



January 13, 2020

Via Email only

Christine Sisson, P.Eng.
Supervisor, Development Engineering
City of Kawartha Lakes, Engineering & Corporate Assets
12 Peel Street, P.O. Box 9000
Lindsay, Ontario
K9V 5R8

**Subject: Green Eden Development – Water Service Design
Omeme, Ontario**

Dear Mrs. Sisson,

Further to your request, we are pleased to submit our fee proposal for the design of the water service from Sibley Avenue North to the Green Eden Development on Mary Street West in Omeme, ON. It is our understanding that the developer has paid a \$68,000 fee to the City of Kawartha Lakes (CKL) for this work and has requested that CKL retain WSP undertake the design, preparation of drawings, specifications and tender documentation followed by construction administration and inspection services in accordance with the requirements of CKL. Accordingly, we provide the following information and fee estimate for consideration by CKL staff.

SCOPE OF WORK

Based on discussions with CKL staff, we understand the objective is to design a 75mm water service to service the Green Eden site on Mary Street West. The water service is to begin at the 150mm watermain at Sibley/Walnut and follow a route along Walnut to Deane, then south on Deane to cross Highway 7 to the road allowance at Ski Hill Road / Mary St W and then easterly on Mary Street West to the Green Eden site.

The work will require WSP to confirm the 75mm service is sufficient for the 30-unit development as well as prepare detail design drawings and specifications suitable for tendering. This will be completed shortly after authorization to proceed is received and background data compiled. WSP will need to obtain a MTO encroachment permit to cross Highway 7, which we assume will require at least 2 additional meetings with MTO. To facilitate design, we will need to complete a topographic survey of the route to obtain and confirm utility and infrastructure as-built information along the route and undertake a geotechnical investigation. The geotechnical investigation will determine subsurface conditions along the route that may impact design and construction, as well as provide information for roadway restoration.

Following completion of the fieldwork and approval of the route by CKL, we will proceed with preliminary design. The preliminary design will be provided to CKL for review and comment. After incorporating comments from CKL, we will proceed with detail design, development of specifications and a preparation of a Construction Cost Estimate. We are assuming the work will not require a Class EA as the work will be within the existing road allowance. We have not made allowance for public meetings or a Council presentation.

WSP will prepare the tender package for CKL. It is assumed CKL will incorporate the frontend documentation, coordinate and issue the tender. WSP will review the bids received and provide a recommendation for award, as needed.



Following award of the construction contract by CKL, WSP will provide contract administration and full-time construction inspection services for the duration of the work, assumed to be eight (8) weeks duration.

All design and inspection work will be completed in accordance with CKL specifications and requirements for this type of work.

DESIGN FEE ESTIMATE

WSP estimates the professional fees, including disbursements are \$63,500 plus HST. A breakdown of the fees and disbursements are provided below.

DESCRIPTION	TOTAL (EXCLUDING HST)
Project Management, Health & Safety, Coordination	\$3,000
Fieldwork & Utility As-Built Confirmation	\$1,600
Preliminary Design	\$5,100
Detail Design	\$4,500
Specifications & Tender Package	\$1,400
MTO Coordination, Encroachment Permit and Meetings (2)	\$3,200
Engineering Design & Tender	\$18,800
Contract Administration (1 day / week)	\$9,200
Construction Inspection Services (full-time – 44 hrs / week for 8 weeks)	\$28,000
Contract Admin & Inspection	\$37,200
Geotechnical Investigation, Laboratory Testing and Report (breakdown below)	\$7,525
Total (Excluding HST)	\$63,525

GEOTECHNICAL INVESTIGATION

UTILITY LOCATES, PERMITS AND INFORMATION

Buried utility clearances will be obtained for the borehole locations and investigation area, prior to mobilization, using Ontario One Call services in conjunction with community Public Works/Infrastructure department services as needed. WSP will verify hydro, telephone, water, sewers, cable and any other services identified by Ontario One Call and conflicts with the proposed drilling locations will be address prior to drilling. Prior to commencement of the work program, a Road Occupancy Permit (ROP) will be obtained from the City of Kawartha Lakes. It is assumed there would be no charges for the permit.



OCCUPATIONAL HEALTH AND SAFETY, QA/QC

A project specific health and safety plan (HASP) will be developed and implemented for the project, as approved by the Project Lead. OHSA-trained staff will be used to supervise excavating and drilling operations. WSP maintain up-to-date WSIB clearances. Information can be provided upon request.

A WSP technician will ensure the field samples are contained, preserved, handled and transported properly, in addition to maintaining thorough records keeping. All laboratory testing will be completed by an accredited facility. Appropriate health and safety precautions measures will be taken throughout the entirety of the project.

BOREHOLE PROGRAM

As requested, WSP will complete up to eight (8) boreholes within the travelled portion of the roadway, within the proposed road reconstruction boundaries, using a truck-mounted rig equipped for SPT sampling. Boreholes will be advanced to a maximum depth of 4.0 m below existing ground level, or to refusal on presumed bedrock. A WSP geotechnical technologist will oversee the fieldwork and log borehole data including asphalt thickness, granular thickness(s) and collect granular samples for laboratory analysis. Soil samples from the boreholes will be recovered and retained in labeled sample containers for subsequent review by the project engineer. On completion of the investigation, the boreholes will be backfilled, tamped and sealed with cold patch asphalt. Traffic control would be provided in accordance with OTM Book 7 (Temporary Conditions); traffic layout TL-19 is assumed for short duration activities. It is assumed that the geotechnical work program will not require the need for a Paid Duty Officer. Should the City request that boreholes be placed less than 30 m from a signalized intersection, a unit rate will apply.

LABORATORY TESTING

Soil samples recovered from the drilling investigation will be reviewed by the Geotechnical Engineer or Project Lead prior to completion of the laboratory program.

We have made an allowance in the estimate for completion of six (6) particle size analyses and/or Atterberg Limits tests, as determined appropriate by the Geotechnical Engineer, thirty-six (36) natural moisture content analyses, four (4) samples for bulk chemical analysis.

Particle Size Analyses, Atterberg Limits and natural moisture content analyses will be completed to ASTM standards at our CCIL-certified laboratory, for classification of soils and determination of engineering properties. Bulk chemical analysis shall be completed on a selected sample or selected samples for O.Reg 153 parameters: Petroleum Hydrocarbons (PHCs) F1-F4, Volatile Organic Compound (BTEX), Metals and other Regulated Parameters (ORPs) as listed in the RFQ 2019-ENG-42.

All geotechnical tests on soil and rock samples will all be completed at the Peterborough WSP facility. All chemical tests will be completed at the Lakefield SGS laboratory. The WSP soils laboratory has been operating for over 10 years and is certified by CCIL for select Level B and C tests, as well as concrete and grout. The laboratory participates in the MTO annual proficiency program and has a high rating.

REPORTING

On completion of the borehole investigation and laboratory testing, our conclusions will be summarized in a detailed report that provides recommendations for the proposed road reconstruction and underground infrastructure



replacement. The report will include an introduction, site description, summary of borehole investigation procedures, a description of existing asphalt and granular road base conditions, and recommendations. Recommendations are to include general excavation and backfill procedures including shoring recommendations, use of native soil as backfill, pipe bedding recommendations and pavement design thickness. Two (2) copies of the report will be provided.

GEOTECHNICAL INVESTIGATION FEE ESTIMATE

Our estimated fees for the proposed field program and detailed geotechnical report are provided in the following table.

DESCRIPTION	TOTAL (EXCLUDING HST)
Borehole Layout, Utility Locates, Road Occupancy Permit	\$475
Geotechnical Field Investigation, including drilling and traffic control (OTM Book 7)	\$3,550
Laboratory Tests (4 Bulk Chemical Analysis, 6 GSA, 36 moistures)	\$2,150
Geotechnical Report	\$1,350
Total (Excluding HST)	\$7,525

The geotechnical fee estimate has been based on the scope of work described above and on our experience in successfully completing similar investigations. In the event that the Client provides direction to revise the work program, or if site conditions or unforeseen changes occur, WSP will provide an updated estimate of engineering fees for change to the scope of work outlined above.

GEOTECHNICAL SCHEDULE

WSP will provide a specialized project team dedicated to this assignment. A tentative schedule to complete each task required for the assignment is as follows. For the purpose of scheduling, the following timeline should be assumed for each milestone. The project would be initiated at the time of authorization by the City of Kawartha Lakes.

Table 4-1: Proposed Milestone Schedule

MILESTONE	TURNAROUND TIME	TARGET DATES
Borehole Layout, Clearance of underground utilities	7 - 10 business days	February 10-21, 2020
Borehole Investigation	1 business day	Week of March 2, 2020
Soils review and laboratory program	7 business days	Week of March 9, 2020
Submission of Geotechnical Report	8 business days	March 24, 2020

The total work program is expected to take approximately 6 weeks, depending on City approvals, utility clearances and equipment availability at the time of authorization.



CLOSURE

We trust that the proposed investigation and cost estimate are acceptable. Please contact our office if you have any questions.

Yours Truly

A handwritten signature in blue ink, appearing to read 'S. J. Clark'.

Stephen J. Clark, M.Sc., P.Eng.
Senior Project Engineer