



DATE: July 18, 2023

**CONSENT**

**AGENDA ITEM:** Approve Geotechnical Services for 2024 CIP Infrastructure Projects.

**SUBMITTED BY:** Jack Griffin, City Engineer

**REVIEWED BY:** Kristina Handt, City Administrator  
Chad Isakson, Assistant City Engineer  
Mike Rusenovich, Project Engineer

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**ISSUE BEFORE COUNCIL:** Should the City Council approve a contract to complete geotechnical services for the 2024 CIP Infrastructure Projects?

**PROPOSAL DETAILS/ANALYSIS:** Staff received proposals from both American Engineering Testing (AET) and Braun Intertec to complete subsurface explorations for pavement and utility improvements to be completed as part of the city's 2024 CIP projects, and to provide design recommendations based on existing soil conditions. These projects include the following:

1. 2024 Street and Utility Improvements (Carriage Station and Jamaca Court).
2. 15th Street Improvements.
3. 30th Street Gap Segment Improvements.
4. Hudson Boulevard Gap Segment Street Improvements.
5. Homestead Street and Utility Improvements.
6. Stillwater Boulevard (CSAH 14) Trunk Watermain Improvements.

Both companies submitted initial proposals with delivery schedules extending into late fall. After discussing the project schedules and priorities, and requesting revised schedules for the more time sensitive parts of the work, the city engineer is recommending a contract be awarded to Braun Intertec. In addition to accelerating the project schedule for the preliminary recommendations for the 2024 Street Improvements, Braun Intertec's proposal represented a slightly more thorough and responsive scope of work. Braun Intertec. included a total fee of \$65,367 and AET's proposal included a total fee of \$59,951.85.

**FISCAL IMPACT:** \$65,367.00. This amount represents the total design phase geotechnical services fees needed for each of the 6 CIP infrastructure projects programmed for 2024. The appropriate costs will be assigned to each project. Two of the listed projects are anticipated to be funded through 3M Grant Agreements.

**RECOMMENDATION:** Staff is recommending that the City Council approve, *as part of the Consent Agenda*, a geotechnical services contract with Braun Intertec for the 2024 CIP Infrastructure Projects in the not to exceed amount of \$65,367.00. If removed from the consent agenda, the recommended motion for the action is as follows:

***“Move to approve a geotechnical services contract with Braun Intertec for the 2024 CIP Infrastructure Projects in the not to exceed amount of \$65,367.00”.***

**ATTACHMENTS:**

1. AET Proposal for Geotechnical Services for 2024 CIP Projects.
2. Braun Intertec Proposal for Geotechnical Services for 2024 CIP Projects.

July 12, 2023



City of Lake Elmo  
3880 Laverne Avenue North, Suite 100  
Lake Elmo, MN 55042-9599

Attn: Mr. Mike Rusenovich, PE, Project Engineer  
[mike.rusenovich@focusengineeringinc.com](mailto:mike.rusenovich@focusengineeringinc.com)

RE: Proposal for Geotechnical Exploration  
2024 CIP Projects  
Lake Elmo, Minnesota  
AET Proposal No. P-0024783

Dear Mr. Rusenovich:

American Engineering Testing, Inc. (AET) is pleased to submit a proposal to the city of Lake Elmo (the City) for this project. In this proposal, we present our understanding of the project, an outline of our scope of services, a fee schedule, and an estimate of charges for our services.

## PURPOSE

The purpose of these services is to explore pavement and subsurface conditions at the site. Based on our characterization of the data obtained from our field exploration, we will prepare a geotechnical engineering report presenting comments and recommendations to assist the project team in design and construction of the above referenced project.

## PROJECT DESCRIPTION

The City is proposing pavement and utility improvements during the 2024 construction season for the following project areas:

### **Homestead Street & Utility Improvements, Project No. 2023.112**

The proposed pavement improvements include the reconstruction of approximately 0.6 miles of residential streets with new curb and gutter. The grade is anticipated to remain within ½ foot of the current grade. The utility improvements include 8-inch watermain which will be either be installed by either directionally drilling, open-cut trenches, or a combination. The depth of the watermain has not been provided. However, we assume it will be placed at a depth of 7 feet or shallower.

### **2024 Street and Utility Improvements, Project No. 2023.111**

The proposed pavement improvements include a combination of reclaim and reconstruction of residential streets with new curb and gutter along Jamaca Ct N and within the Carriage Station neighborhood. The grade is anticipated to remain within ½ foot of the current grade. The utility improvements include 12-inch watermain which will be either be installed by either directionally

**550 Cleveland Avenue North | Saint Paul, MN 55114**

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drilling, open-cut trenches, or a combination. However, we assume it will be placed at a depth of 7 feet or shallower.

### **CSAH 14 Trunk Watermain Improvements, Project No. 2023.113**

The City is planning the reconstruction of 1.6 miles of roadway along Stillwater Blvd (CSAH 14) and Stillwater Lane. The grade is anticipated to remain within ½ foot of the current grade. Additionally, a watermain will be replaced and will be installed using either directionally drilling, open-cut trenches, or a combination. However, we assume it will be placed at a depth of 7 feet or shallower.

### **15th Street Improvements**

The proposed pavement improvements include the reclamation of 0.5 miles of 15<sup>th</sup> Street between the County line and Inwood Avenue. The grade is anticipated to remain within ½ foot of the current grade.

### **30th Street Gap Segment Street Improvements**

The proposed pavement improvements include the reclamation of 0.15 miles of 30<sup>th</sup> Street between Lisbon Ave and Village Parkway. The grade is anticipated to remain within ½ foot of the current grade.

### **Hudson Boulevard Gap Segment Street Improvements**

The proposed pavement improvements include the reclamation or a mill & overlay of 0.65 miles (two segments) of Hudson Blvd between Inwood Ave and Eagle Point Blvd and between about 900 feet east of Eagle Point Blvd and 1300 feet west of Julia Ave N.

## **SCOPE OF SERVICES**

### **Ground Penetrating Radar Testing**

We will perform a GPR survey in the drive lanes for all road segments except CSAH 14. GPR is a non-destructive pavement testing method that scans the pavement up to 4 times per foot (3-inch intervals) using our GSSI Roadscan Equipment mounted to the back of a pick-up truck. Each scan produces the depth of the bituminous and aggregate base (if visible) at that location. The GPR data is correlated to the physical layer measurements of the pavement using pavement cores and aggregate base thickness obtained from borings. The GPR scans are connected to a global positioning system (GPS) unit, and we will provide a table with bituminous thickness and aggregate base thickness (if visible).

### **Falling Weight Deflectometer (FWD) Testing**

Falling Weight Deflectometer (FWD) testing is a form of non-destructive testing used to estimate the strength of the existing road core. We will perform FWD testing staggered in each direction of travel at approximately 1/10th-mile spacings. The testing will be conducted using the standard 9 sensor Strategic Highway Research Program (SHRP) spacing and at 6,000- and 9,000-pounds force. FWD testing provides data that allows the calculation of spring load capacity and subgrade modulus, from which we can more accurately assess the required reconstruction or rehabilitation

method utilized. The FWD data collection system is linked to GPS coordinates. A crash truck attenuator will follow our FWD vehicle for the non-residential streets for safety.

### **Field Exploration**

- Mark soil boring locations in the field.
- Obtain the necessary Lake Elmo and Washington County right-of-way permits for drilling, if required. We have assumed there is no charge for the permits.
- Arrange clearance of underground public utilities.
- Perform a total of 43 Standard Penetration Test (SPT) soil borings.
  - Homestead Street & Utility Improvements, Project No. 2023.112
    - Perform 7 standard penetration test borings to depths of 9 feet.
    - Obtain pavement cores at each location.
  - 2024 Street and Utility Improvements, Project No. 2023.111
    - Perform 6 standard penetration test borings to depths of 5 feet in reclaim areas.
    - Perform 4 standard penetration test borings to depths of 9 feet in reconstruction/watermain areas.
    - Obtain pavement cores at all 10 locations.
    - Perform a curb condition survey noting areas of cracked/broken curbs.
  - CSAH 14 Trunk Watermain Improvements, Project No. 2023.113
    - Perform 12 standard penetration test borings to depths of 9 feet along CSAH 14 (county right-of-way).
    - Perform 5 standard penetration test borings to depths of 9 feet along Stillwater Lane North (city right-of-way).
    - Obtain pavement cores at the 5 locations along Stillwater Lane.
  - 15th Street Improvements
    - Perform 3 standard penetration test borings to depths of 5 feet.
    - Obtain pavement cores at each location.
  - 30th Street Gap Segment Street Improvements
    - Perform 1 standard penetration test boring to a depth of 5 feet.
    - Obtain a pavement core.
  - Hudson Boulevard Gap Segment Street Improvements
    - Perform 5 standard penetration test borings to depths of 5 feet.
    - Obtain pavement cores at each location.
- Backfill the boreholes per Minnesota Department of Health (MDH) requirements.
- Patch the street surface with cold-mix bituminous.
- Document the final soil boring locations and elevations using a GPS unit with submeter accuracy.

We will provide traffic control via a subcontractor in accordance with the Minnesota Manual of Uniform Traffic Control Devices (MN MUTCD). We anticipate Layout 16, a 2-flagger control operation will be used for non-residential roads. However, along residential roads, we assume traffic signs and cones will be sufficient.

Before we drill, we will contact Gopher State One Call to locate public underground utilities. Gopher State One Call does not currently charge for this service, but they will not locate private underground utilities or structures. The marking of any private utilities must be arranged by the property owner prior to our drill crew mobilization. Please see our discussion regarding private underground utilities later in this proposal.

We will drill the borings using hollow stem augers or by rotary mud drilling, with sampling by the split-barrel method (ASTM D1586). Our crew will keep field logs noting the methods of drilling and sampling, the Standard Penetration Values (N-values, “blows per foot”), preliminary soil classification, and observed groundwater levels. We will collect samples at 2.5-foot intervals to the planned termination depths. Representative portions of recovered samples will be sealed in jars or bags to prevent moisture loss and submitted to our laboratory for review, testing, and final classification.

We will backfill the boreholes to comply with State requirements. Even after backfilling, some sloughing of the backfill may occur, resulting in a potential tripping hazard to pedestrians. We assume the City will backfill and repair any boreholes that may slough after our exploration is complete. AET cannot accept any liability associated with pedestrian injury. We assume the boring locations are readily accessible by our truck-mounted drill rig.

### **Laboratory Testing**

We will initiate routine laboratory testing by reviewing each recovered soil sample to assess the major and minor soil components, while also noting the color, degree of saturation, and lenses or seams in the samples. We also propose to perform moisture content tests on cohesive soils, as well as percent passing the #200 sieve, sieve analyses, and possibly organic content testing.

On completion of testing, we will visually/manually classify the soils according to the USCS and AASHTO soil classification systems. We will then prepare the final subsurface boring logs.

### **Report**

Following the field and laboratory services, six separate reports will be prepared and submitted. The reports will include a final GPR analysis for the bituminous pavement thickness and possible aggregate base thickness (if visible), FWD analyses including R-values and load carrying capacities, subsurface boring logs of the soil borings, pavement core logs, the laboratory test results, summary statistics of the GPR data and maps, a review of the engineering properties of the on-site soils and our geotechnical engineering opinions and recommendations regarding the following:

- A summary of the existing pavement, aggregate base, and subbase (if encountered) thickness encountered at the boring locations.
- A review of the soil and groundwater conditions encountered, as well as pertinent engineering properties of the soils.
- Discussion of recommended rehabilitation options including reconstruction, mill & overlay and FDR (as applicable).



- Pavement section thickness designs based on an estimated R-value.
- Utility recommendations including bedding, backfill requirements, and the suitability of horizontal directional drilling (as applicable).
- Comments on other items which may affect final performance or constructability, such as frost heave, settlement, drainage, and dewatering considerations.

Additionally, for the 2024 Street and Utility Improvements project, the report will include an in-place curb condition summary with an approximate percentage of the curb recommended to be replaced and the feasibility of leaving portions in place.

## SCHEDULE

Weather permitting and based on our current backlog, we anticipate the GPR and FWD field services can be completed within three weeks following authorization to proceed. The drilling can be completed within 5 weeks following authorization to proceed. Laboratory testing can be completed about two weeks after completion of the field services. The first geotechnical report should be submitted within 2 weeks following the laboratory testing. The remaining 5 reports should be submitting at about 2 per week following the first report.

Assuming an authorization date of July 19, 2023, our anticipated schedule is:

- August 9, 2023 – GPR and FWD field services completed.
- August 23, 2023 – Drilling field services completed.
- September 6, 2023 – Laboratory testing completed.
- September 20, 2023 – First of six geotechnical reports submitted (1 of 6).
- September 27, 2023 – 2 more geotechnical reports submitted (3 of 6).
- October 4, 2023 – 2 more geotechnical reports submitted (5 of 6).
- October 11, 2023 – Sixth geotechnical report submitted (6 of 6).

## FEES

The scope of services defined above will be performed on a time and materials basis in accordance with the attached Fee Estimates and the breakdown below.

1. Homestead Street & Utility Improvements, Project No. 2023.112	\$ 8,732.25
2. 2024 Street and Utility Improvements, Project No. 2023.111	\$11,419.00
3. CSAH 14 Trunk Watermain Improvements, Project No. 2023.113	\$18,443.50
4. 15th Street Improvements	\$ 7,219.60
5. 30th Street Gap Segment Street Improvements	\$ 5,907.20
6. Hudson Boulevard Gap Segment Street Improvements	<u>\$ 8,230.30</u>
<b>TOTAL ESTIMATE</b>	<b>\$59,951.85</b>



Please note that that above fee estimates assume that all 6 project areas will be included in the finalized contract and the mobilizations can be combined.

In the event the scope of our services needs to be revised, such as additional or deeper borings and additional field or laboratory testing, we will review such scope adjustments and the associated fees with you and receive your approval before proceeding. Additional services will be charged in accordance with the attached fee schedule. Our fees will be in effect for thirty days following the date of this proposal, and fees for services authorized after this expiration date will be subject to review and possible escalation.

## UNDERGROUND UTILITIES

Prior to drilling, we will contact Gopher State One Call to locate public underground utilities; however, Gopher State One Call will not locate private underground utilities or structures. Examples of private utilities include, but are not limited to, propane lines, sewer laterals, sprinkler systems, site lighting, and electric and data lines between buildings. **Gopher State One Call states that the property owner is responsible for locating all private underground utilities and structures.** Please provide us with any maps, plans, and/or records showing the location of all private utilities and structures.

We can provide you with names and contact information for private utility locators. These companies usually charge a fee for their services. Also, please note that private locators cannot guarantee that all private utilities will be located. For the private locator to be accurate and effective, the property owner must provide maps, plans and records showing the location of all private utilities and structures. The property owner must also provide a knowledgeable site representative to meet with the private locator and AET personnel.

AET shall be entitled to rely upon the accuracy of all location information supplied by any source. We will not be responsible for any damages to underground utilities or structures not located or incorrectly identified by the property owner, any maps, plans or records, or public or private utility locator providers.

## ENVIRONMENTAL CONCERNS

This proposal is presented for engineering services to evaluate the structural properties of the soil at the specified site. This proposal does not cover an environmental assessment of the site or environmental testing of the soil or groundwater. If you wish to have us provide these additional services, please contact us.

## TERMS AND CONDITIONS

All AET Services are provided subject to the Terms and Conditions set forth in the enclosed “Environmental/Geotechnical Service Agreement—Terms and Conditions,” which, upon acceptance of this proposal, are binding upon you as the Client requesting Services, and your successors, assignees, joint venturers and third-party beneficiaries. Please be advised that additional insured status is granted upon acceptance of the proposal.

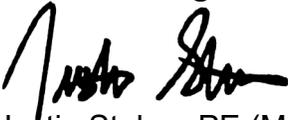


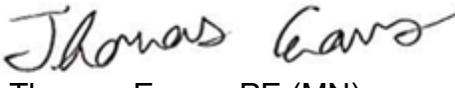
## ACCEPTANCE

This proposal is presented in electronic (PDF) form; hard copies can be prepared and mailed to your office upon request. AET requests written acceptance of this proposal in the proposal acceptance box below, but the following actions shall constitute your acceptance of this proposal together with the Terms and Conditions and Amendments: 1) issuing an authorizing purchase order for any of the Services described above, 2) authorizing AET's presence on site, or 3) written or electronic notification for AET to proceed with any of the Services described in this proposal. Please indicate your acceptance of this proposal by signing below and returning a copy to us. When you accept this proposal, you represent that you are authorized to accept on behalf of the Client.

We have enclosed with this proposal a copy of the "Environmental/Geotechnical Service Agreement – Terms and Conditions." The terms contained in the attached "Environmental/Geotechnical Service Agreement – Terms and Conditions" are incorporated herein and are an integral part of this contract for professional engineering services.

Sincerely,  
**American Engineering Testing, Inc.**

  
Justin Staker, PE (MN)  
Engineer II  
[jstaker@teamAET.com](mailto:jstaker@teamAET.com)  
Phone: (651) 523-1265

  
Thomas Evans, PE (MN)  
Senior Engineer  
[tevans@teamAET.com](mailto:tevans@teamAET.com)  
Phone: (701) 690-9732

Attachments: Fee Estimates  
Environmental/Geotechnical Service Agreement – Terms and Conditions

### ACCEPTANCE AND AUTHORIZATION: AET Proposal No. P-0024783

SIGNATURE: \_\_\_\_\_  
PRINTED NAME: \_\_\_\_\_  
COMPANY: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PHONE NUMBER AND EMAIL: \_\_\_\_\_  
DATE: \_\_\_\_\_

### INVOICING INFORMATION (Provide Company AP Department Information, if present.)

AP CONTACT NAME: \_\_\_\_\_  
BILLING/MAILING ADDRESS: \_\_\_\_\_

City of Lake Elmo – 2024 CIP Projects  
P-0024783  
July 12, 2023  
Page 8 of 8



AP PHONE NUMBER AND INVOICE EMAIL: \_\_\_\_\_

P.O. NO./ PROJECT NO.: \_\_\_\_\_

GEOTECHNICAL SERVICES FEE ESTIMATE  
 HOMESTEAD STREET AND UTILITY IMPROVEMENTS  
 14TH ST N  
 LAKE ELMO, MINNESOTA  
 AET PROPOSAL No. P-0024783



SERVICE DESCRIPTION	PROJECT BUDGET		
	ESTIMATED UNITS	UNIT RATE	BUDGET AMOUNT
<b>Layout &amp; Utility Clearance</b>			
Drilling Technician	1.5 hours	\$120.00	\$180.00
Auxiliary Vehicle Rental	1.5 hours	\$35.00	\$52.50
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
GPS Equipment	0.25 days	\$200.00	\$50.00
<b>Section Subtotal:</b>			<b>\$297.50</b>
<b>Geotechnical Field Services</b>			
<b>Hourly Drilling</b>			
Drilling Technician	16 hours	\$120.00	\$1,920.00
Coring Equipment - Hourly	8 hours	\$70.00	\$560.00
Truck with Drill Rig Rental	8 hours	\$110.00	\$880.00
Auxiliary Vehicle Mileage	50 miles	\$1.50	\$75.00
Truck with Drill Rig Mileage	50 miles	\$1.75	\$87.50
<b>Section Subtotal:</b>			<b>\$3,522.50</b>
<b>Ground Penetrating Radar</b>			
Technician, Level II	1 hours	\$110.00	\$110.00
Ground Penetrating Radar (testing)	0.25 hours	\$110.00	\$27.50
Ground Penetrating Radar (travel)	0.25 hours	\$60.00	\$15.00
HD Camera	0.25 days	\$130.00	\$32.50
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
<b>Section Subtotal:</b>			<b>\$200.00</b>
<b>Falling Weight Deflectometer</b>			
Technician, Level II	1 hours	\$110.00	\$110.00
Falling Weight Deflectometer with Truck (testing)	0.25 hours	\$235.00	\$58.75
Falling Weight Deflectometer Including Truck (travel)	0.25 hours	\$120.00	\$30.00
Auxiliary Vehicle Mileage	7 hours	\$1.50	\$10.50
Technician, Level II (Shadow Vehicle Driver)	0 hours	\$110.00	\$0.00
Truck with Warning Sign/Crash Trailer Rental	0 hours	\$52.00	\$0.00
Truck with Warning Sign/Crash Trailer Mileage	0 hours	\$1.60	\$0.00
<b>Section Subtotal:</b>			<b>\$209.25</b>
<b>Traffic Control</b>			
Traffic Control Signs Rental	1 days	\$150.00	\$150.00
Subcontractor	0 each		\$0.00
<b>Section Subtotal:</b>			<b>\$150.00</b>
<b>Laboratory</b>			
Classification	6 hours	\$130.00	\$780.00
ASTM D6913 Sieve Analysis of Soils	3 tests	\$127.00	\$381.00
ASTM D1140 Material Finer Than No. 200 Sieve in Soils	2 tests	\$61.00	\$122.00
ASTM D2974 Moisture, Ash and Organic Matter of Peat & Organic Soils	1 tests	\$90.00	\$90.00
<b>Section Subtotal:</b>			<b>\$1,373.00</b>
<b>Project Management &amp; Reporting</b>			
Project Administrator	3 hours	\$80.00	\$240.00
Engineer I	1.5 hours	\$160.00	\$240.00
Engineer II	9 hours	\$180.00	\$1,620.00
Senior Engineer	3 hours	\$210.00	\$630.00
Principal Engineer	1 hours	\$250.00	\$250.00
<b>Section Subtotal:</b>			<b>\$2,980.00</b>
<b>ESTIMATED BUDGET</b>			<b>\$8,732.25</b>

GEOTECHNICAL SERVICES FEE ESTIMATE  
 2024 STREET AND UTILITY IMPROVEMENTS  
 CARRIAGE STATION AND JAMACA CT  
 LAKE ELMO, MINNESOTA  
 AET PROPOSAL No. P-0024784



SERVICE DESCRIPTION	PROJECT BUDGET		
	ESTIMATED UNITS	UNIT RATE	BUDGET AMOUNT
<b>Layout &amp; Utility Clearance</b>			
Drilling Technician	1.5 hours	\$120.00	\$180.00
Auxiliary Vehicle Rental	1.5 hours	\$35.00	\$52.50
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
GPS Equipment	0.25 days	\$200.00	\$50.00
<b>Section Subtotal:</b>			<b>\$297.50</b>
<b>Geotechnical Field Services</b>			
<b>Hourly Drilling</b>			
Drilling Technician	16 hours	\$120.00	\$1,920.00
Coring Equipment - Hourly	8 hours	\$70.00	\$560.00
Truck with Drill Rig Rental	8 hours	\$110.00	\$880.00
Auxiliary Vehicle Mileage	60 miles	\$1.50	\$90.00
Truck with Drill Rig Mileage	60 miles	\$1.75	\$105.00
<b>Section Subtotal:</b>			<b>\$3,555.00</b>
<b>Ground Penetrating Radar</b>			
Technician, Level II	2 hours	\$110.00	\$220.00
Ground Penetrating Radar (testing)	0.5 hours	\$110.00	\$55.00
Ground Penetrating Radar (travel)	0.5 hours	\$60.00	\$30.00
HD Camera	0.25 days	\$130.00	\$32.50
Auxiliary Vehicle Mileage	20 miles	\$1.50	\$30.00
<b>Section Subtotal:</b>			<b>\$367.50</b>
<b>Falling Weight Deflectometer</b>			
Technician, Level II	2 hours	\$110.00	\$220.00
Falling Weight Deflectometer with Truck (testing)	0.5 hours	\$235.00	\$117.50
Falling Weight Deflectometer Including Truck (travel)	0.75 hours	\$120.00	\$90.00
Auxiliary Vehicle Mileage	14 hours	\$1.50	\$21.00
Technician, Level II (Shadow Vehicle Driver)	0 hours	\$110.00	\$0.00
Truck with Warning Sign/Crash Trailer Rental	0 hours	\$52.00	\$0.00
Truck with Warning Sign/Crash Trailer Mileage	0 hours	\$1.60	\$0.00
<b>Section Subtotal:</b>			<b>\$448.50</b>
<b>Traffic Control</b>			
Traffic Control Signs Rental	1 days	\$150.00	\$150.00
Subcontractor	0 each		\$0.00
<b>Section Subtotal:</b>			<b>\$150.00</b>
<b>Laboratory</b>			
Classification	6 hours	\$130.00	\$780.00
ASTM D6913 Sieve Analysis of Soils	5 tests	\$127.00	\$635.00
ASTM D1140 Material Finer Than No. 200 Sieve in Soils	3 tests	\$61.00	\$183.00
ASTM D2974 Moisture, Ash and Organic Matter of Peat & Organic Soils	1 tests	\$90.00	\$90.00
<b>Section Subtotal:</b>			<b>\$1,688.00</b>
<b>Project Management &amp; Reporting</b>			
Project Administrator	3 hours	\$80.00	\$240.00
Engineer I	3 hours	\$160.00	\$480.00
Engineer II	12 hours	\$180.00	\$2,160.00
Senior Engineer	7 hours	\$210.00	\$1,470.00
Principal Engineer	2 hours	\$250.00	\$500.00
Standard Vehicle Mileage	50 miles	\$1.25	\$62.50
<b>Section Subtotal:</b>			<b>\$4,912.50</b>
<b>ESTIMATED BUDGET</b>			<b>\$11,419.00</b>

GEOTECHNICAL SERVICES FEE ESTIMATE  
 CSAH 14 TRUNK WATERMAIN IMPROVEMENTS  
 STILLWATER BLVD  
 LAKE ELMO, MINNESOTA  
 AET PROPOSAL No. P-0024785



SERVICE DESCRIPTION	PROJECT BUDGET		
	ESTIMATED UNITS	UNIT RATE	BUDGET AMOUNT
<b>Layout &amp; Utility Clearance</b>			
Drilling Technician	3 hours	\$120.00	\$360.00
Auxiliary Vehicle Rental	3 hours	\$35.00	\$105.00
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
GPS Equipment	0.25 days	\$200.00	\$50.00
<b>Section Subtotal:</b>			<b>\$530.00</b>
<b>Geotechnical Field Services</b>			
<b>Hourly Drilling</b>			
Drilling Technician	32 hours	\$120.00	\$3,840.00
Coring Equipment - Hourly	16 hours	\$70.00	\$1,120.00
Truck with Drill Rig Rental	16 hours	\$110.00	\$1,760.00
Auxiliary Vehicle Mileage	100 miles	\$1.50	\$150.00
Truck with Drill Rig Mileage	100 miles	\$1.75	\$175.00
<b>Section Subtotal:</b>			<b>\$7,045.00</b>
<b>Ground Penetrating Radar</b>			
Technician, Level II	1.75 hours	\$110.00	\$192.50
Ground Penetrating Radar (testing)	0.5 hours	\$110.00	\$55.00
Ground Penetrating Radar (travel)	0.5 hours	\$60.00	\$30.00
HD Camera	0.5 days	\$130.00	\$65.00
Auxiliary Vehicle Mileage	15 miles	\$1.50	\$22.50
<b>Section Subtotal:</b>			<b>\$365.00</b>
<b>Falling Weight Deflectometer</b>			
Technician, Level II	1.75 hours	\$110.00	\$192.50
Falling Weight Deflectometer with Truck (testing)	0.5 hours	\$235.00	\$117.50
Falling Weight Deflectometer Including Truck (travel)	0.5 hours	\$120.00	\$60.00
Auxiliary Vehicle Mileage	15 hours	\$1.50	\$22.50
Technician, Level II (Shadow Vehicle Driver)	0 hours	\$110.00	\$0.00
Truck with Warning Sign/Crash Trailer Rental	0 hours	\$52.00	\$0.00
Truck with Warning Sign/Crash Trailer Mileage	0 hours	\$1.60	\$0.00
<b>Section Subtotal:</b>			<b>\$392.50</b>
<b>Traffic Control</b>			
Traffic Control Signs Rental	1 days	\$150.00	\$150.00
Subcontractor	1.5 each	\$2,500.00	\$3,750.00
<b>Section Subtotal:</b>			<b>\$3,900.00</b>
<b>Laboratory</b>			
Classification	9 hours	\$130.00	\$1,170.00
ASTM D6913 Sieve Analysis of Soils	4 tests	\$127.00	\$508.00
ASTM D1140 Material Finer Than No. 200 Sieve in Soils	3 tests	\$61.00	\$183.00
ASTM D2974 Moisture, Ash and Organic Matter of Peat & Organic Soils	1 tests	\$90.00	\$90.00
<b>Section Subtotal:</b>			<b>\$1,951.00</b>
<b>Project Management &amp; Reporting</b>			
Project Administrator	5 hours	\$80.00	\$400.00
Engineer I	3 hours	\$160.00	\$480.00
Engineer II	9 hours	\$180.00	\$1,620.00
Senior Engineer	6 hours	\$210.00	\$1,260.00
Principal Engineer	2 hours	\$250.00	\$500.00
<b>Section Subtotal:</b>			<b>\$4,260.00</b>
<b>ESTIMATED BUDGET</b>			<b>\$18,443.50</b>

GEOTECHNICAL SERVICES FEE ESTIMATE  
 15TH STREET IMPROVEMENTS  
 15TH STREET AND INWOOD AVENUE  
 LAKE ELMO, MINNESOTA  
 AET PROPOSAL No. P-0024786



SERVICE DESCRIPTION	PROJECT BUDGET		
	ESTIMATED UNITS	UNIT RATE	BUDGET AMOUNT
<b>Layout &amp; Utility Clearance</b>			
Drilling Technician	1 hours	\$120.00	\$120.00
Auxiliary Vehicle Rental	1 hours	\$35.00	\$35.00
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
GPS Equipment	0.25 days	\$200.00	\$50.00
<b>Section Subtotal:</b>			<b>\$220.00</b>
<b>Geotechnical Field Services</b>			
Hourly Drilling			
Drilling Technician	8 hours	\$120.00	\$960.00
Coring Equipment - Hourly	4 hours	\$70.00	\$280.00
Truck with Drill Rig Rental	4 hours	\$110.00	\$440.00
Auxiliary Vehicle Mileage	25 miles	\$1.50	\$37.50
Truck with Drill Rig Mileage	25 miles	\$1.75	\$43.75
<b>Section Subtotal:</b>			<b>\$1,761.25</b>
<b>Ground Penetrating Radar</b>			
Technician, Level II	0.75 hours	\$110.00	\$82.50
Ground Penetrating Radar (testing)	0.25 hours	\$110.00	\$27.50
Ground Penetrating Radar (travel)	0.25 hours	\$60.00	\$15.00
HD Camera	0.25 days	\$130.00	\$32.50
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
<b>Section Subtotal:</b>			<b>\$172.50</b>
<b>Falling Weight Deflectometer</b>			
Technician, Level II	0.75 hours	\$110.00	\$82.50
Falling Weight Deflectometer with Truck (testing)	0.25 hours	\$235.00	\$58.75
Falling Weight Deflectometer Including Truck (travel)	0.25 hours	\$120.00	\$30.00
Auxiliary Vehicle Mileage	6 hours	\$1.50	\$9.00
Technician, Level II (Shadow Vehicle Driver)	0.5 hours	\$110.00	\$55.00
Truck with Warning Sign/Crash Trailer Rental	0.5 hours	\$52.00	\$26.00
Truck with Warning Sign/Crash Trailer Mileage	6 miles	\$1.60	\$9.60
<b>Section Subtotal:</b>			<b>\$270.85</b>
<b>Traffic Control</b>			
Traffic Control Signs Rental	0 days	\$150.00	\$0.00
Subcontractor	0.5 each	\$2,500.00	\$1,250.00
<b>Section Subtotal:</b>			<b>\$1,250.00</b>
<b>Laboratory</b>			
Classification	3 hours	\$130.00	\$390.00
ASTM D6913 Sieve Analysis of Soils	2 tests	\$127.00	\$254.00
ASTM D1140 Material Finer Than No. 200 Sieve in Soils	1 tests	\$61.00	\$61.00
ASTM D2974 Moisture, Ash and Organic Matter of Peat & Organic Soils	1 tests	\$90.00	\$90.00
<b>Section Subtotal:</b>			<b>\$795.00</b>
<b>Project Management &amp; Reporting</b>			
Project Administrator	2 hours	\$80.00	\$160.00
Engineer I	1.5 hours	\$160.00	\$240.00
Engineer II	7 hours	\$180.00	\$1,260.00
Senior Engineer	4 hours	\$210.00	\$840.00
Principal Engineer	1 hours	\$250.00	\$250.00
<b>Section Subtotal:</b>			<b>\$2,750.00</b>
<b>ESTIMATED BUDGET</b>			<b>\$7,219.60</b>

GEOTECHNICAL SERVICES FEE ESTIMATE  
 30TH STREET GAP SEGMENT STREET IMPROVEMENTS  
 LISBON AVE TO VILLAGE PARKWAY  
 LAKE ELMO, MINNESOTA  
 AET PROPOSAL No. P-0024787



SERVICE DESCRIPTION	PROJECT BUDGET		
	ESTIMATED UNITS	UNIT RATE	BUDGET AMOUNT
<b>Layout &amp; Utility Clearance</b>			
Drilling Technician	1 hours	\$120.00	\$120.00
Auxiliary Vehicle Rental	1 hours	\$35.00	\$35.00
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
GPS Equipment	0.25 days	\$200.00	\$50.00
<b>Section Subtotal:</b>			<b>\$220.00</b>
<b>Geotechnical Field Services</b>			
<b>Hourly Drilling</b>			
Drilling Technician	4 hours	\$120.00	\$480.00
Coring Equipment - Hourly	2 hours	\$70.00	\$140.00
Truck with Drill Rig Rental	2 hours	\$110.00	\$220.00
Auxiliary Vehicle Mileage	25 miles	\$1.50	\$37.50
Truck with Drill Rig Mileage	25 miles	\$1.75	\$43.75
<b>Section Subtotal:</b>			<b>\$921.25</b>
<b>Ground Penetrating Radar</b>			
Technician, Level II	0.25 hours	\$110.00	\$27.50
Ground Penetrating Radar (testing)	0.25 hours	\$110.00	\$27.50
Ground Penetrating Radar (travel)	0.25 hours	\$60.00	\$15.00
HD Camera	0 days	\$130.00	\$0.00
Auxiliary Vehicle Mileage	3 miles	\$1.50	\$4.50
<b>Section Subtotal:</b>			<b>\$74.50</b>
<b>Falling Weight Deflectometer</b>			
Technician, Level II	0.25 hours	\$110.00	\$27.50
Falling Weight Deflectometer with Truck (testing)	0.25 hours	\$235.00	\$58.75
Falling Weight Deflectometer Including Truck (travel)	0.25 hours	\$120.00	\$30.00
Auxiliary Vehicle Mileage	2 hours	\$1.50	\$3.00
Technician, Level II (Shadow Vehicle Driver)	0.5 hours	\$110.00	\$55.00
Truck with Warning Sign/Crash Trailer Rental	0.5 hours	\$52.00	\$26.00
Truck with Warning Sign/Crash Trailer Mileage	2 hours	\$1.60	\$3.20
<b>Section Subtotal:</b>			<b>\$203.45</b>
<b>Traffic Control</b>			
Traffic Control Signs Rental	0 days	\$150.00	\$0.00
Subcontractor	0.5 each	\$2,500.00	\$1,250.00
<b>Section Subtotal:</b>			<b>\$1,250.00</b>
<b>Laboratory</b>			
Classification	1 hours	\$130.00	\$130.00
ASTM D6913 Sieve Analysis of Soils	1 tests	\$127.00	\$127.00
ASTM D1140 Material Finer Than No. 200 Sieve in Soils	1 tests	\$61.00	\$61.00
ASTM D2974 Moisture, Ash and Organic Matter of Peat & Organic Soils	1 tests	\$90.00	\$90.00
<b>Section Subtotal:</b>			<b>\$408.00</b>
<b>Project Management &amp; Reporting</b>			
Project Administrator	2 hours	\$80.00	\$160.00
Engineer I	2 hours	\$160.00	\$320.00
Engineer II	7 hours	\$180.00	\$1,260.00
Senior Engineer	4 hours	\$210.00	\$840.00
Principal Engineer	1 hours	\$250.00	\$250.00
<b>Section Subtotal:</b>			<b>\$2,830.00</b>
<b>ESTIMATED BUDGET</b>			<b>\$5,907.20</b>

GEOTECHNICAL SERVICES FEE ESTIMATE  
HUDSON BLVD GAP SEGMENT STREET IMPROVEMENTS  
14TH ST N  
LAKE ELMO, MINNESOTA  
AET PROPOSAL No. P-0024788



SERVICE DESCRIPTION	PROJECT BUDGET		
	ESTIMATED UNITS	UNIT RATE	BUDGET AMOUNT
<b>Layout &amp; Utility Clearance</b>			
Drilling Technician	1 hours	\$120.00	\$120.00
Auxiliary Vehicle Rental	1 hours	\$35.00	\$35.00
Auxiliary Vehicle Mileage	10 miles	\$1.50	\$15.00
GPS Equipment	0.25 days	\$200.00	\$50.00
<b>Section Subtotal:</b>			<b>\$220.00</b>
<b>Geotechnical Field Services</b>			
<b>Hourly Drilling</b>			
Drilling Technician	12 hours	\$120.00	\$1,440.00
Coring Equipment - Hourly	6 hours	\$70.00	\$420.00
Truck with Drill Rig Rental	6 hours	\$110.00	\$660.00
Auxiliary Vehicle Mileage	50 miles	\$1.50	\$75.00
Truck with Drill Rig Mileage	50 miles	\$1.75	\$87.50
<b>Section Subtotal:</b>			<b>\$2,682.50</b>
<b>Ground Penetrating Radar</b>			
Technician, Level II	2 hours	\$110.00	\$220.00
Ground Penetrating Radar (testing)	0.5 hours	\$110.00	\$55.00
Ground Penetrating Radar (travel)	0.5 hours	\$60.00	\$30.00
HD Camera	0.25 days	\$130.00	\$32.50
Auxiliary Vehicle Mileage	17 miles	\$1.50	\$25.50
<b>Section Subtotal:</b>			<b>\$363.00</b>
<b>Falling Weight Deflectometer</b>			
Technician, Level II	2 hours	\$110.00	\$220.00
Falling Weight Deflectometer with Truck (testing)	0.5 hours	\$235.00	\$117.50
Falling Weight Deflectometer Including Truck (travel)	0.5 hours	\$120.00	\$60.00
Auxiliary Vehicle Mileage	13 hours	\$1.50	\$19.50
Technician, Level II (Shadow Vehicle Driver)	1 hours	\$110.00	\$110.00
Truck with Warning Sign/Crash Trailer Rental	1 hours	\$52.00	\$52.00
Truck with Warning Sign/Crash Trailer Mileage	13 hours	\$1.60	\$20.80
<b>Section Subtotal:</b>			<b>\$599.80</b>
<b>Traffic Control</b>			
Traffic Control Signs Rental	1 days	\$150.00	\$150.00
Subcontractor	0 each		\$0.00
<b>Section Subtotal:</b>			<b>\$150.00</b>
<b>Laboratory</b>			
Classification	3 hours	\$130.00	\$390.00
ASTM D6913 Sieve Analysis of Soils	2 tests	\$127.00	\$254.00
ASTM D1140 Material Finer Than No. 200 Sieve in Soils	1 tests	\$61.00	\$61.00
ASTM D2974 Moisture, Ash and Organic Matter of Peat & Organic Soils	1 tests	\$90.00	\$90.00
<b>Section Subtotal:</b>			<b>\$795.00</b>
<b>Project Management &amp; Reporting</b>			
Project Administrator	2 hours	\$80.00	\$160.00
Engineer I	3 hours	\$160.00	\$480.00
Engineer II	8 hours	\$180.00	\$1,440.00
Senior Engineer	4 hours	\$210.00	\$840.00
Principal Engineer	2 hours	\$250.00	\$500.00
<b>Section Subtotal:</b>			<b>\$3,420.00</b>
<b>ESTIMATED BUDGET</b>			<b>\$8,230.30</b>

July 7, 2023

Proposal QTB180947

Mike Rusenovich, PE  
City Engineer  
Focus Engineering, Inc.  
City of Lake Elmo  
3880 Laverne Avenue North  
Lake Elmo, MN 55042

Re: Proposal for a Geotechnical and Pavement Evaluation  
City of Lake Elmo 2024 Street and Utility Improvements  
Homestead Street, Carriage Station (Marquess Trail N, Marquess Way N, Marquess Trail Circle N,  
Marquess Lane N, and Marquess Trail Court N), Jamaica Court N, Stillwater Boulevard (CSAH 14),  
Stillwater Lane, 15th Street 30th Street and Hudson Boulevard  
Lake Elmo, Minnesota

Dear Mr. Rusenovich:

Braun Intertec Corporation respectfully submits this proposal to complete a geotechnical and pavement evaluation for the City of Lake Elmo's 2024 Street and Utility Improvement projects.

## Project Information

Per the RFP and map provided by you and dated June 23, 2023, we understand the proposed 2024 street and utility improvement projects as follows:

**Project 1 – Homestead Street (Project No. 2023.112):** This project will consist of about 0.6 miles of residential streets where the planned work will be reconstruction with a new 8-inch watermain and concrete curb and gutter. Construction methods for the new utility will consider directional drilling versus open cutting.

**Project 2 – Carriage Station and Jamaica Court North (Project No. 2023.112):** This project will consist of about 1.2 miles of residential streets within the Carriage Station neighborhood and Jamaica Court North. The planned work for Carriage station will be mostly reclaim with 700 feet (Marquess Lane) of reconstruction where the existing 8-inch watermain will be replaced with a 12-inch watermain. Consideration is being given to leaving the existing concrete curb upon a condition survey which is part of this scope of work in the reclaimed streets. Construction means and methods for the new utility will consider directional drilling versus open cut.

**Project 3 – CSAH 14 and Stillwater Lane (Project No. 2023.112):** This project will consist of the extension of approximately 1.6 miles of watermain along CSAH 14 and Stillwater Lane west of Lake Elmo Avenue through a combination of directional drilling and open cutting. Stillwater lane will also include about 0.6 miles of street improvements with new concrete curb and gutter.

**Project 4 – 15th Street:** This project will consist of about 0.5 miles of non-residential street improvements considering reclaim construction methods.

**Project 5 – 30th Street:** This project will consist of about 0.15 miles of collector road street improvements considering reclaim construction methods.

**Project 6 – Hudson Boulevard:** This project will consist of about 1.2 miles of commercial access street improvements considering reclaim construction mill an overlay versus reconstruction with structural changes.

We understand that due to funding requirements, these projects will require separate reports (6 total) and fee schedules.

## **Purpose**

The purpose of our geotechnical evaluation will be to characterize subsurface geologic conditions at selected exploration locations, evaluate their impact on the project, and provide geotechnical recommendations for use in the design and reconstruction of the proposed streets and underground utility installations.

## **Scope of Services**

The following tasks are proposed for the project. If we determine that expanded or additional services are warranted, we will discuss with you prior to proceeding and incurring any additional expense.

### **Site Access**

Based on the boring locations being located within existing roadways, we propose to use a conventional truck-mounted drill rig. We assume there will be no cause for delays in accessing the exploration locations and we are not including snow plowing if the work occurs during the winter months.

Depending on access requirements, ground conditions or potential utility conflicts, our field crew may alter the exploration locations from those proposed to facilitate accessibility. We will drill the borings in accessible areas of the site.

### **Staking**

We will stake prospective subsurface exploration locations, as selected by the City of Lake Elmo (City) and obtain surface elevations at those locations using GPS (Global Positioning System) technology.

### **Utility Clearance**

Prior to drilling, we will contact Gopher State One Call and arrange for notification to the appropriate utility vendors to mark and clear the exploration locations of public underground utilities.

You, or your authorized representative, are responsible to notify us before we begin our work of the presence and location of any underground objects or private utilities in the area of the borings that are not the responsibility of public agencies. We have not included fees for a subcontracted private locator to locate private utilities near the boring locations.

**Permitting and Restricted Work Zone Hours**

Prior to mobilizing our field staff, we will obtain a right-of-way permit with the City. At the time of this proposal, we assume the City will waive the associated permit fee as the work is being performed for them.

Our work will take place primarily within the public road right-of-way and we assume we will not be required to follow any work hour restrictions (i.e., typical 8:00 AM to 4:00 PM workday will apply). If any of our above assumptions are incorrect, we should be notified so that we can update and revise our proposal, as necessary.

**Traffic Control**

We anticipate that CSAH 14 will need a partial lane closure to conduct our work due to the higher volume of traffic during working hours so we have included fees for subcontracted traffic control, including flaggers, to direct motorists through portions our work zone in the travel lanes. Should additional traffic control measures (i.e., full road closure) be needed for this project, additional fees will apply.

Based on the anticipated low volume of traffic during working hours on the remaining streets, we do not anticipate that it will be necessary to close any lanes of traffic during our drilling activities, rather our work can be performed with the assistance of warning signs. Fees for warning signs are included in our proposal.

**Soil Borings**

Based on our understanding of the projects, we will drill the requested 43 standard penetration test (SPT) borings for the field investigation program as summarized in Table 1 below.

**Table 1. Proposed Geotechnical Soil Borings**

Project	Street	Number of SPT Borings	Nominal Depth (feet)	Drilling Footage Subtotal (feet)
1	Homestead Street	7	9	63
2	Marquess Trail N	3	5	15
	Marquess way N	1	5	5
	Marquess Lane N	3	5	15
	Marquess Trail Court N	1	5	5
	Jamaica Court N	2	9	18
3	CSAH 14	12	9	108
	Stillwater Lane	5	9	45

Project	Street	Number of SPT Borings	Nominal Depth (feet)	Drilling Footage Subtotal (feet)
4	15th Street	3	5	15
5	30th Street	1	5	5
6	Orchard Avenue N	5	5	25
<b>Total Drilling Footage</b>				319

We will perform standard penetration tests at 2 1/2-foot vertical intervals.

If the intended boring depth does not extend through unsuitable material, we will contact you prior to increasing our total estimated drilled footage and submit a Change Order, if necessary, summarizing the anticipated additional effort and the associated cost, for your review and authorization.

**Groundwater Measurements**

If the boring encounters groundwater during or immediately after drilling of the boring, we will record the observed depth on the boring log. The boring will not be left open for an extended period of time to monitor groundwater.

**MDH Notification and Sealing Record**

Since our planned boring will be less than 15 feet in depth, the Minnesota Statutes will not require that we complete any notifications or sealing records. If we extend any of the borings to a depth of 15 feet or greater, the Statutes requires that we seal the boreholes and complete a Sealing Record. If 25 feet or greater, the Statutes also require us to complete a Sealing Notification Form. If the Record or Form are required, we will contact you to discuss the additional fees and sealing requirements.

**Borehole Abandonment**

We will backfill our boring locations immediately after completing the drilling at each location. Upon backfilling boring locations, we will fill holes in pavements with a temporary patch.

Over time, subsidence of borehole backfill may occur, requiring replacing bituminous patches. We are not assuming responsibility for re-patching after we complete our fieldwork.

**Ground Penetrating Radar (GPR) Testing**

As requested, we will perform GPR testing along the entire length of each street. GPR data provides a continuous estimate of pavement layer thicknesses and will be performed in both travel directions. GPR measurements will be tied to GPS coordinates for mapping and reference purposes.

An air-coupled GPR unit can be expected to penetrate approximately 2 feet under ideal conditions, and is capable of detecting differentiation between bituminous pavement layers and underlying aggregate base layers, if present.

Data obtained from the GPR testing will be used in the analysis of FWD data and will also be used to assist with repair recommendations.

### **Pavement Coring**

At the requested boring locations, we will perform a pavement core just prior to drilling operations. Thicknesses from the pavement cores and apparent aggregate base thicknesses measured from the borings will be used to confirm and calibrate the GPR data and to help characterize the in-place pavement layer thicknesses.

The cores will be submitted to our lab for total thickness measurements and will be examined for any material deficiencies. The cores will be retained for any additional laboratory testing that may be useful.

### **Falling Weight Deflectometer (FWD) Testing and Analysis**

FWD will be performed with a Dynatest 8002E model FWD, which is a non-destructive testing device specifically designed for evaluating pavements. FWD operates by measuring pavement surface deflections from an applied wheel-simulating impulse load (4 impulse loads, 2 at 6,000 lbs and 2 at 9,000 lbs).

To perform FWD testing, subgrades must not be frozen. Typically, testing can be performed between the months of April to October. Depending on timing of this project, if weather and schedule allows, we will perform the requested FWD testing using a testing rate of approximately one test every 1/10th of a mile. Testing will be staggered and will be performed in both travel directions.

The FWD data will assist in the discussion of the planned repair, as well as assisting in identifying areas where possible soil corrections may be warranted.

### **Sample Review and Laboratory Testing**

We will return recovered samples to our laboratory, where a geotechnical engineer will visually classify and log them. We have budgeted to perform the following laboratory tests; moisture content, organic content, and/or mechanical analyses (through a #200 sieve only). The actual number and type of tests will be based on the results of our borings. Should additional laboratory tests be warranted additional fees will apply.

### **Engineering Analyses**

We will use data obtained from the borings and laboratory tests to evaluate the subsurface profile and groundwater conditions and provide engineering recommendations for design construction of the utilities and pavement improvements.

### **Reports**

We will prepare a report for each project including:

- A sketch showing the exploration locations.
- Logs of the borings describing the materials encountered and presenting the results of our groundwater measurements and laboratory tests.

- A summary of the subsurface profile and groundwater conditions.
- Discussion identifying the subsurface conditions that may impact construction.
- Discussion regarding the reuse of on-site materials during construction and the impact of groundwater on construction.
- Recommendations for preparing subgrades, including excavation support and the selection, placement and compaction of excavation backfill and other fill.
- Summary of FWD and GPR testing results.
- Summary of pavement core and hand auger boring results, including photographs of the pavement cores.
- Recommendations for use in the design and construction of the pavements and utilities, including thickness sections based on an assumed R-value and reclamation recommendations.

We will only submit an electronic copy of our report to you upon completion.

## Schedule

We anticipate performing our work according to the following schedule.

- Drill Rig Mobilization – Within about 10 weeks following receipt of written authorization.
- Field Exploration – 4 days of coring and drilling to complete the soil borings. Assumed to be performed on consecutive weekdays following initial mobilization.
- GPR and FWD testing – Within about 3 weeks of written authorization.
- Classification and Laboratory Testing – Within 2 weeks after completion of field exploration.
- Preliminary Results – Within 1 week after completion of field exploration.
- Report Submittals – Within about 2 weeks after completion of the laboratory testing.

If we cannot complete our proposed scope of services according to this schedule due to circumstances beyond our control, we may need to revise this proposal prior to completing the remaining tasks.

## Fees

Braun Intertec will provide the services described in this proposal on a lump sum basis. The **\$65,367** fee breakdown by project area is summarized below in Table 2. We are also attaching a tabulation showing hourly and/or unit rates associated with our proposed scope of services.

**Table 2. Project Fees**

<b>Service Description</b>	<b>Fee</b>
Project 1 - Homestead Street (Project No. 2023.112)	\$11,147
Project 2 - Carriage Station and Jamaica Court North (Project No. 2023.112)	12,458
Project 3 - CSAH 14 and Stillwater Lane (Project No. 2023.112)	18,739
Project 4 - 15th Street	7,681
Project 5 - 30th Street	6,503
Project 6 – Hudson Boulevard	\$8,839
<b>TOTAL:</b>	<b>\$65,367</b>

Braun Intertec will begin the project upon receipt of your authorization. The total fee presented above based on the Scope of Services described and the assumption that the proposal will be authorized within 90 days and that the project will be completed within the proposed schedule.

### **General Remarks**

We will be happy to meet with you to discuss our proposed scope of services further and clarify the various scope components.

We appreciate the opportunity to present this proposal to you. Please sign and return a copy in its entirety.

We based the proposed fee on the scope of services described and the assumptions that you will authorize our services within 30 days and that others will not delay us beyond our proposed schedule.

We include the Braun Intertec General Conditions, which provide additional terms and are part of our agreement.

To have questions answered or schedule a time to meet and discuss our approach to this project further, please contact Timothy Schappa at 651.319.3091 (tschappa@braunintertec.com) or Joshua Kirk at 507.514.1348 (jkirk@braunintertec.com).

Sincerely,

BRAUN INTERTEC CORPORATION



Timothy J. Schappa, PE  
Project Engineer



Joshua L. Kirk, PE  
Director, Senior Engineer

Attachments:  
Project Proposal - QTB180947  
General Conditions – (1/1/18)

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The proposal is accepted, and you are authorized to proceed.

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**Authorizer's Firm**

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**Authorizer's Signature**

---

**Authorizer's Name (please print or type)**

---

**Authorizer's Title**

---

**Date**

---

**Lake Elmo Schedule for Drilling**

1 message

**Kirk, Josh** <JKirk@braunintertec.com>

Tue, Jul 11, 2023 at 9:04 AM

To: "Schappa, Timothy" &lt;TSchappa@braunintertec.com&gt;, Jack Griffin &lt;Jack.Griffin@focusengineeringinc.com&gt;

Thanks for the time on the phone Jack. Below is our schedule:

Pending authorization to proceed on July 19:

Utility meet for Carriage Station and Jamaca Court – July 21

1 Day drilling (Truck rig) July 28

Remaining 3 days for other sites with a truck rig – Aug 21-23

GPR/FWD – still working on locking in a date, but as Tim noted that is typically scheduled a couple of weeks out which would put us near the end of July as well.

Analysis:

Borings drilled on the 28<sup>th</sup> will likely be to our lab 7-31 or 8-1. We can log the soils and run labs, and have prelim results mid-week that week, around 8-3?

Once FWD/GPR data collection is done, that can likely be turned around within a few days as well for preliminary recs.

I will have those dates penciled in on the schedule.

Thanks!

Josh

**Joshua L. Kirk, PE (MN)**

Director, Senior Engineer  
11001 Hampshire Ave S | Minneapolis, MN 55438  
952.995.2222 direct | 507.514.1348 mobile  
[jkirk@braunintertec.com](mailto:jkirk@braunintertec.com)

[braunintertec.com](http://braunintertec.com) | [Twitter](#) | [LinkedIn](#) | [Facebook](#)

# Project Proposal

QTB180947

2024 Street and Utility Projects

**Client:**

City of Lake Elmo  
Mike Rusenovich  
3880 Laverne Ave. N.  
Lake Elmo, MN 55042  
(651) 747-3900

**Work Site Address:**

Homestead Street, Carriage Station, Jamaca Court N, CSAH 14, Stillwater Lane, 15th Street, 30th Street, and Hudson Boulevard  
  
Lake Elmo, MN 55042

**Service Description:**

Geotechnical Evaluation Services

	Description	Quantity	Units	Unit Price	Extension
<b>Phase 1</b>	<b>Geotechnical Evaluation - Homestead Street</b>				
<b>Activity 1.1</b>	<b>Site Layout - Staking - Utility Clearance - CADD</b>				<b>\$910.00</b>
205	Site layout and utility clearance	3.00	Hour	95.00	\$285.00
288	Project Assistant	2.00	Hour	90.00	\$180.00
371	CADD/Graphics Operator	1.50	Hour	130.00	\$195.00
5099	Trimble R8 Rover (horizontal and vertical), per hour	3.00	Each	70.00	\$210.00
1862	UTIL Trip Charge	1.00	Each	40.00	\$40.00
<b>Activity 1.2</b>	<b>Pavement Coring, GPR and FWD</b>				<b>\$2,728.00</b>
252	Bituminous Coring, two person	4.00	Hour	210.00	\$840.00
1555	Bit Wear and bituminous patch material, per core	7.00	Each	29.00	\$203.00
1087	Core Rig Mobilization	1.00	Each	75.00	\$75.00
259	Ground Penetrating Radar (GPR)	2.00	Hour	250.00	\$500.00
8640	GPR Mobilization	70.00	Each	4.00	\$280.00
8620	Falling Weight Deflectometer (FWD)	2.00	Each	275.00	\$550.00
1087	FWD Mobilization	70.00	Each	4.00	\$280.00
<b>Activity 1.3</b>	<b>Drilling Services</b>				<b>\$3,290.00</b>
9000	Truck Mounted Drilling Services, per hour	8.00	Each	380.00	\$3,040.00
1052	Warning signs	1.00	Each	250.00	\$250.00
<b>Activity 1.4</b>	<b>Geotechnical Soil Tests</b>				<b>\$604.00</b>
1166	Loss by Washing Through #200 Sieve, per sample	3.00	Each	88.00	\$264.00
1174	Organic Content, per sample	1.00	Each	88.00	\$88.00
1152	Moisture content, per sample	14.00	Each	18.00	\$252.00
<b>Activity 1.5</b>	<b>Evaluation/Analysis/Reports</b>				<b>\$3,615.00</b>
138	Project Assistant	3.00	Hour	90.00	\$270.00
126	Project Engineer	15.00	Hour	175.00	\$2,625.00
128	Senior Engineer	3.00	Hour	195.00	\$585.00
125	Project Control Specialist	1.00	Hour	135.00	\$135.00
<b>Phase 1 Total:</b>					<b>\$11,147.00</b>
<b>Phase 2</b>	<b>Geotechnical Evaluation - Carriage Station and Jamaca Court N</b>				
<b>Activity 2.1</b>	<b>Site Layout - Staking - Utility Clearance - CADD</b>				<b>\$1,075.00</b>
205	Site layout and utility clearance	4.00	Hour	95.00	\$380.00
288	Project Assistant	2.00	Hour	90.00	\$180.00
371	CADD/Graphics Operator	1.50	Hour	130.00	\$195.00
5099	Trimble R8 Rover (horizontal and vertical), per hour	4.00	Each	70.00	\$280.00
1862	UTIL Trip Charge	1.00	Each	40.00	\$40.00

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<b>Activity 2.2</b>	<b>Pavement Coring, GPR, FWD and Condition Survey</b>				<b>\$3,590.00</b>
252	Bituminous Coring, two person	5.00	Hour	210.00	\$1,050.00
1555	Bit wear and bituminous patch material, per core	10.00	Each	29.00	\$290.00
1087	Core Rig Mobilization	1.00	Each	75.00	\$75.00
259	Ground Penetrating Radar (GPR)	2.00	Hour	250.00	\$500.00
8640	GPR Mobilization	70.00	Each	4.00	\$280.00
8620	Falling Weight Deflectometer (FWD)	2.00	Each	275.00	\$550.00
1087	FWD Mobilization	70.00	Each	4.00	\$280.00
126	Project Engineer - Concrete Curb Condition Survey	3.00	Hour	175.00	\$525.00
1861	Condition Survey Trip Charge	1.00	Each	40.00	\$40.00
<b>Activity 2.3</b>	<b>Drilling Services</b>				<b>\$3,290.00</b>
9000	Truck Mounted Drilling Services, per hour	8.00	Each	380.00	\$3,040.00
1052	Warning signs	1.00	Each	250.00	\$250.00
<b>Activity 2.4</b>	<b>Geotechnical Soil Tests</b>				<b>\$888.00</b>
1166	Loss by Washing Through #200 Sieve, per sample	5.00	Each	88.00	\$440.00
1174	Organic Content, per sample	1.00	Each	88.00	\$88.00
1152	Moisture content, per sample	20.00	Each	18.00	\$360.00
<b>Activity 2.5</b>	<b>Evaluation/Analysis/Reports</b>				<b>\$3,615.00</b>
138	Project Assistant	3.00	Hour	90.00	\$270.00
126	Project Engineer	15.00	Hour	175.00	\$2,625.00
128	Senior Engineer	3.00	Hour	195.00	\$585.00
125	Project Control Specialist	1.00	Hour	135.00	\$135.00
<b>Phase 2 Total:</b>					<b>\$12,458.00</b>
<b>Phase 3</b>	<b>Geotechnical Evaluation - CSAH 14 and Stillwater Lane</b>				
<b>Activity 3.1</b>	<b>Site Layout - Staking - Utility Clearance - CADD</b>				<b>\$1,305.00</b>
205	Site layout and utility clearance	5.00	Hour	95.00	\$475.00
288	Project Assistant	2.00	Hour	90.00	\$180.00
371	CADD/Graphics Operator	2.00	Hour	130.00	\$260.00
5099	Trimble R8 Rover (horizontal and vertical), per hour	5.00	Each	70.00	\$350.00
1862	UTIL Trip Charge	1.00	Each	40.00	\$40.00
<b>Activity 3.2</b>	<b>Pavement Coring, GPR and FWD</b>				<b>\$3,858.00</b>
252	Bituminous Coring, two person	8.00	Hour	210.00	\$1,680.00
1555	Bit wear and bituminous patch material, per core	17.00	Each	29.00	\$493.00
1087	Core Rig Mobilization	1.00	Each	75.00	\$75.00
259	Ground Penetrating Radar (GPR)	2.00	Hour	250.00	\$500.00
8640	GPR Mobilization	70.00	Each	4.00	\$280.00
8620	Falling Weight Deflectometer (FWD)	2.00	Each	275.00	\$550.00
1087	FWD Mobilization	70.00	Each	4.00	\$280.00
<b>Activity 3.3</b>	<b>Drilling Services</b>				<b>\$8,380.00</b>
9000	Truck Mounted Drilling Services, per hour	16.00	Each	380.00	\$6,080.00
SUB	Subcontractor - Traffic control/Flagging	1.00	Each	2,300.00	\$2,300.00
<b>Activity 3.4</b>	<b>Geotechnical Soil Tests</b>				<b>\$1,316.00</b>
1166	Loss by Washing Through #200 Sieve, per sample	7.00	Each	88.00	\$616.00
1174	Organic Content, per sample	1.00	Each	88.00	\$88.00

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1152	Moisture content, per sample	34.00	Each	18.00	\$612.00
<b>Activity 3.5</b>	<b>Evaluation/Analysis/Reports</b>				<b>\$3,880.00</b>
138	Project Assistant	4.00	Hour	90.00	\$360.00
126	Project Engineer	16.00	Hour	175.00	\$2,800.00
128	Senior Engineer	3.00	Hour	195.00	\$585.00
125	Project Control Specialist	1.00	Hour	135.00	\$135.00
<b>Phase 3 Total:</b>					<b>\$18,739.00</b>
<b>Phase 4 Geotechnical Evaluation - 15th Street</b>					
<b>Activity 4.1</b>	<b>Site Layout - Staking - Utility Clearance - CADD</b>				<b>\$800.00</b>
205	Site layout and utility clearance	3.00	Hour	95.00	\$285.00
288	Project Assistant	1.50	Hour	90.00	\$135.00
371	CADD/Graphics Operator	1.00	Hour	130.00	\$130.00
5099	Trimble R8 Rover (horizontal and vertical), per hour	3.00	Each	70.00	\$210.00
1862	UTIL Trip Charge	1.00	Each	40.00	\$40.00
<b>Activity 4.2</b>	<b>Pavement Coring, GPR and FWD</b>				<b>\$2,402.00</b>
252	Bituminous Coring, two person	3.00	Hour	210.00	\$630.00
1555	Bit wear and bituminous patch material, per core	3.00	Each	29.00	\$87.00
1087	Core Rig Mobilization	1.00	Each	75.00	\$75.00
259	Ground Penetrating Radar (GPR)	2.00	Hour	250.00	\$500.00
8640	GPR Mobilization	70.00	Each	4.00	\$280.00
8620	Falling Weight Deflectometer (FWD)	2.00	Each	275.00	\$550.00
1087	FWD Mobilization	70.00	Each	4.00	\$280.00
<b>Activity 4.3</b>	<b>Drilling Services</b>				<b>\$1,390.00</b>
9000	Truck Mounted Drilling Services, per hour	3.00	Each	380.00	\$1,140.00
1052	Warning signs	1.00	Each	250.00	\$250.00
<b>Activity 4.4</b>	<b>Geotechnical Soil Tests</b>				<b>\$284.00</b>
1166	Loss by Washing Through #200 Sieve, per sample	2.00	Each	88.00	\$176.00
1152	Moisture content, per sample	6.00	Each	18.00	\$108.00
<b>Activity 4.5</b>	<b>Evaluation/Analysis/Reports</b>				<b>\$2,805.00</b>
138	Project Assistant	2.00	Hour	90.00	\$180.00
126	Project Engineer	12.00	Hour	175.00	\$2,100.00
128	Senior Engineer	2.00	Hour	195.00	\$390.00
125	Project Control Specialist	1.00	Hour	135.00	\$135.00
<b>Phase 4 Total:</b>					<b>\$7,681.00</b>
<b>Phase 5 Geotechnical Evaluation - 30th Street</b>					
<b>Activity 5.1</b>	<b>Site Layout - Staking - Utility Clearance - CADD</b>				<b>\$625.00</b>
205	Site layout and utility clearance	2.00	Hour	95.00	\$190.00
288	Project Assistant	1.00	Hour	90.00	\$90.00
371	CADD/Graphics Operator	1.00	Hour	130.00	\$130.00
5099	Trimble R8 Rover (horizontal and vertical), per hour	2.50	Each	70.00	\$175.00
1862	UTIL Trip Charge	1.00	Each	40.00	\$40.00
<b>Activity 5.2</b>	<b>Pavement Coring, GPR and FWD</b>				<b>\$2,099.00</b>
252	Bituminous Coring, two person	2.00	Hour	210.00	\$420.00

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1555	Bit wear and bituminous patch material, per core	1.00	Each	29.00	\$29.00
1087	Core Rig Mobilization	1.00	Each	40.00	\$40.00
259	Ground Penetrating Radar (GPR)	2.00	Hour	250.00	\$500.00
8640	GPR Mobilization	70.00	Each	4.00	\$280.00
8620	Falling Weight Deflectometer (FWD)	2.00	Each	275.00	\$550.00
1087	FWD Mobilization	70.00	Each	4.00	\$280.00
<b>Activity 5.3</b>	<b>Drilling Services</b>				<b>\$1,200.00</b>
9000	Truck Mounted Drilling Services, per hour	2.50	Each	380.00	\$950.00
1052	Warning signs	1.00	Each	250.00	\$250.00
<b>Activity 5.4</b>	<b>Geotechnical Soil Tests</b>				<b>\$124.00</b>
1166	Loss by Washing Through #200 Sieve, per sample	1.00	Each	88.00	\$88.00
1152	Moisture content, per sample	2.00	Each	18.00	\$36.00
<b>Activity 5.5</b>	<b>Evaluation/Analysis/Reports</b>				<b>\$2,455.00</b>
138	Project Assistant	2.00	Hour	90.00	\$180.00
126	Project Engineer	10.00	Hour	175.00	\$1,750.00
128	Senior Engineer	2.00	Hour	195.00	\$390.00
125	Project Control Specialist	1.00	Hour	135.00	\$135.00
<b>Phase 5 Total:</b>					<b>\$6,503.00</b>
<b>Phase 6</b>	<b>Geotechnical Evaluation - Hudson Boulevard</b>				
<b>Activity 6.1</b>	<b>Site Layout - Staking - Utility Clearance - CADD</b>				<b>\$865.00</b>
205	Site layout and utility clearance	3.00	Hour	95.00	\$285.00
288	Project Assistant	1.50	Hour	90.00	\$135.00
371	CADD/Graphics Operator	1.50	Hour	130.00	\$195.00
5099	Trimble R8 Rover (horizontal and vertical), per hour	3.00	Each	70.00	\$210.00
1862	UTIL Trip Charge	1.00	Each	40.00	\$40.00
<b>Activity 6.2</b>	<b>Pavement Coring, GPR and FWD</b>				<b>\$2,145.00</b>
252	Bituminous Coring, two person	4.00	Hour	210.00	\$840.00
1555	Bit wear and bituminous patch material, per core	5.00	Each	29.00	\$145.00
1087	Core Rig Mobilization	1.00	Each	75.00	\$75.00
259	Ground Penetrating Radar (GPR)	1.00	Hour	250.00	\$250.00
8640	GPR Mobilization	70.00	Each	4.00	\$280.00
8620	Falling Weight Deflectometer (FWD)	1.00	Each	275.00	\$275.00
1087	FWD Mobilization	70.00	Each	4.00	\$280.00
<b>Activity 6.3</b>	<b>Drilling Services</b>				<b>\$1,770.00</b>
9000	Truck Mounted Drilling Services, per hour	4.00	Each	380.00	\$1,520.00
1052	Warning signs	1.00	Each	250.00	\$250.00
<b>Activity 6.4</b>	<b>Geotechnical Soil Tests</b>				<b>\$444.00</b>
1166	Loss by Washing Through #200 Sieve, per sample	3.00	Each	88.00	\$264.00
1152	Moisture content, per sample	10.00	Each	18.00	\$180.00
<b>Activity 6.5</b>	<b>Evaluation/Analysis/Reports</b>				<b>\$3,615.00</b>
138	Project Assistant	3.00	Hour	90.00	\$270.00
126	Project Engineer	15.00	Hour	175.00	\$2,625.00
128	Senior Engineer	3.00	Hour	195.00	\$585.00
125	Project Control Specialist	1.00	Hour	135.00	\$135.00

Phase 6 Total: \$8,839.00

Proposal Total: \$65,367.00

## Section 1: Agreement

**1.1** Our agreement with you consists of these General Conditions and the accompanying written proposal or authorization ("Agreement"). This Agreement is the entire agreement between you and us. It supersedes prior agreements. It may be modified only in a writing signed by us, making specific reference to the provision modified.

**1.2** The words "you," "we," "us," and "our" include officers, employees, and subcontractors.

**1.3** In the event you use a purchase order or other documentation to authorize our scope of work ("Services"), any conflicting or additional terms are not part of this Agreement. Directing us to start work prior to execution of this Agreement constitutes your acceptance. If, however, mutually acceptable terms cannot be established, we have the right to terminate this Agreement without liability to you or others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

## Section 2: Our Responsibilities

**2.1** We will provide Services specifically described in this Agreement. You agree that we are not responsible for services that are not expressly included in this Agreement. Unless otherwise agreed in writing, our findings, opinions, and recommendations will be provided to you in writing. You agree not to rely on oral findings, opinions, or recommendations without our written approval.

**2.2** In performing our professional services, we will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession practicing in the same locality. If you direct us to deviate from our recommended procedures, you agree to hold us harmless from claims, damages, and expenses arising out of your direction. If during the one year period following completion of Services it is determined that the above standards have not been met and you have promptly notified us in writing of such failure, we will perform, at our cost, such corrective services as may be necessary, within the original scope in this Agreement, to remedy such deficiency. Remedies set forth in this section constitute your sole and exclusive recourse with respect to the performance or quality of Services.

**2.3** We will reference our field observations and sampling to available reference points, but we will not survey, set, or check the accuracy of those points unless we accept that duty in writing. Locations of field observations or sampling described in our report or shown on our sketches are based on information provided by others or estimates made by our personnel. You agree that such dimensions, depths, or elevations are approximations unless specifically stated otherwise in the report. You accept the inherent risk that samples or observations may not be representative of things not sampled or seen and further that site conditions may vary over distance or change over time.

**2.4** Our duties do not include supervising or directing your representatives or contractors or commenting on, overseeing, or providing the means and methods of their services unless expressly set forth in this Agreement. We will not be responsible for the failure of your contractors, and the providing of Services will not relieve others of their responsibilities to you or to others.

**2.5** We will provide a health and safety program for our employees, but we will not be responsible for contractor, owner, project, or site health or safety.

**2.6** You will provide, at no cost to us, appropriate site safety measures as to work areas to be observed or inspected by us. Our employees are authorized by you to refuse to work under conditions that may be unsafe.

**2.7** Unless a fixed fee is indicated, our price is an estimate of our project costs and expenses based on information available to us and our experience and knowledge. Such estimates are an exercise of our professional judgment and are not guaranteed or warranted. Actual costs may vary. You should allow a contingency in addition to estimated costs.

## Section 3: Your Responsibilities

**3.1** You will provide us with prior environmental, geotechnical and other reports, specifications, plans, and information to which you have access about the site. You agree to provide us with all plans, changes in plans, and new information as to site conditions until we have completed Services.

**3.2** You will provide access to the site. In the performance of Services some site damage is normal even when due care is exercised. We will use reasonable care to minimize damage to the site. We have not included the cost of restoration of damage in the estimated charges.

**3.3** You agree to provide us, in a timely manner, with information that you have regarding buried objects at the site. We will not be responsible for locating buried objects at the site. *You agree to hold us harmless, defend, and indemnify us from claims, damages, losses, penalties and expenses (including attorney fees) involving buried objects that were not properly marked or identified or of which you had knowledge but did not timely call to our attention or correctly show on the plans you or others furnished to us.*

**3.4** You will notify us of any knowledge or suspicion of the presence of hazardous or dangerous materials present on any work site or in a sample provided to us. You agree to provide us with information in your possession or control relating to such materials or samples. If we observe or suspect the presence of contaminants not anticipated in this Agreement, we may terminate Services without liability to you or to others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

**3.5** Neither this Agreement nor the providing of Services will operate to make us an owner, operator, generator, transporter, treater, storer, or a disposal facility within the meaning of the Resource Conservation Recovery Act, as amended, or within the meaning of any other law governing the handling, treatment, storage, or disposal of hazardous substances. *You agree to hold us harmless, defend, and indemnify us from any damages, claims, damages, penalties or losses resulting from the storage, removal, hauling or disposal of such substances.*

**3.6** Monitoring wells are your property, and you are responsible for their permitting, maintenance, and abandonment unless expressly set forth otherwise in this Agreement.

**3.7** You agree to make all disclosures required by law. In the event you do not own the project site, you acknowledge that it is your duty to inform the owner of the discovery or release of contaminants at the site. *You agree to hold us harmless, defend, and indemnify us from claims, damages, penalties, or losses and expenses, including attorney fees, related to failures to make disclosures, disclosures made by us that are required by law, and from claims related to the informing or failure to inform the site owner of the discovery of contaminants.*

## Section 4: Reports and Records

**4.1** Unless you request otherwise, we will provide our report in an electronic format.

**4.2** Our reports, notes, calculations, and other documents and our computer software and data are instruments of our service to you, and they remain our property. We hereby grant you a license to use the reports and related information we provide only for the related project and for the purposes disclosed to us. You may not transfer our reports to others or use them for a purpose for which they were not prepared without our written approval. *You agree to indemnify, defend, and hold us harmless from claims, damages, losses, and expenses, including attorney fees, arising out of such a transfer or use.*

**4.3** If you do not pay for Services in full as agreed, we may retain work not yet delivered to you and you agree to return to us all of our work that is in your possession or under your control.

**4.4** Samples and field data remaining after tests are conducted and field and laboratory equipment that cannot be adequately cleansed of contaminants are and continue to be your property. They may be discarded or returned to you, at our discretion, unless within 15 days of the report date you give us written direction to store or transfer the materials at your expense.

**4.5** Electronic data, reports, photographs, samples, and other materials provided by you or others may be discarded or returned to you, at our discretion, unless within 15 days of the report date you give us written direction to store or transfer the materials at your expense.

## Section 5: Compensation

**5.1** You will pay for Services as stated in this Agreement. If such payment references our Schedule of Charges, the invoicing will be based upon the most current schedule. An estimated amount is not a firm figure. You agree to pay all sales taxes and other taxes based on your payment of our compensation. Our performance is subject to credit approval and payment of any specified retainer.

**5.2** You will notify us of billing disputes within 15 days. You will pay undisputed portions of invoices upon receipt. You agree to pay interest on unpaid balances beginning 30 days after invoice dates at the rate of 1.5% per month, or at the maximum rate allowed by law.

**5.3** If you direct us to invoice a third party, we may do so, but you agree to be responsible for our compensation unless the third party is creditworthy (in our sole opinion) and provides written acceptance of all terms of this Agreement.

**5.4** Your obligation to pay for Services under this Agreement is not contingent on your ability to obtain financing, governmental or regulatory agency approval, permits, final adjudication of any lawsuit, your successful completion of any project, receipt of payment from a third party, or any other event. No retainage will be withheld.

**5.5** If you do not pay us in accordance with this Agreement, you agree to reimburse all costs and expenses for collection of the moneys invoiced, including but not limited to attorney fees and staff time.

**5.6** You agree to compensate us in accordance with our Schedule of Charges if we are asked or required to respond to legal process arising out of a proceeding related to the project and as to which we are not a party.

**5.7** If we are delayed by factors beyond our control, or if project conditions or the scope or amount of work changes, or if changed labor conditions result in increased costs, decreased efficiency, or delays, or if the standards or methods change, we will give you timely notice, the schedule will be extended for each day of delay, and we will be compensated for costs and expenses incurred in accordance with our Schedule of Charges.

**5.8** If you fail to pay us in accordance with this Agreement, we may consider the default a total breach of this Agreement and, at our option, terminate our duties without liability to you or to others, and you will compensate us for fees earned and expenses incurred up to the time of termination.

**5.9** In consideration of our providing insurance to cover claims made by you, you hereby waive any right to offset fees otherwise due us.

## Section 6: Disputes, Damage, and Risk Allocation

**6.1** Each of us will exercise good faith efforts to resolve disputes without litigation. Such efforts will include, but not be limited to, a meeting(s)

attended by each party's representative(s) empowered to resolve the dispute. Before either of us commences an action against the other, disputes (except collections) will be submitted to mediation.

**6.2** *Notwithstanding anything to the contrary in this Agreement, neither party hereto shall be responsible or held liable to the other for punitive, indirect, incidental, or consequential damages, or liability for loss of use, loss of business opportunity, loss of profit or revenue, loss of product or output, or business interruption.*

**6.3** You and we agree that any action in relation to an alleged breach of our standard of care or this Agreement shall be commenced within one year of the date of the breach or of the date of substantial completion of Services, whichever is earlier, without regard to the date the breach is discovered. Any action not brought within that one year time period shall be barred, without regard to any other limitations period set forth by law or statute. We will not be liable unless you have notified us within 30 days of the date of such breach and unless you have given us an opportunity to investigate and to recommend ways of mitigating damages. You agree not to make a claim against us unless you have provided us at least 30 days prior to the institution of any legal proceeding against us with a written certificate executed by an appropriately licensed professional specifying and certifying each and every act or omission that you contend constitutes a violation of the standard of care governing our professional services. Should you fail to meet the conditions above, you agree to fully release us from any liability for such allegation.

**6.4** *For you to obtain the benefit of a fee which includes a reasonable allowance for risks, you agree that our aggregate liability for all claims will not exceed the fee paid for Services or \$50,000, whichever is greater. If you are unwilling to accept this allocation of risk, we will increase our aggregate liability to \$100,000 provided that, within 10 days of the date of this Agreement, you provide payment in an amount that will increase our fees by 10%, but not less than \$500, to compensate us for the greater risk undertaken.* This increased fee is not the purchase of insurance.

**6.5** *You agree to indemnify us from all liability to others in excess of the risk allocation stated herein and to insure this obligation. In addition, all indemnities and limitations of liability set forth in this Agreement apply however the same may arise, whether in contract, tort, statute, equity or other theory of law, including, but not limited to, the breach of any legal duty or the fault, negligence, or strict liability of either party.*

**6.6** This Agreement shall be governed, construed, and enforced in accordance with the laws of the state in which our servicing office is located, without regard to its conflict of laws rules. The laws of the state of our servicing office will govern all disputes, and all claims shall be heard in the state or federal courts for that state. Each of us waives trial by jury.

**6.7** No officer or employee acting within the scope of employment shall have individual liability for his or her acts or omissions, and you agree not to make a claim against individual officers or employees.

## Section 7: General Indemnification

**7.1** *We will indemnify and hold you harmless from and against demands, damages, and expenses of others to the comparative extent they are caused by our negligent acts or omissions or those negligent acts or omissions of persons for whom we are legally responsible. You will indemnify and hold us harmless from and against demands, damages, and expenses of others to the comparative extent they are caused by your negligent acts or omissions or those negligent acts or omissions of persons for whom you are legally responsible.*

**7.2** To the extent it may be necessary to indemnify either of us under Section 7.1, you and we expressly waive, in favor of the other only, any immunity or exemption from liability that exists under any worker compensation law.

**7.3** You agree to indemnify us against losses and costs arising out of claims of patent or copyright infringement as to any process or system that is specified or selected by you or by others on your behalf.

## Section 8: Miscellaneous Provisions

**8.1** We will provide a certificate of insurance to you upon request. Any claim as an Additional Insured shall be limited to losses caused by our negligence.

**8.2** You and we, for ourselves and our insurers, waive all claims and rights of subrogation for losses arising out of causes of loss covered by our respective insurance policies.

**8.3** Neither of us will assign or transfer any interest, any claim, any cause of action, or any right against the other. Neither of us will assign or otherwise transfer or encumber any proceeds or expected proceeds or compensation from the project or project claims to any third person, whether directly or as collateral or otherwise.

**8.4** This Agreement may be terminated early only in writing. You will compensate us for fees earned for performance completed and expenses incurred up to the time of termination.

**8.5** If any provision of this Agreement is held invalid or unenforceable, then such provision will be modified to reflect the parties' intention. All remaining provisions of this Agreement shall remain in full force and effect.

**8.6** No waiver of any right or privilege of either party will occur upon such party's failure to insist on performance of any term, condition, or instruction, or failure to exercise any right or privilege or its waiver of any breach.