

GALE-TEC ENGINEERING, INC.

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October 22, 2024
Revised November 5, 2024

Mr. Matthew Dalrymple, P.E.
St. Paul Regional Water Services
1900 Rice Street
Saint Paul, MN 55113
Via email: Matthew.Dalrymple@ci.stpaul.mn.us

Re: Proposal for Soil Borings and Lab Testing for Proposed Water Utility Replacement
Project in St. Paul, MN

Dear Mr. Dalrymple:

In accordance with your request, we are pleased to provide you with this revised fee estimate for services associated with the above referenced project. Enclosed please find a proposed scope of work for Gale-Tec Engineering, Inc. (GTE) and our sub, Glacial Ridge Drilling, Inc.

If acceptable, issue a purchase order to us per our Professional Services Contract No. 4643 dated May 15, 2024.

Respectfully,

GALE-TEC ENGINEERING, INC.

 

Stephan M. Gale, P.E.
Principal Engineer

Nathan M. Lichty, P.E.
Sr. Project Engineer

Enclosures: Fee Schedule
Fee Estimate Worksheet

SMG/NML/pjk

PROPOSAL/St Paul Regional Water, Water Utility Replacement Borings, St Paul, MN

SOIL BORINGS FOR WATER UTILITY REPLACEMENT PROJECT

INTRODUCTION/PROJECT UNDERSTANDING

We understand that St. Paul Regional Water is planning to replace water utilities throughout the City. The new water pipe will be at a depth of 8ft. You have requested one boring per block to a depth of 11ft. No lab testing or geotechnical recommendations are requested.

Our deliverable will be gINT boring logs and a summary report.

PROPOSED WORK PLAN

Subsurface Exploration – You have requested 11ft deep SPT borings drilled through the existing pavement section. We plan to drill on the side of the road. We assume the existing pavement section is bituminous pavement over Class 5 Aggregate. Bituminous pavement and aggregate base section thicknesses will be measured and subgrade soil samples obtained with a hollow stem auger and split spoon sampling. Due to the urban nature of the project, it is likely that numerous utilities are located beneath the roadway. Therefore, we propose that a Gopher State One Call meet be scheduled after selecting boring locations. Some boring relocation will likely be required based on utility locations. All borings will be backfilled with soil with a bituminous cold patch placed at the ground surface. You should confirm that this is acceptable. We would rely on you to either have the City or a consultant surveyor obtain location coordinates and surface elevations at the boring locations, if required. We will provide a boring location diagram.

We will submit for a Road Right of Way (RROW) Permit. You have stated that a fee will be required to be paid to the City per boring.

Borings will require signs/cones and flashers during drilling operations. We have also included a contingency fee of \$2800 per day for flagmen, if required on some of the more heavily trafficked roads.

Our deliverable will be a short report which includes typed gINT boring logs.

An outline for the subsurface exploration is given below.

Subsurface Exploration

- Visit site.
- Review of GSOC provided sewer permit links.
- Layout of soil borings. We are not obtaining coordinates and surface elevations at boring locations.
- Submit RROW permit to City and pay their fee.

- Contact Gopher State One Call (We cannot be responsible for utilities not identified by Gopher State One Call).
- Relocate borings, if required.
- Mobilization of CME-75 truck drill rig.
- Provide traffic control consisting of signs/cones. Flagmen pricing is included, if needed for some of the more heavily trafficked roadways.
- Drill up to 98 SPT soil borings to a depth of 11ft.
- Drill through bituminous/concrete pavement.
- Split-spoon sampling shall be obtained from SPT soil borings.
- We will measure any groundwater that collects in the borehole while drilling and report that depth on the boring logs (Piezometers have not been requested).
- Boreholes will be backfilled with soil and a cold bituminous patch placed at the surface.
- City to provide snow removal, if required. City to also provide secure drill rig storage location over nights.

Deliverable

- Classification of all soil samples and preparation of type gINT soil boring logs.

Schedule – We estimate that drilling would be scheduled in December, 2024, if notice to proceed is issued by November 8, 2024. Pending weather, we estimate 30-40 borings drilled per week – over a 3 week period for a total estimated borings of up to 98. An additional 1-2 weeks will be required for Soil Classification and boring log preparation.

Extra -

- Hot-Mix 2' x 2' patch to be subcontracted for Spring, 2025 when asphalt plants reopen after winter season, if required.

FIRM BACKGROUND & PROJECT TEAM

Gale-Tec Engineering, Inc. (GTE), founded in 1995, is a specialist to the transportation industry. We provide geotechnical engineering for Municipal, County, State and Federal projects for roads, bridges and other pavement applications. We are members of the American Council of Engineering Companies (ACEC) Transportation committee. We have served on the Transportation Research Board committee AFS-70-Geosynthetics and are voting members of ASTM Committee D-18 Soils and D-35 Geosynthetics. GTE performs subsurface explorations, laboratory and field testing, installs and monitors instrumentation, performs geotechnical studies and prepares plans/specifications for specialty portions of projects. GTE is a nationally recognized firm in the evaluation and design of pavement stabilization over soft ground using geosynthetics and other products. GTE presents seminars at Universities, for State LTAP programs and for private organizations on this topic throughout the U.S.

Subsurface Exploration – Soil Borings would be completed by Glacial Ridge Drilling, Inc. Glacial Ridge Drillers, Mr. Brad and Derick Ruchti, have over 30 years experience in drilling projects in the Twin Cities Metro Area. They drilled soil borings for all of Gale-Tec’s recently completed St. Paul and Ramsey County projects as well as numerous other MnDOT and Minnesota County projects throughout the state.

Traffic Control at boring locations would be provided by either Warning Lights, Inc. or Lookout Flagging, Inc.

SUMMARY

We look forward to working with you on this Project.

FEE SCHEDULE

Engineering Services

The rates presented are portal to portal, with vehicle mileage, expenses and equipment rentals additional.

Overtime for personnel charged at cost plus 25% for over 8 hours per day or Saturday; and at cost plus 50% for Sundays or holidays.

Engineering/Technical Personnel Rates

| | | | |
|------------------------------------|----------|----|--------|
| Engineer Technician II | Per Hour | \$ | 90.00 |
| Engineer I, Geologist, Scientist I | Per Hour | \$ | 110.00 |
| Senior Project Engineer | Per Hour | \$ | 175.00 |
| Principal Engineer | Per Hour | \$ | 195.00 |
| Word Processing Specialist | Per Hour | \$ | 64.00 |
| CADD Specialist | Per Hour | \$ | 82.00 |
| CADD Equipment | Per Hour | \$ | 18.00 |

Site Exploration Equipment Rental Services

| | | | |
|---|----------|----|--------|
| Drilling Services (Includes CME-75 truck mounted drill rig and 2-person crew) | | | |
| Mobilization, Gopher State Locate, Per Diem | | \$ | Quoted |
| Hollow Stem Auger and Split Spoon Sampling 0 to 40 ft. | Per Foot | \$ | 24.00 |
| Hollow Stem Auger and Split Spoon Sampling 15 to 25 ft. | Per Foot | \$ | 35.00 |
| Shelby Tube Sampling and Laboratory Extraction 0 to 50ft | Per Foot | \$ | 190.00 |
| Borehole Backfill with Soil | Per Foot | \$ | 3.00 |
| Borehole Backfill with Cement Grout | Per Foot | \$ | 9.00 |
| Drilling through Concrete Pavement | Lump Sum | \$ | 600.00 |
| Borehole Backfill with Soil & Cold Patch | Per Foot | \$ | 5.00 |

Laboratory Testing of Soil

| | | | |
|--|------------|----|--------|
| Moisture Content | Per Test | \$ | 26.00 |
| Dry Density (includes Moisture Content) | Per Test | \$ | 75.00 |
| Atterberg Limits (LL and PI) | Per Test | \$ | 140.00 |
| P200 | Per Test | \$ | 110.00 |
| Sieve Analysis (includes #200 determination) | Per Test | \$ | 140.00 |
| Unconfined Compressive Strength | Per Test | \$ | 130.00 |
| Torvane Shear | Per Test | \$ | 18.00 |
| Hand Penetrometer | Per Test | \$ | 12.00 |
| Organic Content of Soil | Per Test | \$ | 122.00 |
| R-Value | Per Test | \$ | 500.00 |
| Soil Classification | Per Sample | \$ | 15.00 |

Expenses

| | | | |
|--|----------|--------|-------|
| Mileage – Personal Vehicle | Per Mile | \$ | 0.655 |
| Direct Project Expenses: Includes travel expenses including car and hotel, special equipment, materials and supplies; transportation and freight; and reproduction services. | | Cost X | 1.0 |

St. Paul Regional Water Services - Water Utility Replacement

Geotechnical Engineering

| | Sr. Project Engineer - Nate Lichty, P.E. | Principal Engineer - Steve Gale, P.E. | Word Processing Specialist - Paula Kelly | Total |
|--|---|--|--|---------------------|
| Task 1 - Project Administration | 12 | 20 | 2 | 34 |
| Task 2 - Subsurface Exploration | | | | |
| Task 2a - GSOC map review - 1/4 hr per boring | 25 | 5 | 0 | 30 |
| Task 2b - Soil Boring Layout | 30 | 4 | 0 | 34 |
| Task 2c - GSOC Utility Meet and Soil Boring Relocation | 20 | 2 | 0 | 22 |
| Task 3 - Boring Logs - 1/2 hr/log | 49 | 3 | 0 | 52 |
| Task 4 - Prepare Report | 15 | 3 | 4 | 22 |
| Task 5 - Hot Mix Patch Coordination | 20 | 2 | | |
| Total Hours | 171 | 39 | 6 | 216 |
| Hourly Rate* | \$ 175.00 | \$ 195.00 | \$ 64.00 | |
| Subtotal | \$ 29,925.00 | \$ 7,605.00 | \$ 384.00 | \$ 37,914.00 |

| Subsurface Exploration - Drilling | Quantity | Unit Rate | Total |
|--|-----------------|------------------------------------|----------------------|
| *Mobilization-CME 75 Truck Mounted Drill Rig | 15 | \$1,000.00 per day | \$ 15,000.00 |
| *Gopher State One Call/Coordination | 15 | \$250.00 per day | \$ 3,750.00 |
| *Set-up on Borings | 98 | \$100.00 per boring | \$ 9,800.00 |
| 11ft deep SPT Soil Borings HSA w/ SS Sampling | 1078 | \$24.00 per foot | \$ 25,872.00 |
| *Drilling Through Bituminous/Concrete Pavement | 98 | \$100.00 per boring | \$ 9,800.00 |
| *St. Paul No Parking Signs | 15 | \$250.00 per day | \$ 3,750.00 |
| *St. Paul Right-of-Way Permit Application Coordination and Fee to City | 98 | \$50.00 per boring | \$ 4,900.00 |
| Borehole Backfill with Soil | 1078 | \$3.00 per foot | \$ 3,234.00 |
| Borehole Clean Up and Cold Patch | 1078 | \$5.00 per foot | \$ 5,390.00 |
| *Traffic Control - Signs and Cones | 98 | \$200.00 per day | \$ 19,600.00 |
| *Traffic Control Flagman | 8 | \$2,800.00 per day | \$ 22,400.00 |
| | | Subtotal | \$ 123,496.00 |
| Contingency for Weather and/or Utility Locate Delays | | | \$ 5,000.00 |
| | | Drilling Subtotal | \$ 128,496.00 |
| Soil Laboratory Testing | Quantity | Unit Rate | Total |
| Soil Classification - 5 samples/borehole - 5 x 98 = | 490 | \$15.00 each | \$ 7,350.00 |
| | | Subtotal Laboratory Testing | \$ 7,350.00 |

| Expenses | Task | Total |
|-----------------|---|------------------|
| | Mileage - Boring Layout, Drilling Coordination by Engineer(350 miles @ \$0.67/mile) | \$ 234.50 |
| | Subtotal Expenses | \$ 234.50 |

Extra (These fees are NOT included in Total)

| | | | |
|---|----|-----------------------|---------------|
| **Borehole 2' x 2' HotMix Patch in Spring, 2025 | 98 | \$1,200.00 per boring | \$ 117,600.00 |
| Traffic Control during Hot Mix Patch, 2025 | 98 | \$200.00 per boring | \$ 19,600.00 |

| | |
|----------------------------------|----------------------|
| ENGINEERING EXPENSES -GTE | \$ 37,914.00 |
| SUBSURFACE EXPLORATION | \$ 128,496.00 |
| LABORATORY | \$ 7,350.00 |
| EXPENSES | \$ 234.50 |
| TOTAL | \$ 173,994.50 |

Notes

Borings deeper than 11 ft. - \$100/ft. over 11 ft includes backfill with grout, if needed and additional soil classifications
 Standby Time Extra at \$500 per hour.
 *not included in #4643 hourly rates.
 **only an estimate - actual per subcontractor quote