg Limits.
- Soluble Sulfate Tests.

In addition, a total of 6 representative bulk samples will be collected from near the roadways and will be tested for the following:

- pH lime series tests.
- PI lime series tests.
- Moisture density relationship (ASTM D698).
- California Bearing Ratio (CBR).

Engineering Report – The results of our field and laboratory programs will be evaluated by a professional geotechnical engineer licensed in the State of Texas. Based on the results of our evaluation, an engineering report will be prepared that details the results of the testing performed, provides logs of the borings, and a diagram of the site/boring layout. The engineering report will include the following:

- Boring location plan.
- Subsurface exploration procedures.
- Computer generated boring logs with soil classification.
- Summarized laboratory data.
- Groundwater levels observed during and after completion drilling.
- Encountered soil conditions.
- Subgrade soil modification recommendations for pavement design.
- Existing pavement thickness.
- Pavement design recommendation in accordance with the City of San Antonio design manual.

Schedule - We can generally begin the field exploration program within 9 days after receipt of our signed contract, and if site and weather conditions permit. The field work can be done in 6 days if locations can be accessed. A draft report will be completed within 5 weeks of completion of drilling. A final report can be issued after 1 week from the review comments. In situations where information is needed prior to submittal of our report, we can provide verbal information or recommendations for specific project requirements after we have completed our field and laboratory programs. We will issue a PDF copy of the geotechnical report as the deliverable for this project.

Revised Proposal for Geotechnical Engineering Services
Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R



C. COMPENSATION

For the scope of geotechnical and environmental services outlined in this proposal (including drilling, laboratory testing, and reporting), the lump sum fee will be:

Task	Lump Sum Fee
Subsurface Exploration, Laboratory Testing, Geotechnical Consulting & Reporting	\$65,845

1. Full traffic control (if required) will be billed at a rate of \$2,500 per day.

A breakdown of the fees is attached. Unless instructed otherwise, the invoice will be sent to your attention at the above address. Should it be necessary to expand our services beyond those outlined in this proposal, we will notify you, then send a supplemental proposal stating the additional services and fee. We will not proceed without your authorization.

D. AUTHORIZATION

We understand that a Master Service Agreement between City of Schertz and Terracon has been negotiated, we will proceed with our services once City of Schertz provides us with a Work Authorization. This proposal is valid for a period of 90 days from the date of this proposal. After this date, our proposal may need to be revised to reflect any change in project scope and fee.

We appreciate your consideration of Terracon for this project, and we look forward to the opportunity of working with you. If you have any questions regarding this proposal, please feel free to contact the undersigned.

Sincerely,

Terracon Consultants, Inc.
(Firm Registration: TX F3272)

Carlos Cotilla
Staff Engineer

Gregory P. Stieben, P.E., D.GE
Senior Consultant

CC/GPS/mhb – P90215148R

Attachment: Boring Location Plans
Fee Breakdown

EXPLORATION PLAN

Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R

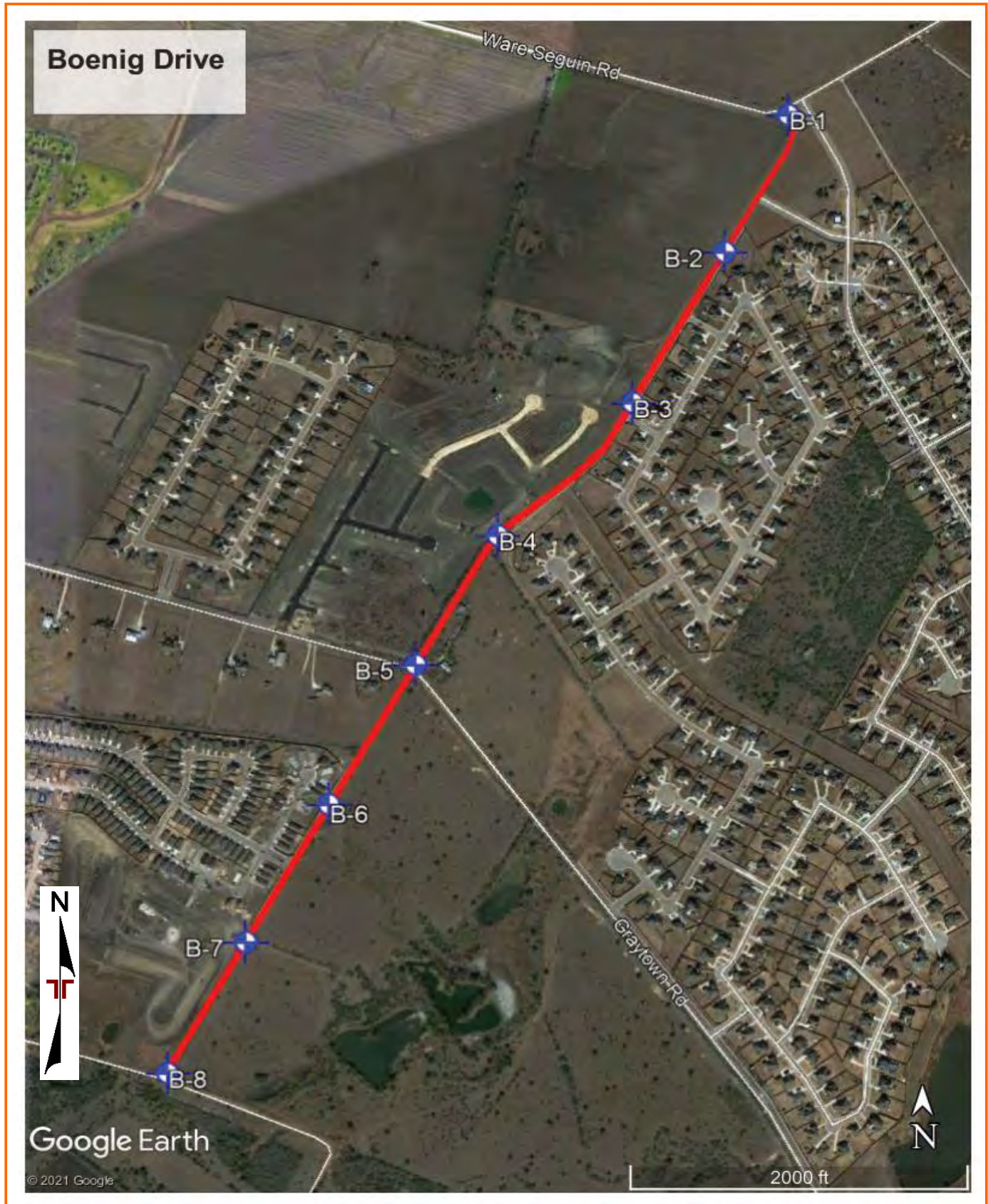


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

EXPLORATION PLAN

Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R



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EXPLORATION PLAN

Schertz Street Preservation and Maintenance Project ■ Schertz, Texas
July 22, 2021 ■ Terracon Proposal No. P90215148R

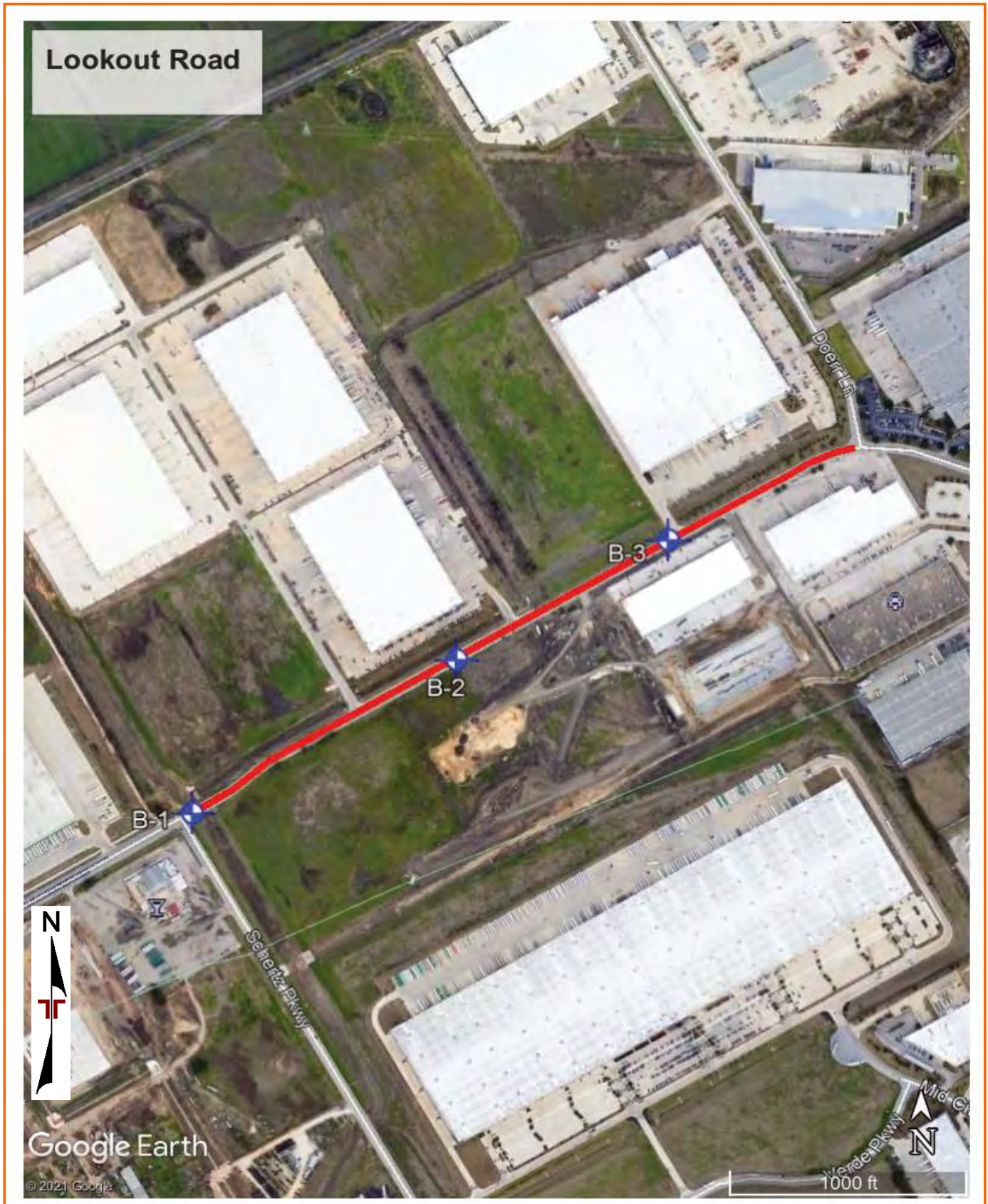


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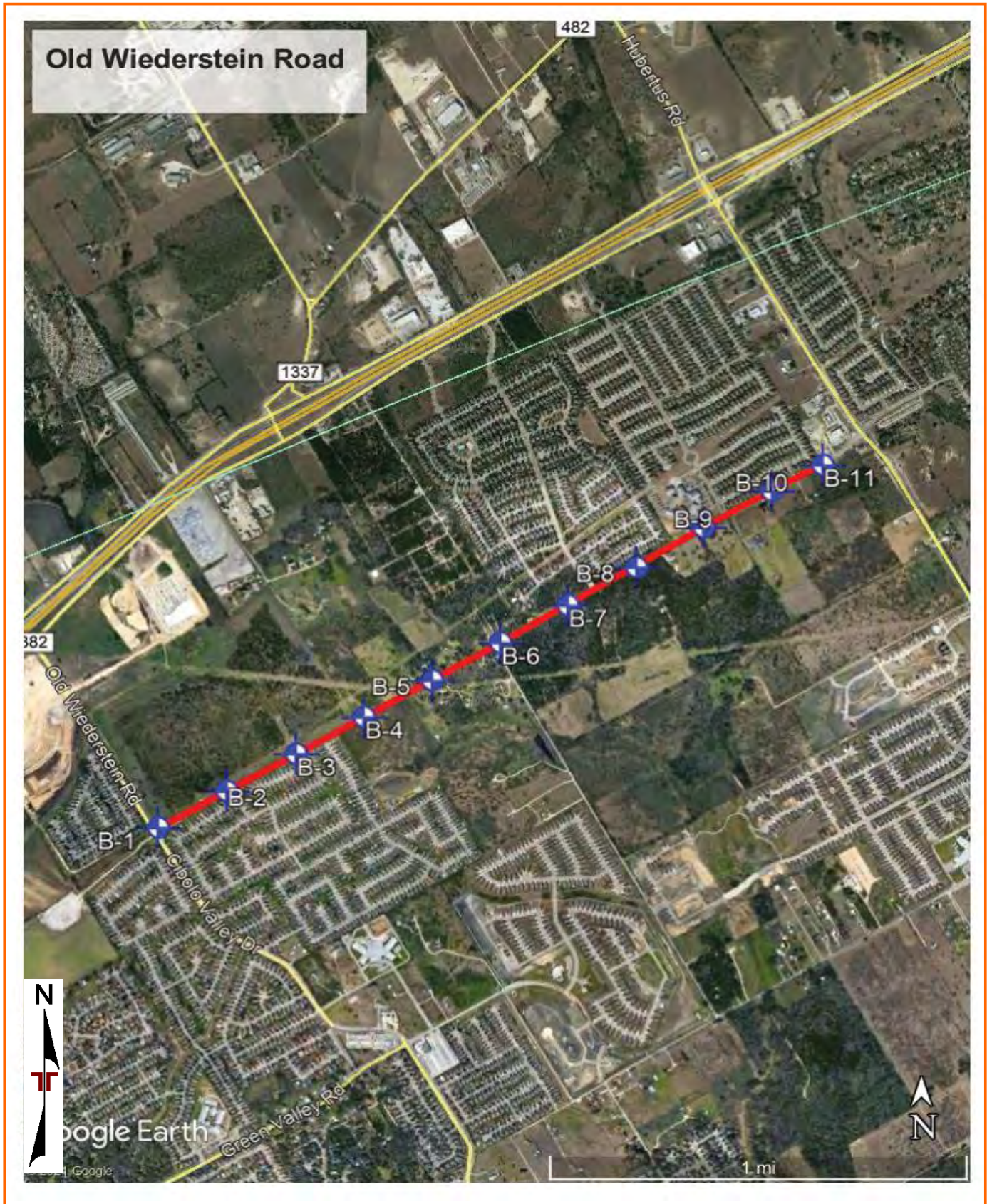


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EXPLORATION PLAN

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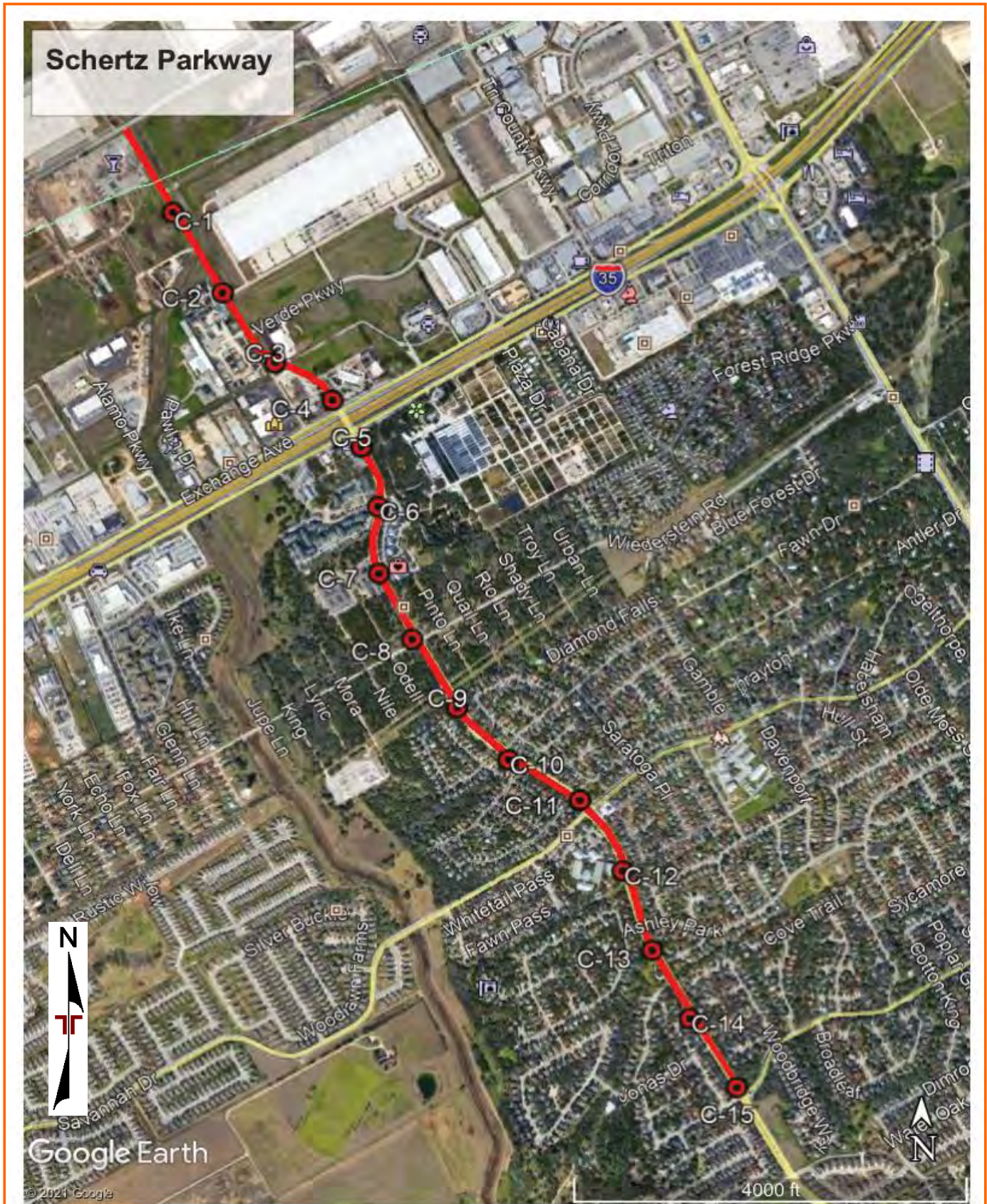


DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES



**Fee Breakdown for Geotechnical Study
Schertz Street Preservation and Maintenance Project
Schertz, Texas
Proposal No. P90215148R**

Geotechnical Borings	Quantity	Unit	Rate	Subtotal
Traffic Control	6	each	\$1,500.00	\$9,000.00
Drill Rig and Crew Mob/Demob	6	each	\$500.00	\$3,000.00
Drilling and Sampling - Soil	475	ft	\$18.00	\$8,550.00
Senior Technician (Drilling, Coring & Utility Coordination)	70	hour	\$75.00	\$5,250.00
Vehicle Charge	6	each	\$50.00	\$300.00
				\$26,100.00

Laboratory Testing	Quantity	Unit	Rate	Subtotal
Water Content	224	each	\$15.00	\$3,360.00
Liquid and Plastic Limits (3 points)	86	each	\$85.00	\$7,310.00
Sieve Analysis (No. 200)	86	each	\$95.00	\$8,170.00
Soluble Sulfates (TEX-145-E)	20	each	\$30.00	\$600.00
Maximum Density Relations (proctors)	6	each	\$300.00	\$1,800.00
CBR, Three Point	6	each	\$700.00	\$4,200.00
Lime modification optimum (using pH)	6	each	\$250.00	\$1,500.00
Soil-lime mixture design (using plasticity index)	6	each	\$350.00	\$2,100.00
				\$29,240.00

Professional Services	Quantity	Unit	Rate	Subtotal
Project Principal	12	hour	\$215.00	\$2,580.00
Project Manager	15	hour	\$150.00	\$2,250.00
Staff Engineer	45	hour	\$120.00	\$5,400.00
Clerical	5	hour	\$55.00	\$275.00

*Full traffic control (if required) will be billed at a rate of \$2,500 per day. \$10,505.00

This cost is not included in this proposal.

Total Estimated Fee \$65,845.00



**City of Schertz
 2020 - 2023
 SCHEDULE OF SERVICES AND FEES**

Personnel

Senior Principal/Program Manager, per hour	\$ 250.00
Principal, per hour.....	\$ 215.00
Senior Project Manager, per hour	\$ 195.00
Senior Project Engineer, per hour	\$ 195.00
Senior Project Geologist, per hour.....	\$ 185.00
Project Professional IV/Engineer, per hour	\$ 160.00
Project Manager, Project Professional III, per hour.....	\$ 150.00
Department Manager, per hour	\$ 195.00
Project Scientist, per hour	\$ 185.00
Project Engineer, per hour	\$ 175.00
Project Geologist, per hour	\$ 155.00
Project Manager, per hour.....	\$ 135.00
Senior Staff Engineer, per hour	\$ 155.00
Staff Scientist, per hour	\$ 140.00
Staff Engineer, per hour.....	\$ 120.00
Staff Geologist, per hour.....	\$ 115.00
Senior Field Investigator, per hour	\$ 115.00
Field Engineer, per hour	\$ 115.00
Field Geophysicist, per hour	\$ 115.00
Field Scientist, per hour	\$ 110.00
Field Geologist, per hour	\$ 110.00
Engineering Aide, per hour.....	\$ 95.00
Drafts Person/CAD Operator, per hour	\$ 95.00
ASNT, Level II, per hour.....	\$ 150.00
Certified Welding Inspector (CWI), (ASNT Level II), per hour.....	\$ 150.00
Engineering Technician (Level IV), per hour.....	\$ 95.00
Engineering Technician (Level III), per hour (PT, Reinf. Steel, Fireproofing, Asphalt,)	\$ 85.00
Engineering Technician (Level II), per hour (Concrete and Earthwork).....	\$ 70.00
Engineering Technician (Level I), per hour	\$ 55.00
Roofing Inspector, NDE Technician (Level I), per hour	\$ 85.00
Administrative Manager, per hour.....	\$ 90.00
Clerical/Administrative Staff, per hour.....	\$ 55.00
Final Inspection Letter	\$ 250.00

Transportation

Minimum Vehicle Charge, per trip.....	\$ 50.00
Vehicle Mileage Charge (over 75 miles round trip portal to portal our laboratory), per mile.....	\$ 0.80
Per Diem, lodging and food, per day	\$ 150.00

Reimbursable Expenses

Direct non-salary expenses incurred, identifiable and not applicable to general overhead are billed at cost plus 10 percent for handling and include, but are not limited to the following:

Travel, long distance calls, express charges, legal and accounting fees, computer time and programming costs, external consultants, word processing, CADD, printing and binding reports, blueprinting, photocopying, printing, photographs, environmental analytical and drilling fees, etc.

Minimum Charge • Overtime Rates • Expert Testimony

A four (4) hour minimum charge for personnel and equipment is applicable to all trips made for the performance of testing, inspection or consulting services. The minimum charge is not applicable for trips to the project site for sample pick up only. All labor, equipment and transportation charges are billed on a portal to portal basis from our office.

Overtime rates of 1.5 times the quoted hourly rate will be applicable to any hours worked outside of our normal office hours of 8:00 AM to 5:00 PM Monday through Friday, and any hours worked on weekends, Terracon holidays or over eight (8) hours per weekday.

Expert testimony in depositions, hearings, mediation, and trials will be charged at 1.5 times the above rates.

CONSTRUCTION MATERIALS ENGINEERING

Concrete Mix Verifications

Regular Aggregates, each	\$ 560.00
Lightweight Aggregates, each	\$ 600.00
Additional Design, same aggregate sample, each.....	\$ 300.00
Review Mix Design submitted by others, each.....	\$ 150.00
Batch and Confirmation of others mix design, each.....	\$ 275.00
Design Confirmation Cylinder Test (ASTM C-39), each.....	\$ 17.00
Design Confirmation Beam Test (ASTM C-293 or C-78), each	\$ 35.00

Concrete Tests

Cylinder Compression Test (ASTM C-39), each 4x8.....	\$ 22.00
Cylinder Compression Test (ASTM C-39), each 6x12.....	\$ 25.00
Cylinder Compression Test (ASTM C-39 Contractor Made), each	\$ 30.00
Beam Flexural Test (ASTM C-293 or C-78), each.....	\$ 50.00
Cube Compression Test (ASTM C-109), each	\$ 25.00
Lightweight Insulating Concrete Compression Test, 3" x 6" cylinders (ASTM C-495), each	\$ 25.00
Length change of hardened hydraulic cement mortar of concrete (ASTM C-157), set of 3	\$ 250.00
Equilibrium Density of Structural Lightweight Concrete (ASTM C-567), each.....	\$ 50.00
Oven Dry Density of Structural Lightweight Concrete (ASTM C-567), each	\$ 35.00
Density of Hardened Concrete (ASTM C-642), each.....	\$ 75.00
Windsor probes, per set of 3 (Technician time charged separately) (ASTM C-305)	\$ 110.00
Determining F _F Floor Flatness and F _L Floor Levelness Numbers for Random Traffic Floors (ASTM E-1155) (includes equipment, manpower & vehicle), 4 Hr. Minimum, per hour	\$ 160.00
Hilti Ferroskan (includes equipment, manpower & vehicle), 4 Hr. Minimum, per hour.....	\$ 185.00
Taylor #625 Calcium Chloride Kit – for Floor Slab Vapor Transmission Measurement, each	\$ 70.00
Engius intelliRock II Concrete Maturity Logger, each.....	\$ 60.00
Wagner Rapid RH Relative Humidity Sensor, each	\$ 60.00
Structure Scan for Rebar, per day	\$ 200.00

Masonry Tests

Cement mortar mix verification (ASTM C-305), each.....	\$ 150.00
Compressive strength CMU block (ASTM C-140), each.....	\$ 100.00
CMU block absorption only (ASTM C-140), each.....	\$ 75.00
Compressive strength masonry prism (ASTM C-1314) CMU prism up to 8 (in.) width, Hollow Cells, each	\$ 100.00
CMU prism up to 8 (in.) width, Grout Filled Cells, each	\$ 125.00
Brick prism up to 4 (in.) width, each	\$ 95.00

Compressive strength of grout prism (ASTM C-1019), each.....	\$ 35.00
Compressive strength of mortar cube (ASTM C-109), each	\$ 25.00
Compressive strength of grout cube (ASTM C-109), each	\$ 25.00

Soils Field Services

Technician time will be charged at the appropriate hourly rate plus:

Nuclear density gauge, per trip.....	\$ 50.00
In-place density/moisture, non-nuclear conventional method, sand cone, minimum 4, each.....	\$ 45.00
Field Gradation of Lime Treated Soil, each.....	\$ 25.00
Depth Check of Lime Treated Soil, each.....	\$ 25.00

Aggregate Tests

Sieve Analysis, dry (ASTM C-136), each	\$ 125.00
Sieve Analysis (ASTM C-117), each.....	\$ 125.00
Unit Weight (ASTM C-29), each.....	\$ 50.00
Specific Gravity/Absorption (ASTM C-127 or C-128), each.....	\$ 70.00
Organic Impurities (ASTM C-40), each	\$ 40.00
L.A. Abrasion (ASTM C-131 or C-535), each	\$ 265.00
Sulfate Soundness, 5 cycles (ASTM C-88), each.....	\$ 500.00
Additional cycles, each.....	\$ 125.00
Sample prep if uncrushed.....	\$ 50.00
Sieve Analysis, washed (TEX-110-E), each.....	\$ 125.00

Soils Laboratory Tests

Moisture Content and visual classification, each.....	\$ 15.00
Atterberg Limits (ASTM D-4318 Method A), each	\$ 85.00
Minus No. 200 Sieve (ASTM D-1140), each	\$ 95.00
Hydrometer Analysis, each.....	\$ 125.00
Sand Equivalent, each.....	\$ 170.00
Potential Alkalai-Silica Reactivity (ASTM C-1567), each.....	\$1,200.00
Potential Alkalai-Silica Reactivity (ASTM C-1260), each.....	\$1,000.00
Correction of Unit Weight & Water Content for Oversized Particles (ASTM D-4718), each	\$ 25.00
Swell Test, each	\$ 150.00
Soil pH Value (TEX 128E), each	\$ 40.00
pH Analysis (AWWA 2500H), each.....	\$ 20.00
pH Analysis (ASTM D4972), each.....	\$ 25.00
Corrosivity Suite (pH, Sulfate, Chloride, Sulfide, Total Salt, Resistivity, Red-ox)	\$ 250.00
Solubility/Total Salts (AWWA 2520 B).....	\$ 45.00
Chlorides (AWWA 4500 Cl B), each	\$ 40.00
Red-ox (AWWA 2580 B), each.....	\$ 45.00
Sulfide (AWWA 4500-S S), each.....	\$ 25.00
Resistivity (ASTM G-57, Miller Box), each	\$ 65.00
Resistivity (AASHTO T-288, Miller Box), each.....	\$ 75.00
Resistivity (As Received, Miller Box), each.....	\$ 50.00
Thermal Resistivity Test with Proctor, each.....	\$ 1,000.00
Thermal Resistivity Test without Proctor, each.....	\$ 700.00
Thermal Resistivity each.....	\$ 1,100.00
Consolidated Drained Direct Shear point, each	\$ 650.00
Consolidation, each.....	\$ 600.00
Optimum moisture / maximum density relations (proctors)	
ASTM D-698, each	\$ 300.00
ASTM D-1557, each	\$ 350.00
Additional Charge for Coarse Aggregate Correction (ASTM D-1718), each.....	\$ 350.00
TXDOT 113E, each.....	\$ 225.00
TXDOT 114E, each.....	\$ 185.00
Relative density Min/Max (ASTM D-4253 & ASTM D-4254), each.....	\$ 250.00
Sample preparation (if required), each	\$ 350.00

Permeability (ASTM D-5084), each	\$ 350.00
Permeability, flexible membrane w/backpressure, Shelby tube sample, each	\$ 500.00
Permeability, flexible membrane w/backpressure, remolded sample, each	\$ 550.00
TXDOT wet ball mill value (TEX 116E), each	\$ 750.00
TXDOT triaxial series (TEX 117E), each	\$750.00
California Bearing Ratio (CBR) (ASTM D-1883), each	\$ 250.00
CBR, One Point, each.....	\$ 400.00
CBR, Three Point, each.....	\$ 700.00
CBR, Range of moisture content, nine points	\$ 2,100.00
Compressive Strength Tests including molding	
Fine grained soils (ASTM D-1633, Method A), each	\$ 55.00
Base material (TEX 120E), per specimen	\$ 85.00
Soil - Lime curve, 5 point PI vs. Lime content, each.....	\$ 350.00
Soil - Lime curve, 5 point pH vs. Lime content, each	\$ 250.00
Cement content (ASTM D-806), each.....	\$ 300.00
Fresh cement content (ASTM D-2901), each.....	\$ 75.00
Fresh cement content 3 point curve (ASTM D-2901), each.....	\$ 200.00
Compressive Strength of Cement Stabilized Sample (ASTM D-1633, Method A), each.....	\$ 60.00
Soluble Sulfates (TEX-145-E), each.....	\$ 30.00
Unconfined Compression, soil (TxDOT), each.....	\$ 150.00

Coring Services

Core drilling, minimum charge per trip, local, each	\$ 250.00
Concrete pavement cores, 4" diameter up to 6" depth or less, each	\$ 75.00
Concrete coring, additional thickness greater than 6" depth, per inch.....	\$ 10.00
Testing concrete cores (includes: length, sawing, capping and compression testing), each.....	\$ 75.00
Asphalt pavement cores 4" diameter up to 6" depth or less, each	\$ 50.00
Asphalt coring, additional thickness greater than 6" depth, per inch.....	\$ 8.00
Core hole patching charge, each	\$ 20.00
Core length measurement only (ASTM C-174), each	\$ 20.00
Standby time in clients interest, machine and operator, per hour	\$ 75.00
Structural Concrete Coring	By Quotation

Asphaltic Concrete Services

Molding specimens (TEX 206F), set of 3.....	\$ 65.00
Bulk specific gravity of lab molded specimens, set of 3	\$ 60.00
Bulk specific gravity of core specimen (TEX 207F), each.....	\$ 50.00
Maximum theoretical density (ASTM D-2041 or TEX 227F), each.....	\$ 130.00
Hveem stability (ASTM D-1560 or TEX 208F), set of 3	\$ 80.00
Marshall stability (ASTM D-1559), set of 3.....	\$ 145.00
Extraction (ASTM D-2172 or TEX 210F), each	\$ 235.00
Asphalt Content and Gradation (Ignition Oven Method), each	\$ 250.00
HMAC Mix Design (TEX 204F), each.....	\$1,400.00
HMAC Mix Design review prepared by others, each.....	\$ 250.00
Asphalt Coring, each.....	\$ 95.00
Asphalt Core Thickness & Density, each	\$ 50.00

Roofing Materials Services

Dissection Analysis of built-up roof cuts (ASTM D-2829, D-3617) with aggregate, each.....	\$ 300.00
Dissection Analysis of built-up roof cuts (ASTM D-2829, D-3617) without aggregate, each.....	\$ 250.00
Moisture content of roofing aggregate (ASTM D-1864), each	\$ 25.00
Hardness of roofing aggregate (ASTM D-1865), each.....	\$ 50.00

Structural Steel Services

Non-Destructive Testing (UT, MT and PT) Equipment & Consumables, day \$ 75.00

Spray Applied Fireproofing Services

Thickness measurements, per hour (Technician L3) \$ 85.00
 Density of spray applied fireproofing samples in field, each \$ 50.00
 Bond Strength (Cohesion/Adhesion) test, each \$ 80.00

GEOTECHNICAL ENGINEERING FEES

Drilling and Sampling Operations - Truck Mounted Drill Rig

Soil Borings, (sampling with 3-inch thin-wall tube sampler or 2-inch split barrel sampler; sampling continuously from surface to 10 feet; 5-foot intervals thereafter to 50 feet; 10-foot intervals thereafter below the 51 foot depth):

 0 to 50 feet, per linear foot \$18.00
 51 to 100 feet, per linear foot \$22.00
 101 to 150 feet, per linear foot \$30.00

Casing Installation/Removal (up to 10 feet), per linear foot \$8.00

Wash or Auger Boring in Soil (no samples taken), per linear foot \$10.00

 With 3-inch tube sample, each \$18.00

 With 2-inch split barrel sample, each \$20.00

Wash or Auger Boring in Rock (no samples taken), per linear foot \$14.00

 With 2-inch split barrel sample, each \$20.00

 With TxDOT Cone Test, each \$20.00

 With 2 or 3-inch NX core sample:

 Soft formation, per linear foot \$20.00

 Hard formation, per linear foot* \$25.00

 Core Bit Wear:

 Soft formation, per linear foot \$0.50

 Hard formation, per linear foot \$1.00

Rock Coring (2 or 3-inch NX core barrel sampler):

 Soft formation, per linear foot

 0 to 50 feet, per linear foot \$25.00

 51 to 100 feet, per linear foot \$30.00

 101 to 150 feet, per linear foot \$35.00

 Hard formation, per linear foot*

 0 to 50 feet, per linear foot \$30.00

 51 to 100 feet, per linear foot \$35.00

 101 to 150 feet, per linear foot \$40.00

 Core Bit Wear:

 Soft formation, per linear foot \$0.50

 Hard formation, per linear foot* \$1.00

Hourly Drilling Rate:

 3-man crew, per hour \$250.00

 2-man crew, per hour \$200.00

Rig Standby:

 3-man crew, per hour \$350.00

 2-man crew, per hour \$250.00

Grouting of Test Borings (maximum 6-inch nominal diameter hole):

 3-man crew, per hour \$250.00

 2-man crew, per hour \$200.00

 Materials, cost plus 15%

Standpipe/Observation Well Installation:

 3-man crew, per hour \$250.00

 2-man crew, per hour \$200.00

 Materials, cost plus 15%

(Special sampling techniques (piston samples, etc.) On request

Damaged or Lost Samplers, cost plus 15%

* For very hard rock formations such as granite, or unusual conditions such as karstic limestone, prices will be quoted upon request.

Mobilization, Travel Expenses and Site Access

Per Diem, per man, per day (Drill Crew).....	\$150.00
Mobilization of Drill Rig, each.....	\$500.00
Rental of Special Equipment for Site Access, etc., cost plus.....	15%
Private Utilities Locates, cost plus.....	15%
Traffic Control, cost plus.....	15%

GEOTECHNICAL LABORATORY TESTING SERVICES

Strength and Volume Change Tests

Unconfined Compression Tests:	
Soil, each.....	\$75.00
Rock, each.....	\$85.00
Vane Shear Test, each.....	\$25.00
Pocket Penetrometer, each.....	\$5.00
Triaxial Tests:	
Unconsolidated-Undrained, per stage.....	\$75.00
Consolidated-Undrained w/Pore Pressure Measurements, per stage.....	\$150.00
Consolidated-Undrained Cyclic Loading, per sample.....	\$400.00
Consolidated-Drained (Sands and Silts), per stage.....	\$125.00
Direct Shear Tests:	
Consolidated-Drained, per stage.....	\$275.00
Consolidated-Drained, Residual Strength, per stage.....	\$400.00
One-Dimensional Swell Tests:	
Free Swell (no load), each.....	\$100.00
Swell (with overburden load), each.....	\$150.00
Swell Pressure (multiple loading), per test.....	\$200.00
Consolidation Tests:	
Maximum of seven load increments with unloading, per test.....	\$650.00
Additional load increments, each.....	\$50.00

Classification Tests

Liquid and Plastic Limits:	
Single point test, each.....	\$85.00
Three-point test, each.....	\$120.00
Particle Size Analysis:	
Sieve Analysis through No. 200 Sieve, each.....	\$125.00
Percent Finer than No. 200 Sieve (Washed), each.....	\$95.00
Hydrometer Analysis, each.....	\$125.00

Other Tests and Miscellaneous Items

Water Content, each.....	\$15.00
Density of Undisturbed Samples:	
Soil, each.....	\$15.00
Rock, each.....	\$20.00
Specific Gravity, each.....	\$60.00
Organic Content, each.....	\$60.00
Permeability:	
Flexible Wall Test-Triaxial Cell, each.....	\$450.00

Falling Head, each..... \$200.00

General Comments

Tests not listed can be quoted on request.

Rush test results are subject to a surcharge.

Engineering consultation and evaluation in connection with any laboratory testing service will be charged at the appropriate rate.

Materials samples should be submitted in a form that complies with applicable requirements.

Prices quoted for concrete coring are for paving and flat work. Charges for coring structural concrete can be quoted on request.

Special supplies, permits, equipment, associated drilling, sampling, field testing, on site facilities, grading contractors, water trucks, bulldozers, security forces, surveyors or other support services will be billed at cost plus 20 percent.

All rented equipment and outside services not identified in the fee schedule will be billed at cost plus 20 percent for handling.

This is **EXHIBIT B**, consisting of [] pages, referred to in and part of the **Agreement between Owner and Engineer for Professional Services – Task Order Edition** dated [].

Owner's Responsibilities

Article 2 of the Agreement is amended and supplemented to include the following responsibilities unless expressly stated otherwise in a Task Order.

B2.01 Specific Responsibilities

A. Owner shall:

1. Provide Engineer with all criteria and full information as to Owner's requirements for the Specific Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations.
2. Give instructions to Engineer regarding Owner's procurement of construction services (including instructions regarding advertisements for bids, instructions to bidders, and requests for proposals, as applicable), Owner's construction contract practices and requirements, insurance and bonding requirements, electronic transmittals during construction, and other information necessary for the finalization of Owner's bidding-related documents (or requests for proposals or other construction procurement documents), and Construction Contract Documents. Furnish copies (or give specific directions requesting Engineer to use copies already in Engineer's possession) of all design and construction standards, Owner's standard forms, ~~general conditions (if other than modified version of EJCDC® C-700, Standard General Conditions of the Construction Contract, 2013 Edition)~~, supplementary conditions, text, and related documents and content for Engineer to include in the draft bidding-related documents (or requests for proposals or other construction procurement documents), and draft Construction Contract Documents, when applicable. Owner shall have responsibility for the final content of (1) such bidding-related documents (or requests for proposals or other construction procurement documents), and (2) those portions of any Construction Contract other than the design (as set forth in the Drawings, Specifications, or otherwise), and other engineering or technical matters; and Owner shall seek the advice of Owner's legal counsel, risk managers, and insurance advisors with respect to the drafting and content of such documents.
3. Furnish to Engineer any other available information pertinent to the Specific Project including reports and data relative to previous designs, construction, or investigation at or adjacent to the Site.
4. Following Engineer's assessment of initially-available Specific Project information and data and upon Engineer's request, obtain, furnish, or otherwise make available (if necessary through title searches, or retention of specialists or consultants) such additional Project-related information and data as is reasonably required to enable Engineer to complete its Basic and Additional Services. Such additional information or data would generally include the following:
 - a. Property descriptions.

Exhibit B– Owner's Responsibilities

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- b. Zoning, deed, and other land use restrictions.
 - c. Utility and topographic mapping and surveys.
 - d. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.
 - e. Explorations and tests of subsurface conditions at or adjacent to the Site; geotechnical reports and investigations; drawings of physical conditions relating to existing surface or subsurface structures at the Site; hydrographic surveys, laboratory tests and inspections of samples, materials, and equipment; with appropriate professional interpretation of such information or data.
 - f. Environmental assessments, audits, investigations, and impact statements, and other relevant environmental, historical, or cultural studies relevant to the Specific Project, the Site, and adjacent areas.
 - g. Data or consultations as required for the Project but not otherwise identified in this Agreement.
5. Arrange for safe access to and make all provisions for Engineer to enter upon public and private property as required for Engineer to perform services under the Agreement.
6. Recognizing and acknowledging that Engineer's services and expertise do not include the following services, provide, as required for the Project:
- a. Accounting, bond and financial advisory (including, if applicable, "municipal advisor" services as described in Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (2010) and the municipal advisor registration rules issued by the Securities and Exchange Commission), independent cost estimating, and insurance counseling services.
 - b. Legal services with regard to issues pertaining to the Project as Owner requires, Contractor raises, or Engineer reasonably requests.
 - c. Such auditing services as Owner requires to ascertain how or for what purpose Contractor has used the money paid.
7. Provide the services of an independent testing laboratory to perform all inspections, tests, and approvals of samples, materials, and equipment required by the Construction Contract Documents (other than those required to be furnished or arranged by Contractor), or to evaluate the performance of materials, equipment, and facilities of Owner, prior to their incorporation into the Work with appropriate professional interpretation thereof. Provide Engineer with the findings and reports generated by testing laboratories, including findings and reports obtained from or through Contractor.
8. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of the Project designed or specified by Engineer and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project.

9. Advise Engineer of the identity and scope of services of any independent consultants employed by Owner to perform or furnish services in regard to the Project, including, but not limited to, cost estimating, project peer review, value engineering, and constructibility review.
10. If Owner designates a construction manager or an individual or entity other than, or in addition to, Engineer to represent Owner at the Site, define and set forth as an attachment to this Exhibit B the duties, responsibilities, and limitations of authority of such other party and the relation thereof to the duties, responsibilities, and authority of Engineer.
11. If more than one prime contract is to be awarded for the Work designed or specified by Engineer, other work is to be performed at or adjacent to the Site by others or by employees of Owner, or if Owner arranges to have work performed at the Site by utility owners, then Owner shall coordinate such work unless Owner designates an individual or entity to have authority and responsibility for coordinating the activities among the various prime Contractors and others performing work. In such case Owner shall define and set forth the duties, responsibilities, and limitations of authority of such individual or entity and the relation thereof to the duties, responsibilities, and authority of Engineer as an attachment to this Exhibit B that is to be mutually agreed upon and made a part of this Agreement before such services begin.
12. Inform Engineer in writing of any specific requirements of safety or security programs that are applicable to Engineer, as a visitor to the Site.
13. Examine all alternative solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents presented by Engineer (including obtaining advice of an attorney, risk manager, insurance counselor, financial/municipal advisor, and other advisors or consultants as Owner deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.
14. Inform Engineer regarding any need for assistance in evaluating the possible use of Project Strategies, Technologies, and Techniques, as defined in Exhibit A.
15. Advise Engineer as to whether Engineer's assistance is requested in identifying opportunities for enhancing the sustainability of the Project.
16. Place and pay for advertisement for Bids in appropriate publications.
17. Furnish to Engineer data as to Owner's anticipated costs for services to be provided by others (including, but not limited to, accounting, bond and financial, independent cost estimating, insurance counseling, and legal advice) for Owner so that Engineer may assist Owner in collating the various cost categories which comprise Total Project Costs.
18. Attend and participate in the pre-bid conference, bid opening, pre-construction conferences, construction progress and other job related meetings, and Site visits to determine Substantial Completion and readiness of the completed Work for final payment.
19. Authorize Engineer to provide Additional Services as set forth in Part 2 of Exhibit A of the Agreement, as required.

Exhibit B—Owner's Responsibilities

EJCDC® E-505, Agreement Between Owner and Engineer for Professional Services – Task Order Edition.
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20. Perform or provide the following: *[Here list any additional Owner responsibilities]*.