



Terraprobe

Consulting Geotechnical & Environmental Engineering
Construction Materials Inspection & Testing

File No. P21-134B
Brampton Office

September 14, 2021

White Rose Park (Div) c/o 2127107 Ontario Inc.
138 Kale Crescent
Maple, Ontario
L6A 3P9

Attention: Mr. Victor De Palma

**RE: PROPOSAL FOR ENGINEERING SERVICES
ENVIRONMENTAL QUALITY OF EXCESS SOIL
WHITE ROSE PARK SUBDIVISION - DUNDALK, ONTARIO**

Dear Mr. De Palma:

Terraprobe Inc. (Terraprobe) is pleased to provide White Rose Park (Div) c/o 2127107 Ontario Inc. with a proposal for engineering services in support of the above-noted project.

1.0 INTRODUCTION AND BACKGROUND

The subject property ("Site or Property") is located north of Bradley Street, in the town of Dundalk, Ontario. As part of construction activities scheduled to take place at the site, excess earth fill material will be required from off-site locations, and it was reported that approximately 3,000 m³ of excess soil would be required. Prior to the importation of earth fill materials, a review will be conducted to determine the environmental suitability of the earth fill material from each source site. Upon approval of a source site, soil sampling and chemical analysis will be conducted as soil arrives on site to meet the sampling requirements of Ontario Regulation 406/19 – Reuse of Excess Soil

2.0 SOIL MANAGEMENT

Soil Management in Ontario takes into consideration the following Ministry of the Environment, Conservation and Parks (MECP) Regulations and guidance documents:

- *Ontario Ministry of Environment, Conservation and Parks. 2019. Regulation 406/19: On-Site and Excess Soil Management. Environmental Protection Act, R.S.O. 1990, c. E. 19 (O. Reg. 406/19)*
- *Ontario Ministry of Environment, Conservation and Parks. 2019. Rules for Soil Management and Excess Soil Quality Standards.*
- *Ontario Ministry of Environment, Conservation and Parks. 2004 (as amended). Regulation 153/04: Records of Site Condition – Part XV.1 of the Act. Environmental Protection Act. R.S.O. 1990, c. E. 19 (O. Reg. 153/04)*
- *Ontario Ministry of the Environment, Laboratory Services Branch. 2011. Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act.*

Terraprobe Inc.

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- *Ontario Ministry of Environment, Conservation and Parks. 2019. Regulation 347: General – Waste Management. Environmental Protection Act, R.S.O. 1990, c. E. 19 (O. Reg. 347)*

2.1 Ontario Regulation 406/19

For off-site disposal of the excess soil, all analytical data will be compared to the Table 2.1 and 3.1 Standards as well as the Table 1 Standards from O. Reg. 153/04, as amended.

2.2 Soil Sampling and Chemical Analysis

At a minimum, the excess soil must be analyzed for petroleum hydrocarbons (PHCs) (F1 through F4), including benzene, toluene, ethylbenzene, xylenes (BTEX), Metals and Inorganics (including Electrical Conductivity [EC] and Sodium Adsorption Ratio [SAR] and pH). A Phase One ESA or Assessment of Past Uses is required in order to identify the contaminants of potential concern that will be the focus of the sampling and analysis plan; alternatively the receiver site can specify the analytical testing requirements. Additional Contaminant of Potential Concern (CoPC) identified may include Polycyclic Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), Organochlorinated Pesticides (OCPs) and Polychlorinated Biphenyl (PCBs).

Once source site data is reviewed, analytical testing parameters will be determined. Based on the estimated volume of soil required, the following in-situ sampling approach must be conducted at the following frequency:

- A minimum of three (3) in-situ samples shall be analyzed if less than 600 m³ of soil will be excavated;
- If more than 600 cubic meters of soil will be excavated, at least one (1) in-situ soil sample shall be analyzed for each 200 cubic meters of soil for the first 10,000 cubic meters of soil to be excavated;

It has been estimated that approximately 3,000 m³ of soil will be required. Therefore, based on the expected volume of soil requiring off-site removal, under O.Reg 406/19, fifteen (15) samples will be required along with two (2) quality control/quality assurance (QC/QA) samples for laboratory testing purposes.

The table below provides a summary of the number of samples based on the expected volume.

BULK ANALYSIS (export of excess soil)

Volume of Soil	Number of Samples
Number of samples for the first 600 m ³ of soil	3
Number of samples for more than 601 m ³ to less than 3,000 m ³ (1 Sa/200m ³)	12
Duplicate Samples	2

SPLP ANALYSIS

Volume of Soil	Number of Samples
Number of samples for the first 600 m ³ of soil	3
10% of the total number of bulk analysis samples collected	2

- Source site data from a potential source site will be evaluated to determine the environmental quality of the earth fill material. If approved, the earth fill material will begin to arrive on site
- Based on the sampling frequency identified above (1 sample per 200 m³), soil sample will be collected from dump trucks as they arrive on site, one sample will be collected from every twentieth load that arrive on site.

- While on-site, all workers (Terraprobe and White Rose Park (Div) c/o 2127107 Ontario Inc. Staff) are required to adhere to social distancing and face mask protocols for COVID-19 protection.
- At this time, the analytical testing parameters are not known, as such tests will be conducted for the common parameters, which include M&I, PHC, BTEX, VOC and PAH. Please note if additional CoPC are identified, additional analysis will need to be conducted; alternatively, if fewer CoPC are identified, the fewer analytical parameter will be tested.
- All samples will be submitted on a regular turnaround basis (5 to 7 business days).
- Upon recite of the results, an e-mail correspondence will be provided commenting on the environmental suitability of the material. A report will be prepared to compare the results to O. Reg. 153/04 Table 1 Standards as requested.

3.0 BUDGET

Terraprobe is providing the following quotation as fixed lump sum costs for the work program detailed. The cost provided excludes all taxes, including HST. The quoted cost is as follows:

ENVIRONMENTAL QUALITY ANALYSIS OF EXCESS SOIL

Assessment of Past Use

Report Review (per source site; 1 in total).....	\$ 875
Email correspondence (per source site, 1 in total).....	\$ 375
Engineering Analysis and Letter Report (for approved source sites, 1 in total).....	\$ 1,250

Chemical Analysis of Imported Soil

Environmental Technician 20 site visits @\$375	\$ 7,500
15 Soil Samples each @\$100 for M&I	\$ 1,500
15 Soil Samples each @\$165 for PHCs, BTEX & VOCs.....	\$ 2,475
15 Soil Samples each @\$110 for PAHs.....	\$ 1,650
2 Soil Sample each @\$375 for QC/QA	\$ 750
5 Soil Samples each @\$425 for TCLP analysis.....	\$ 2,125
22 Soil Samples each @\$7 for Sampling Supplies and Disposal.....	\$ 154
Project Management.....	\$ 900
Review and Analysis of Results, Drafting	\$ 575
Report Preparation	\$ 1,295

TOTAL SERVICES (HST extra).....\$ 21,424

The above budget does not include for any meetings or in-depth consultation after the issue of the report. Additional works as authorized by the client (meetings, soil/ground water chemistry, consultation after issue of the reports, etc.) will be completed on a time and disbursement basis. If Terraprobe's engineering services are required for purposes other than those detailed above, our hourly rates are as follows.

Field Technician	\$75/hr
Project Engineer	\$125/hr
Associate Engineer	\$165/hr

Principal Engineer	\$215/hr
Vehicle Expense	\$0.50/km
Disbursements	at cost plus 10%

4.0 CLOSURE FIRM EXPERIENCE

Terraprobe was incorporated in 1977. Terraprobe is a Canadian owned firm with a total staff of over 200, including professional engineers, hydrogeologists, and environmental scientists. Terraprobe operates offices in Brampton, Barrie, Stoney Creek, and Sudbury and provides services throughout Ontario. Although the firm operates primarily in Ontario, we also provide services in British Columbia, Manitoba, the Yukon, the Maritimes, New York, Michigan, and the Caribbean to meet our client's needs.

Terraprobe provides consulting services to a wide range of public and private sector clients. Services are offered in the fields of geo-environmental engineering, geotechnical engineering, construction and materials inspection, and shoring and excavation support. Each project is managed by a senior member of the firm.

5.0 PROJECT TEAM

Mr. Samuel Oyedokun, P.Eng., PMP., QP_{ESA} – Project Lead (Environmental)

Mr. Oyedokun is a Professional Engineer and an Associate of Terraprobe Inc. Mr. Oyedokun has over 12 years of related consulting experience and has managed numerous projects, including Phase One and Phase Two Environmental Site Assessments, Site Soil and Ground Water Remediation, and both Urban and Rural Hydrogeology. Mr. Oyedokun also has experience in designated substance survey, air quality and vapour intrusion assessments. Mr. Oyedokun is a certified project management professional and is a qualified person under O.Reg.153/04 for submitting Records of Site Condition. Mr. Oyedokun will be the Senior Project Manager and QP of the project overseeing the overall project management and providing technical guidance.

Prakash Patel, C.E.T. – Environmental Project Manager

Mr. Prakash Patel is an Environmental Project Manager with Terraprobe who has 16 years of direct experience in the consulting industry. Mr. Patel has a Diploma in Environmental Engineering Technology from Humber College of Applied Arts & Technology and a Post Graduate Certificate in Environmental Engineering Science for Ryerson University. Mr. Patel has conducted and supervised numerous Phase One and Phase Two Environmental Site Assessments for a variety of agricultural, residential, industrial, commercial and institutional properties. He also has experience in site remediation, environmental monitoring and submission of Record of Site Condition.

6.0 INSURANCE

Terraprobe maintains Professional Errors & Omissions, General Liability, and Pollution Liability Insurance. Copies of certificates are available upon request.

7.0 CLOSURE

We trust this information is sufficient for your present purposes. Should you have any questions concerning this proposal, please do not hesitate to contact the undersigned. If you would like us to proceed with the investigation, acceptance of the proposal can be indicated below or in your own form of purchase order.

Terraprobe Inc.



Prakash Patel, C.E.T.
Project Manager



Samuel Oyedokun, P.Eng., PMP, QP_{ESA}
Associate, Environmental Engineering

