

**CAMBRIDGE WATER, SEWER AND STORMWATER COMMITTEE  
AMUNDSON COMMUNITY CENTER  
200 SPRING STREET – COMMUNITY ROOM  
REVISED AGENDA  
6:30 PM  
NOVEMBER 16, 2021**

*THIS IS AN IN-PERSON MEETING. DUE TO INCREASE CASES OF COVID AND ITS VARIANTS, DANE COUNTY HAS REINSTATED A MASK MANDATE SO MASKS WILL BE REQUIRED AT THE MEETING. THE MEETING ROOM WILL BE SET UP FOR SOCIAL DISTANCING. THANK YOU!*

- 1. Call to Order/Roll Call**
- 2. Proof of Posting**
- 3. Approval of consent agenda**
  - a. Meeting Minutes from 10-19-2021
- 4. Approval of Bills**
- 5. Public Appearance**
- 6. Reports**
  - a. Utility Clerk
  - b. Director of Public Works
- 7. Old Business/Discussion and Possible Action Regarding**
  - a. Water System Maintenance
  - b. Generator/Generator Quotes
- 8. New Business/ Discussion and Possible Action Regarding**
  - a. Wyatt Rose – High water usage, sewer credit
  - b. Treatment Plant trash issues-door knockers
  - c. Site Visit/ Update on Well #3
    1. Geotechnical Investigation Services Proposal
  - d. Televising sewer lines/Camera
- 9. Public Comment**
- 10. Questions, Referrals to Staff or Future Agenda Items**
- 11. Adjournment**

- a) Persons needing special accommodations should call 608-423-3712 at least 24 hours prior to the meeting.
- b) More specific information about agenda items may be obtained by calling 608- 423-3712.
- c) A quorum of the Water & Sewer committee will attend this meeting for the purpose of gathering information relevant to their responsibilities as Water & Sewer committee members.
- d) Final Agendas are typically posted by 4 PM on the Friday preceding the regular meeting at the Amundson Community Center, Cambridge Post Office, Hometown Bank and Village of Cambridge Web site at [www.ci.cambridge.wi.us](http://www.ci.cambridge.wi.us)



November 5, 2021

To: Geotechnical Service Providers

Re: Request for Geotechnical Investigation Services Proposal  
Proposed Water Treatment Facilities at Well #3  
Village of Cambridge, Jefferson County, Wisconsin

To Whom It May Concern:

On behalf of the Village of Cambridge, WI, MSA is requesting proposals to conduct a geotechnical investigation for the proposed Water Treatment Facilities at Well #3. The site is southeast of the intersection of Skogen Road and Potters Road in the Village of Cambridge.

The proposed project consists of the construction of water and sewer main installed at depths of 8 feet to 12 feet. The water and sewer main is expected to be constructed with open cut methods. The project also consists of the construction of a building to house water treatment equipment. We are using continuous strip footings under exterior walls with a line load of 2.5 klf to 5.0 klf, including the weight of 4ft tall frost walls. Operating weights for equipment resting on the slab-on-grade will vary from approximately 700 psf to 1100 psf with individual point loads up to 12 kips.

The project will also consist of the construction of two (2) buried precast concrete backwash detention tanks with approximate dimensions of 30' x 12' x 8.5' deep (7' maximum water depth), with the bottom of the tanks installed to a depth of approximately 10 feet.

The geotechnical investigation is to include soil borings at the following locations and depths:

Boring #	Location	Proposed Work	Depth of Boring
1	Future water main	Open cut water main or sanitary sewer main	<del>15</del> 12 ft.
2	Future sanitary sewer	Open cut water main or sanitary sewer main	<del>15</del> 12 ft.
3	Future water treatment building	Strip footing under wall, or concrete column	20 ft.
4	Future water treatment building	Strip footing under wall, or concrete column	20 ft.
5	Future backwash detention tank	Excavation to install precast concrete tank	<del>30</del> 45 ft.
6	Future backwash detention tank	Excavation to install precast concrete tank	<del>30</del> 45 ft.

The Geotechnical Services provider will have to determine the type of rig required to access the boring locations. MSA will stake the proposed soil boring locations and assign elevations.

1230 South Boulevard  
Baraboo, WI 53913

P (608) 356-2771  
TF (800) 362-4505  
F (608) 356-2770

[www.msa-ps.com](http://www.msa-ps.com)

Request for Geotechnical Investigation Services Proposal  
Well #3 Treatment Facilities, Village of Cambridge, Jefferson County, Wisconsin  
November 5, 2021

Soil borings shall be advanced to the depths indicated for each respective location, or refusal. Bedrock is anticipated to be 130 feet below the ground surface, however the proposal shall include a cost per foot to drill through unconsolidated material, as well as a cost per boring to drill a 5-foot core sample through bedrock. Groundwater is anticipated to be 40 feet below the ground surface.

Proposal price shall include all work necessary to complete the borings and reporting, including but not limited to: mobilization/demobilization, traffic control, Digger's Hotline utility locate coordination, drilling, sampling and analysis as necessary, bore hole backfill per applicable DNR Codes, and report of findings and recommendations. Laboratory testing is not anticipated.

All fieldwork, and design recommendations shall be summarized in a Geotechnical Engineering Report prepared by and sealed by a Wisconsin Registered Professional Engineer. At a minimum, the report shall include or identify:

- Classification of the soil strata after appropriate sampling using the Unified Classification System (UCS);
- Soil Site Class
- Previous excavation or fill, including elevation;
- Identification of special soils/soil conditions which may be susceptible to disturbance during construction activities;
- The presence or absence of rock, and define the type and depth of weathered rock. If encountered, the report shall define the depth of the weathered layer and depth to solid rock;
- The presence of groundwater including elevation and recommended dewatering methods if water is encountered;
- Recommended foundation system required to limit long-term settlement to 3/8 inch over 10 feet and calculated expected settlements at structures;
- Allowable bearing pressure to be used for structural design of foundations that will satisfy both bearing capacity;
- Recommended "at-rest", "active" and "passive" lateral soil pressures to be used for design of below-grade elements, including an assessment of native soils and recommend fill material if native soils are not suitable for reuse.
- Recommendations shall provide values for compaction requirements maximum dry density, optimum moisture content and suggested extent for fill material. Below-grade design parameters shall be reported in terms of soil unit weight, phi angle, c, Ko, Ka, and Kp as appropriate, in lieu of equivalent fluid pressures;
- Recommended soil parameters to be used for design of below grade elements;
- Recommendations for open cut utility construction (approximate bury depth = 7 feet to 10 feet);

The geotechnical firm shall review the proposed scope of work, and include any changes to the location, number and depth of borings as necessary to allow for the collection of sufficient data to meet the report requirements listed above.



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Request for Geotechnical Investigation Services Proposal  
Well #3 Treatment Facilities, Village of Cambridge, Jefferson County, Wisconsin  
November 5, 2021

Please prepare your proposal on a unit cost basis, including unit costs to foot to drill through unconsolidated material as well as bedrock. Please return the proposal to my attention via e-mail or hard copy no later than end of business on Friday, November 12, 2021.

Geotechnical boring logs are due 21 days after the proposal is awarded. The Geotechnical Engineering report is due 35 days after the proposal is awarded.

If you have any questions or comments, please feel free to contact me by phone or email at (608) 355-8873 or [dgreve@msa-ps.com](mailto:dgreve@msa-ps.com).

Sincerely,

MSA Professional Services, Inc.

A handwritten signature in cursive script, appearing to read "Dan Greve".

Daniel F. Greve, P.E.  
Project Engineer

Enc. Map with Proposed Soil Boring Locations



Soil Boring Locations  
Village of Cambridge, WI



2921 Perry Street, Madison, WI 53713  
608-288-4100 • FAX: 608-288-7887

Dan Greve, PE  
MSA Professional Services, Inc.  
(dgreve@msa-ps.com)

**PROPOSAL No.: C977.814**

**DATE:** November 8, 2021

**Re: Proposal for Geotechnical Services**  
Proposed Water Treatment Facilities  
Well #3 – W9569 Skogen Road  
Cambridge, Wisconsin

### PROJECT DESCRIPTION

We understand that water treatment facilities are proposed at Well #3, located at W9569 Skogen Road in Cambridge, Wisconsin. The project is envisioned to involve construction of water and sewer mains, a building to house water treatment equipment, as well as two buried backwash tanks.

### SCOPE OF SERVICES

- Perform six (6) Standard Penetration Test (SPT) soil borings. We recommend the following boring depths, amounting to a total drilling footage of 130 linear feet:
  - Two (2) borings to 15 ft below current site grades (or refusal) at the proposed utility locations;
  - Two (2) borings to 20 ft below current site grades (or refusal) within the proposed building footprint; and
  - Two (2) borings to 30 ft below current site grades (or refusal) in the areas of the proposed tanks.
- The borings will be backfilled in accordance with WDNR regulations. We assume that drill cuttings can be thin-spread around the boring locations.
- Contact Diggers Hotline to mark public utilities on-site.
- Limited geotechnical laboratory testing for classification purposes.
- Prepare a geotechnical report providing recommendations regarding site preparation, foundation, floor slab, below-grade wall, utility and pavement design/construction. Seismic site class will also be discussed.

### SPECIAL TERMS

- We assume that private utilities (not located through Diggers Hotline) are not present or will be located by the client or others. If needed, we can arrange for a private utility locate for an additional cost.
- We assume that the boring locations will be field-staked and surveyed by MSA personnel.
- We assume that the boring locations can be accessed with a standard truck-mounted drill rig. If the site conditions do not allow for a truck rig (e.g., due to soft/wet subgrades or winter conditions), an ATV drill rig can be used for an additional cost of \$415/day (after approval).
- Clearance of trees or brush, snowplowing or landscape repairs (including rutting) have not been included in our estimate, which are considered beyond the scope of services.

### ESTIMATED COSTS (Rates per attached Schedule A)

**\$4,490**, estimated cost, not to exceed without your approval. Our work will be invoiced on a time-plus-expenses basis according to our current rate schedule. The estimated total includes a lump sum cost of \$1,400 for geotechnical report preparation, drilling coordination and Diggers Hotline. Additional drilling footage during same mobilization will be invoiced at \$18.70/ft from 0 to 20 ft and \$19.80/ft from 20 to 40 ft. If shallow bedrock is encountered, a 5-ft rock core can be obtained for a cost of approximately \$750 to \$850, depending on the depth of the rock.

### COMPLETION SCHEDULE

Upon notice to proceed, the borings can typically be scheduled within about two to six weeks, pending boring layout and Diggers Hotline clearance. Drilling is expected to require about one to two days to complete. The geotechnical report can typically be completed within two weeks after the field work is finished, with verbal recommendations and draft boring logs available about one week after drilling, if desired.

### ACCEPTANCE

**Prior to authorizing CGC, Inc. to begin with the work outlined within the scope of services defined in the above proposal, please review the terms and conditions presented on the attached General Conditions for Professional Services. Signing this proposal will be considered authorization for CGC, Inc. to proceed.**

Accepted by: \_\_\_\_\_ Date: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

Submitted by: TFG Date: November 8, 2021

CGC, Inc.

By: 

Tim F. Gassenheimer, PE

Title: Senior Staff Engineer

Please return one signed copy



**2021 SCHEDULE OF FEES AND CHARGES**  
**CONSTRUCTION TESTING/GEOTECHNICAL SERVICES**  
**CGC, INC.**  
**MADISON, WISCONSIN**  
**SCHEDULE A**

**I. Hourly Rates for Professional and Technical Staff**

Staff Categories	Rate/Hour
Field Technician	
Level A .....	\$ 29.00
Level B .....	39.00
Level C .....	51.00
Level D .....	57.00
Level E .....	64.00
Clerical .....	47.00
Staff Engineer .....	71.00
Senior Staff Engineer or Geologist .....	78.00
Senior Technician .....	78.00
Project Engr. /Manager or Geologist .....	87.00
Senior Technician II .....	87.00
Certified Weld Inspector .....	91.00
Consulting Professional .....	97.00
Lab/Field/Office Supervisor .....	108.00
Senior Consulting Professional .....	125.00
Principal/Consulting Professional .....	135.00

Personnel have been classified in the above staff categories based on skill, education and experience levels. Legal consultation rates are doubled.

**II. Field Density Testing**

1. Personnel Charges .....	Per Item I
2. Field Density Test Charges .....	10.00/test
3. Moisture-Density and Relative Density Tests	
a. Modified or Standard Proctor	
1. Sample Preparation (per sample) .....	\$ 35.00
2. Coarse-Grained Soil (per point)	
i. 4 in. mold .....	\$ 27.00
ii. 6 in. mold .....	\$ 37.00
3. Fine-Grained Soil (per point)	
i. 4 in. mold .....	\$ 39.00
ii. 6 in. mold .....	\$ 41.00
b. Relative Density	
1. Dry .....	\$ 110.00
2. Wet .....	\$ 130.00

**III. Concrete Testing**

1. Personnel Charges for Cylinders Made by CGC	
Technicians .....	Per Item I

2. Compressive Strength Testing-Cylinders .....	\$ 13.00/cylinder*
(or holding not testing)	
Single Use Molds .....	\$ 3.00/each
Trimming Charges .....	\$ 12.00/each end
3. Cast-in-Place Pull Out Cylinders (CIPPOCS) .....	\$ 30.00/cylinder
Single use molds .....	\$ 35.00/each
Extensions .....	\$ 15.00/each
Trimming charges .....	\$ 10.00/each end
4. Concrete Cylinder Pick-up Service	
(applicable only if unique visit required)	
If done in conjunction with other testing .....	No charge
Separate Site Visit .....	**
5. Consultation on Concrete Problems .....	Per Item I

**IV. Field Testing/Equipment**

1. Coring Machine .....	\$ 100.00/day
2. Generator .....	100.00/day
3. Pavement Saw .....	100.00/day
4. Hammer Drill .....	50.00/day
5. Concrete Field Equipment .....	10.00/day
6. Fire Proofing Bond Test .....	10.00/each
7. Swiss Hammer .....	50.00/day
8. Windsor Probe	
a. Equipment Rental .....	**
b. Test Probes .....	75.00/set of 3
9. Steel Testing	
a. Bolt Testing .....	**
b. NDT-Welded Connections .....	**
10. Dynamic Cone Penetrometer .....	35.00/day
11. Floor Flatness - Dipstick Method .....	***
12. Double Ring Infiltration .....	100.00/set up
13. Photoionization Detector .....	95.00/day
14. Cylinder Cure Box .....	80.00/season
15. Crack Monitors .....	30.00/each
16. Vaprecision Slab Moisture Kits .....	35.00/each
17. Relative Humidity Sleeve/Test	
a. Sleeve/Test .....	85.00/each
b. Readout Machine .....	60.00/day
18. Concrete Maturity Curve Development .....	950.00 est.
19. Maturity Meter Temperature Probes .....	85.00/each
20. Traffic Control Signs .....	150.00/day
21. Asphalt/Concrete Patch .....	25.00/each
22. Grout Sample Box .....	7.00/each

\* This rate applies only to cylinders prepared by on-site CGC, Inc. representatives.  
Discounted rate may be available on large volume projects.  
A rate of \$15.00/cylinder will be applied to all other test specimens.  
\*\* Denotes tests performed on a time and expense (T&E) basis.  
\*\*\* Denotes tests performed on a T&E basis plus dipstick daily charge.

**OTHER TERMS AND CONDITIONS**

**Laboratory Services**

Standard laboratory tests will be at a fixed charge per test. When appropriate, there will be a charge for the time of laboratory personnel associated with the supervision of the testing program and summarizing and plotting of the test data. These personnel time charges will be at the hourly rates for the classification involved. A detailed breakdown of these charges will be supplied on request. The charge for nonstandard tests will be performed on a time-and-materials basis.

**Subcontracts and Equipment Rental**

The cost of services subcontracted by CGC to others, including but not limited to, chemical analysis, test borings, specialty contractors, surveyors, consultants, and equipment rental, e.g., backhoes, bulldozers, and test apparatus, etc., will be charged at cost plus a maximum of 20%.

**Other Direct Non-Salary Expenses**

Other costs incurred by CGC, which are directly identifiable to the project, including, but not limited to: vehicle rental; subsistence; fares of public carriers; special supplies and/or equipment; fees and special project insurance; permits and licenses; shipping charges; tolls and parking; special drafting, stenographic, or printing supplies, including outside printing of photographs, photostats, blueprints, etc., will be charged at cost plus 15%. A report reproduction fee of \$10 per copy will be invoiced. Mileage associated with the project for company-owned vehicles will be charged at 75 cents per mile. Mileage associated with employee-owned vehicles will be charged at the current IRS allowable rate (i.e., 56.0 cents per mile) plus 15% markup.

Use of specialized equipment provided by CGC will be invoiced at a fixed daily or weekly rate. A summary of these rates will be provided on request.

**Payment**

Invoices will be submitted monthly and will include the charges incurred during the preceding month. Payment of these invoices is due within thirty (30) days of the invoice date. Late payment may be subjected to interest charges of 1.5% per month.

**This fee schedule contains confidential business information and is  
not to be copied or distributed for any purpose other than  
the use intended in this contract or proposal**

## **CGC, Inc.**

### **GENERAL CONDITIONS FOR PROFESSIONAL SERVICES**

#### **ARTICLE I**

##### **METHOD OF CHARGING AND PAYMENT CONDITIONS**

The method of charging for CGC's services ("Services") shall be on a time and materials basis and shall be based on the Schedule of Fees and Charges in effect when the Services are performed. CGC periodically shall submit invoices to Client. Client shall pay each invoice within thirty (30) days of the date of the invoice. However, if Client objects to all or any portion of any invoice, Client shall so notify CGC thereof within fifteen (15) days from date of the invoice, give reasons for the objection and pay that portion of the invoice not in dispute. Client shall pay an additional charge of one and one-half percent (1-1/2%) of the amount of the invoice per month or the maximum percentage allowed by law, whichever is the lesser, for any payment received by CGC more than thirty (30) days from date of invoice. Payment thereafter shall first be applied to accrued interest and then to the unpaid principal. The additional charge shall not apply to any disputed portion of any invoice resolved in favor of Client. In the event of a legal action brought by CGC against Client for invoice amounts not paid, attorneys' fees, court costs and other related expenses shall be paid to the prevailing party by the other party.

Client shall reimburse CGC for any sales, use and value-added taxes which apply to the Services. Client shall reimburse CGC for the amount of such taxes in addition to the compensation due for the Services.

In addition to the above, if payment of CGC invoices is not maintained on a thirty (30) day current basis, CGC may, by ten (10) days written notice to Client, suspend further performance and withhold any and all data from Client until such invoice payments are restored to a current basis.

#### **ARTICLE II**

##### **CONSTRUCTION PROCEDURES**

CGC, except for its own services, shall not specify construction procedures, manage or supervise construction, or implement or be responsible for health and safety procedures; shall not be responsible for the acts or omissions of contractor's or other parties on the project; and shall not have control or charge of and shall not be responsible for construction means, methods, techniques, sequences or procedures, or for safety precautions and programs. CGC testing or inspection of portions of the work of other parties on a project shall not relieve such other parties from their responsibility for performing their work in accordance with applicable plans, specifications and safety requirements.

#### **ARTICLE III**

##### **RECOGNITION OF RISK**

Client recognizes that environmental, geologic, hydrogeologic and geotechnical conditions can vary from those encountered at the times and locations where data are obtained by CGC, and that the limited data result in some level of uncertainty with respect to the interpretation of these conditions, despite the use of due professional care.

#### **ARTICLE IV**

##### **PROFESSIONAL RESPONSIBILITY**

CGC represents that the Services shall be performed, within the limits prescribed by Client, in a manner consistent with that level of care and skill ordinarily exercised by other professional consultants under similar circumstances at the time the Services are performed. No other representations to Client, express or implied, and no warranty or guarantee is included or intended hereunder, or in any report, opinion, document or otherwise.

#### **ARTICLE V**

##### **LIMITATIONS OF LIABILITY**

The liability of CGC, its employees, agents and subcontractors (hereinafter for purposes of this Article V referred to collectively as "CGC"), for Client's claims of loss, injury, death, damage or expense, including, without limitation, Client's claims of contribution and indemnification with respect to third party claims, relating to the Services or to obligations imposed hereunder (hereinafter, "Client's Claims") shall not exceed in the aggregate:

- (1) the total sum of \$100,000 for Client's Claims arising out of professional negligence, including errors, omissions or other professional acts, and including unintentional breach of contract;
- (2) the total sum of \$1,000,000 for Client's Claims arising out of negligence, or other causes for which CGC has any legal liability, other than as described in (1) above.

In no event shall either CGC or Client be liable for consequential damages, including, without limitation, loss of use or loss of profits, incurred by one another or their subsidiaries or successors, regardless of whether such damages are caused by breach of contract, willful misconduct, negligent act or omission, or other wrongful act of either of them.



## **ARTICLE VI INDEMNIFICATION**

If any claim is brought against CGC, its employees, agents or subcontractor (hereinafter for purposes of this Article VI referred to collectively as "CGC") and/or Client by a third party relating in any way to the Services, the contribution and indemnification rights and obligations of CGC and Client, subject to the limitations of liability under Article V above, shall be determined as follows:

- (1) if any negligence, breach of contract, or willful misconduct of CGC caused any damage, injury or loss claimed by the third party, then CGC and Client shall each indemnify the other against any loss or judgment on a comparative responsibility basis under comparative negligence principles (Client responsibility to include that of its agents, employees and other contractors);
- (2) unless CGC was guilty of negligence, breach of contract, or willful misconduct which, in whole or in part, caused the damage, injury or loss asserted in the third party claim, Client shall indemnify CGC against the claim, liability, loss, legal fees, consulting fees and other costs of defense reasonably incurred.

## **ARTICLE VII INSURANCE**

CGC agrees to maintain during the performance of the Services: (1) statutory Workers' Compensation coverage; and (2) Comprehensive General and Automobile Liability insurance coverage in the sum of not less than \$1,000,000.

## **ARTICLE VIII CLIENT ACTION TO BE TAKEN**

Client shall notify CGC of any known, potential or possible health or safety hazards existing on or near the project site upon which the Services are to be or are being performed. If hazardous conditions are discovered during the performance of the Services that are different in type, amount or concentration from those disclosed to CGC prior to commencement of the Services, then, upon notification, Client and CGC shall equitably adjust the Services and compensation. If the parties are unable to agree on the adjustment, the Services shall be terminated and CGC shall be paid for the portion of the Services performed and reasonable termination charges.

Client shall correctly show, on plans to be furnished to CGC, the location of subsurface structures, such as pipes, tanks, cables and utilities. If the Services require CGC to investigate the location of such underground structures, then consistent with the agreed upon scope of such investigation, CGC shall be obligated to perform the investigation in accordance with reasonable standards of care. CGC shall not be responsible for damage to underground structures which occurs despite the use of such care.

Client shall give CGC prompt written notice of any suspended defect in the Services.

## **ARTICLE IX FORCE MAJEURE**

Neither party shall hold the other responsible for damages or for delays in performance caused by force majeure, acts of God, or other acts or circumstances beyond the control of the other party or that could not have been reasonably foreseen and prevented. For this purpose, such acts or circumstances shall include, but not be limited to, unusual weather affecting performance, floods, epidemics, war, riots, strikes, lockouts or other industrial disturbances, protest demonstrations, unanticipated site conditions, and inability, with reasonable diligence, to supply personnel, equipment or material for the Services. Should such acts or circumstances occur, both parties shall use their best efforts to overcome the difficulties arising and to resume as soon as reasonably possible the normal pursuit of the Services. Delays which cumulatively exceed forty-five (45) days shall, at the option of either party, make the Services subject to termination for convenience or to renegotiation.

## **ARTICLE X ESTIMATED TIME SCHEDULE**

Because of the uncertainties inherent in the Services, time schedules are only estimated schedules and are subject to revision unless specifically described as otherwise herein.

## **ARTICLE XI ESTIMATED CHARGES AND PAYMENT CONDITIONS**

CGC's charges are estimated only and shall not be regarded as "lump sum", "fixed price" or "guaranteed maximum" compensation unless expressly stated as such in writing.



## **Soils & Engineering Services, Inc.**

November 13, 2021

Proposal 913.5093

Mr. Daniel F. Greve, P.E.  
MSA Professional Services  
1230 South Boulevard  
Baraboo, Wisconsin 53913

**Subject:      Proposal for Geotechnical Exploration and Report  
Proposed Water Treatment Facilities at Well #3  
W9569 Skogen Road  
Village of Cambridge  
Jefferson County, Wisconsin**

Dear Dan,

As you requested on November 5, 2021, we are submitting this proposal to complete a geotechnical exploration and report for the proposed project. The project includes water main and sanitary sewer lines, a water treatment building, and a backwash detention tank. The requested scope of the field work is drilling and sampling two 15-foot, two 20-foot and two 30-foot soil borings.

We will mobilize an off-road drilling rig to access and perform the requested soil borings to reduce the potential for rutting of the ground surface. We anticipate the soil boring locations will be on existing grassed areas. We will leave the drill cuttings at each soil boring location.

The requested scope of the field work presented in this proposal consists of drilling and sampling six soil borings; bentonite backfill of the boreholes with bentonite; laboratory classification of the soils encountered; and preparation of a geotechnical engineering report for the proposed improvements.

The geotechnical report will include a discussion regarding the soil types and depths to bedrock (if encountered) and groundwater levels encountered; discussion for whether or not bedrock should be anticipated during excavations for the utility lines, detention tank and building foundations; recommendations for site preparations for foundations; recommended foundation type(s); allowable soil bearing capacity for spread footings; slab on grade preparations; discussion regarding the suitability of cut and cover construction for the utility lines; and foundation wall backfill and utility trench backfill recommendations. Our scope does not include laboratory or field testing of soils for permeability. Please contact us if you need these services included in our scope of work.



**A. GEOTECHNICAL EXPLORATION AND REPORT**

The geotechnical exploration and report will be performed according to the following unit rates.

<b>Item No.</b>	<b>Item Description</b>	<b>Unit Rate</b>
1.	We will mobilize an off-road drilling rig to the project site to perform the requested soil borings.	\$550.00 lump sum
2.	We assume that MSA Professional Services, Inc. (MSA) will stake the soil borings for us prior to mobilization of our drilling crew to the project site.	
3.	We will coordinate the proper locating and marking of public underground utility lines through Diggers Hotline. The proper locating and marking of private utility lines and structures including septic systems, private water lines, and private electric lines, is the responsibility of the property owner. If authorized, we can subcontract with a private utility locator at a rate of \$165.00 per hour (minimum 3 hour charge).	\$65.00 lump sum
4.	We will drill the soil borings using hollow-stem augers. We will obtain soil samples with a split-barrel sampler (ASTM D1586) at 2½-foot intervals to a depth of 10 feet below ground surface and at 5-foot intervals below a depth of 10 feet.	
a.	For that portion of the boring from ground surface to a maximum depth of 20 feet.	\$15.00 per linear foot
b.	For that portion of the boring from a depth of 20 feet to 40 feet below ground surface.	\$17.00 per linear foot
c.	Surcharge for drilling in dense soils or bedrock with blow counts of 50 or more per foot.	\$10.00 per linear foot
5.	If shallow bedrock is encountered, we can obtain a core sample of it.	
a.	Equipment set up.	\$350.00 per boring
b.	Bedrock coring (0' to 50' depth range).	\$65.00 per foot of core run
6.	Boreholes that intersect groundwater or that are more than 10 feet deep will be backfilled with bentonite, per WDNR requirements.	\$5.00 per foot



7. We will perform laboratory tests to determine general strength and settlement characteristics of the soils encountered, to assist in proper soil classification, and to determine soil parameters. Not all of the soil samples are tested but rather the samples are grouped according to soil type and representative samples are tested for determination of various soil parameters.

We will perform the tests at the following unit rates:

- |  |                      |
|--|----------------------|
| a. Moisture content.   | \$10.00 per sample   |
| b. Atterberg limits, liquid and plastic.   | \$65.00 per sample   |
| c. Gradation analysis (sieves through No. 200 mesh), with computer plot.   | \$115.00 per sample  |
| d. Gradation analysis (sieves and hydrometer), with computer plot.   | \$165.00 per sample  |
| e. Unconfined compressive strength and unit weight.  | \$65.00 per sample   |
|  |                      |
| 8. Laboratory classification of the soil samples by a geologist or professional engineer, and preparation of computer-generated Soil Boring Records from the field logs.   | \$85.00 per boring   |
|  |                      |
| 9. We will prepare a geotechnical engineering report based on the information obtained from the soil borings. The report will include a summary of the soil types encountered; a summary of the depth to bedrock and groundwater encountered; recommended foundation options; soil bearing capacity for a shallow foundation option; recommended site preparations for the foundations and utility lines; seismic Site Class; and recommendations for foundation wall and utility trench backfill material and compaction. | \$1,950.00 allowance |
|  |                      |
| Consultation, meetings, or additional report time for a scope of work beyond that presented in this proposal shall be considered 'extra services.'   |                      |
|  |                      |
| 10. This proposal assumes access with a low pressure all-wheel drive drilling rig. No allowances are made for special site preparations to gain access with drill rigs including: furnishing of barges for work over water; use of a chainsaw; tree removal; snow plowing or removal; special blocking or cribbing; traversing very soft ground; or paying for crop damage. Delays of the drilling crew will be charged at \$245.00 per hour.  |                      |





No allowances are included for access permits or other costs associated with gaining access to the boring locations.

11. The unit charges given in this proposal are valid for the 2021 calendar year. We reserve the right to renegotiate the figures if the work is authorized to commence after 2021.

#### **B. SUMMARY OF GEOTECHNICAL CHARGES**

The total estimated charge for drilling and sampling twenty-one soil borings is \$6,165.00 based on the scope of geotechnical services presented in this proposal. This charge is based on the following summary of work.

<b>Item A.1.</b>	
Drilling crew mobilization	\$550.00
<b>Item A.3.</b>	
Diggers Hotline coordination and administration	\$65.00
<b>Item A.4.a.</b>	
110 linear feet of drilling and sampling at \$15.00 per linear foot	\$1,650.00
<b>Item A.4.b.</b>	
20 linear feet of drilling and sampling at \$17.00 per linear foot	\$340.00
<b>Item A.6.</b>	
130 linear feet of borehole backfill at \$5.00 per linear foot	\$650.00
<b>Item A.7.</b>	
Laboratory testing allowance	\$450.00
<b>Item A.8.</b>	
Soil Boring Records for 6 soil borings at \$85.00 per boring	\$510.00
<b>Item A.9.</b>	
Geotechnical engineering report	\$1,950.00

The charge for one 5-foot bedrock core is \$675.00.

#### **C. GENERAL TERMS AND CONDITIONS**

SES is not directly involved with the design of the project, but is engaged only to perform field and laboratory work to determine design parameters for the soils. Inasmuch as this exploration is conducted to obtain general knowledge of the subsurface soil conditions by a limited number of borings, MSA limit SES's professional liability to SES's negligent acts, errors, or omissions for conditions relating to the project foundation and its performance as related to recommendations given by SES.

MSA understands that SES's services under this proposal are limited to geotechnical engineering and that SES will have no responsibility to locate, identify, evaluate, treat or otherwise consider or deal with hazardous materials. MSA will be solely responsible for notifying all appropriate federal, state, municipal, or other governmental agencies, including the



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potentially effected public, of the existence of any hazardous materials located on or near the project site, or located during the performance of the work presented in this proposal. The existing or discovery of hazardous materials will constitute a changed condition under this proposal.

Hazardous materials are defined in this proposal as any toxic substances, chemicals, pollutants, or other materials, in whatever form or state, that are known or suspected to adversely effect the health and safety of humans or of animal or plant organisms, or which are known or suspected to impair the environment in any way whatsoever.

SES offers different levels of geotechnical engineering services to suit the desires and needs of different clients. Although the possibility of error can never be eliminated, more detailed and extensive services yield more information and reduce the probability of error, at increased cost. MSA must determine the level of service adequate for its purposes. MSA warrants that it has reviewed the scope of work presented in this proposal and has determined that it does not need or want a greater level of service than that proposed. Subject to the limitations inherent in the agreed upon scope of work as to the degree of care, amount of time and expenses incurred, and subject to any other limitations contained in this proposal, SES will perform its services consistent with that level of care and skill ordinarily exercised by other professional engineers under similar circumstances at the time the services are performed. No warranty, expressed or implied, is included or intended by this proposal.

We have insurance coverage for professional liability, general liability, automobile liability, bodily injury, property damage, and completed operation, to protect the subject property and our workers during the performance of the field work. We require written authorization to proceed with the work for this project for our insurance coverage to be in effect. The professional liability of SES is limited to the policy limits.

We look forward to working with you on this project. Please indicate your authorization for us to proceed on this project by signing one copy of this proposal and returning it to us, or by providing an approved work order or purchase order.

If you have any questions regarding this submittal or if you need additional information, please contact us at (608) 274-7600.

Respectfully submitted,

**SOILS & ENGINEERING SERVICES, INC.**



Duane E. Reichel, P.E.

DER:JAJ:wsr





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**APPROVAL OF PROPOSAL**

Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

