SOIL-MAT ENGINEERS & CONSULTANTS LTD.

www.soil-mat.com info@soil-mat.on.ca TF: 800.243.1922

Hamilton: 130 Lancing Drive L8W 3A1 T: 905.318.7440 F: 905.318.7455
Milton: 20 – 348 Bronte Street South L9T 5B6 T: 905.875.3228 F: 905.875.4426

PROJECT NO.: SM 114139-G April 6, 2016

URBEX ENGINEERING LIMITED
161 Rebecca Street
Hamilton, Ontario
L8R 1B9

Attention: Mr. Angelo Cameracci, P.Eng.

EXISTING FILL CONSIDERATIONS
PROPOSED RESIDENTIAL DEVELOPMENT
SPRINGBROOK AVENUE AND GARNER ROAD EAST
HAMILTON [ANCASTER], ONTARIO

Dear Mr. Cameracci,

Further to our recent discussions and correspondence Soil-Mat Engineers is pleased to offer the following comments with respect to the identified on-site fill materials.

These comments are further to our Phase Two Environmental Site Assessment report SM 114139-E, dated May 21, 2015. As well, Soil-Mat Engineers conducted a Geotechnical Investigation of the Site, report SM 114139-G, dated October 3, 2012, and Phase One Environmental Site Assessment, report SM 145726-E, dated August 12, 2014.

Our geotechnical investigation of the site revealed the presence a deposit of fill, described as black gravel, with evidence of construction debris, over the southwest portion of the site [Borehole Nos. 3, 8 and 10]. Limited background environmental testing of these materials was conducted on three samples, consisting of a standard panel of metal and inorganic parameters and petroleum hydrocarbons. The results found the tested samples to be within the Table 1 Standards with the exception of Sample BH10-SS2, which exceeded the Table 1, 2 and 3 RPI Standards for Fraction F3 hydrocarbons.

Our subsequent Phase II ESA sampling and testing program was undertaken to further assess and characterise the impact, if any, associated with the fill deposit. This involved the advancement of eleven test pits over the area of concern. The test pits encountered clayey silt fill near surface, over a variable fill deposit of construction debris [including soil, gravel, concrete, asphalt, etc.]. In most locations [Test Pit Nos. 1, 8, 9, 10 and 11] a layer of topsoil was encountered buried beneath the deposit of construction debris, in turn underlain by native clayey silt. The construction debris fill was not encountered in Test Pit Nos. 2, 5 or 7, which would suggest a northern limit. The test pits did not establish the limit of the unsuitable fill material going east towards the existing house, however it would reasonably appear to be the area of the cut grass field.

The background environmental testing found the upper clayey silt fill layers and native soils to be within the Table 1 Standards, as well as the less strict Table 2 and 3 RPI Standards. As such there is no apparent environmental concern with the upper fill materials and underlying native soils. The previously reported hydrocarbon impact may be an isolated result within the construction debris fill.

The primary issue with respect to proposed development work on the site would be the presence of the 'construction debris' fill over topsoil, which would be unsuitable beneath areas of the site to be developed from a geotechnical perspective. However, as has been noted in our discussions, the majority of the area with the unsuitable construction debris fill is within the hydro corridor right of way, and so would likely not be developed at all. As such it would only be necessary to remove and replace such unsuitable fill within areas of development, i.e. roadways or building lots. Material present within the hydro corridor could remain in place without issue.

Where the 'construction debris' fill material is required to be removed from the site as part of the development, it would be anticipated that this material may need to be disposed of as waste, given its geotechnical unsuitability, unless an acceptable off-site property can be located to receive it. In such case it would be necessary to conduct TCLP leachate testing of the fill material to classify the material as non-hazardous waste for the purposes of disposal at a waste facility.

We trust that these brief comments are sufficient for your present requirements. Should you require any additional information or clarification as to the contents of this document, please do not hesitate to contact the undersigned.

Yours very truly,
SOIL-MAT ENGINEERS & CONSULTANTS LTD.

Ian Shaw, P. Eng.
Senior Engineer

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